



**THE STUDY OF HEALTH PERCEPTIONS AND HEALTH
PROMOTING BEHAVIORS IN MIDLIFE
WORKING WOMEN IN BANGKOK**

PIYANUT SINTHANAYOTHIN

อภินันท์นากการ

จาก

บัณฑิตวิทยาลัย มหาวิทยาลัยมหิดล

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Midlife women are facing the changes of declining physical function while incidence of some specific health risks increase. As many developments go on, midlife working women have roles in the workforce and at the same time their traditional family responsibilities continue. Combining job and family responsibilities can be difficult, and the greatest presumption is that women's health is bound to suffer from increasing workload. Therefore, promoting behaviors in this group should be taken into consideration. The purposes of this study was to describe health promoting behaviors and health perceptions, and to investigate among health perceptions, age, education, occupation and marital status and the degree of practice in health promoting life-style activities. Four-hundred working women in Bangkok were recruited from four occupations (teacher, clerical worker, bank official, and sales worker), ranging in age from 35 to 50 years, with no natural or artificial menopause, and no chronic illness. Health perceptions were measured with a 5-point Likert scale based on Ware, 1978, while health promoting behaviors were measured with a 4-point Likert scale based on Pender, 1996.

Multiple Classification Analysis was used to analyze the data from a stratified random sampling. The results showed that health promoting behaviors and health perceptions were at the moderate levels. Midlife working women were more likely to engage in health promoting behaviors if they had good health perceptions, higher education, were older, and married. Multiple Classification Analysis revealed that the health perceptions, education, marital status and age accounted for 20.7 percent of the variance in health promoting behaviors.

The finding of the study suggest that both formal and informal systems for midlife working women, especially the younger non-married group, should be developed to promote their knowledge and perceptions of good health care and well-being.

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ปิยะนุช สิ้นทนะโยธิน: การศึกษาการรับรู้ภาวะสุขภาพและพฤติกรรมส่งเสริมสุขภาพของหญิงวัยกลางคนที่ทำงานนอกบ้านในกรุงเทพมหานคร(THE STUDY OF HEALTH PERCEPTIONS AND HEALTH PROMOTING BEHAVIORS IN MIDLIFE WORKING WOMEN IN BANGKOK) คณะกรรมการควบคุมวิทยานิพนธ์: กอบกุล พันธุ์เจริญวรกุล Ph.D., สุปราณี อัทธเสวี ค.ม. (วิจัยการศึกษา), กิติรัตน์ เตชะไตรศักดิ์ พ.บ., Ph.D. 104 หน้า. ISBN 974-664-651-6

สตรีที่ผ่านเข้าสู่วัยกลางคนจะมีการเปลี่ยนแปลงของระบบในร่างกายที่เสื่อมลงและก่อให้เกิดปัญหาทางสุขภาพตามมา และในขณะที่พัฒนาการต่างๆมีการเปลี่ยนแปลงไปนั้น สตรีวัยนี้ต้องแบกรับภาระต่างๆทั้งด้านหน้าที่การงาน การสวมบทบาทเป็นภรรยา และมารดา ซึ่งการรวมบทบาทต่างๆเข้าด้วยกันนั้นเป็นเรื่องที่ยู่ยากซึ่งอาจส่งผลไปถึงภาวะสุขภาพของสตรีวัยกลางคนที่ทำงานนอกบ้านเองด้วย ดังนั้นการส่งเสริมให้หญิงวัยกลางคนกลุ่มนี้ได้มีพฤติกรรมส่งเสริมสุขภาพที่ดีจึงเป็นสิ่งจำเป็น

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมส่งเสริมสุขภาพ การรับรู้ภาวะสุขภาพและอำนาจการทำนายพฤติกรรมส่งเสริมสุขภาพของหญิงวัยกลางคนที่ทำงานนอกบ้าน โดยตัวทำนายได้แก่ การรับรู้ภาวะสุขภาพ อายุ ระดับการศึกษา อาชีพ และสถานภาพสมรส กลุ่มตัวอย่างเป็นสตรีที่มีอายุระหว่าง 35-50 ปี ไม่มีภาวะหมกประจําเดือนตามธรรมชาติหรือได้รับการผ่าตัดครั้งใด และไม่มีโรคประจำตัวเรื้อรัง กลุ่มตัวอย่าง 400 คน ประกอบด้วย 4 อาชีพ คือ ครู เจ้าหน้าที่ธุรการ พนักงานธนาคาร และค้าขาย เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลเป็นแบบสอบถามมาตรฐานส่วนประเมินค่าโดยที่การรับรู้ภาวะสุขภาพถูกดัดแปลงมาจาก HPQ (Ware, 1978) และพฤติกรรมส่งเสริมสุขภาพถูกดัดแปลงมาจาก HPLPII (Walker, Sechrist, & Pender, 1996) และวิเคราะห์ข้อมูลด้วยสถิติการวิเคราะห์จำแนกหมู่

ผลการวิจัยพบว่า กลุ่มตัวอย่างมีคะแนนการรับรู้ภาวะสุขภาพและพฤติกรรมส่งเสริมสุขภาพในระดับปานกลาง ซึ่งกลุ่มตัวอย่างที่มีพฤติกรรมสุขภาพที่ดีนั้นจะเป็นกลุ่มที่มีอายุมาก มีระดับการศึกษาสูง แต่งานแล้ว และมีการรับรู้ภาวะสุขภาพของตนเองดี เมื่อวิเคราะห์การจำแนกหมู่ พบว่า การรับรู้ภาวะสุขภาพ ระดับการศึกษา สถานภาพสมรส และอายุสามารถร่วมทำนายพฤติกรรมส่งเสริมสุขภาพของหญิงวัยกลางคนที่ทำงานนอกบ้านได้ ร้อยละ 20.7 ($p < .001$).

จากผลการวิจัยครั้งนี้ พบว่าการให้ความรู้ไม่ว่าจะเป็นการศึกษาในระบบหรือนอกระบบเพื่อเพิ่มความเข้าใจ และมีการรับรู้ภาวะสุขภาพที่ดีขึ้น โดยเฉพาะอย่างยิ่งในกลุ่มที่อายุน้อย และไม่มีคู่ครองจะช่วยในการพัฒนาให้หญิงกลุ่มนี้มีสุขภาพที่ดีขึ้น

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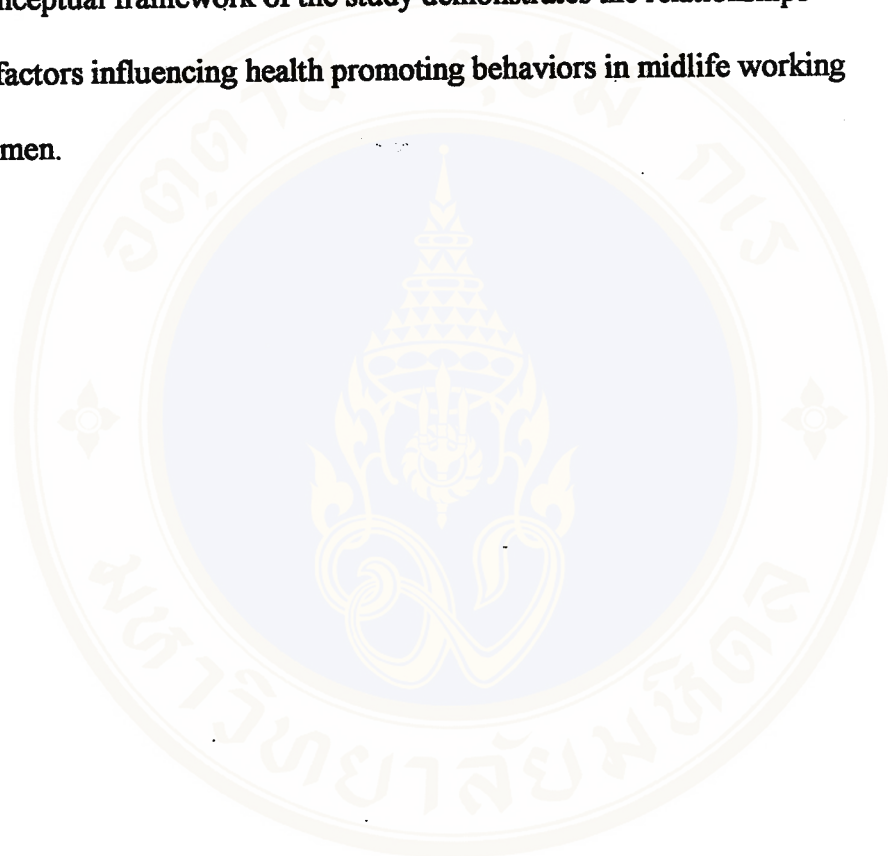
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CHAPTER I

INTRODUCTION

Background and significance of the study

Midlife is a time of individual development in adult life. It is the transition from adulthood to old age. The period of midlife in women is complex, multidimensional, and marked by many developmental changes. This is a time of changing in physical appearance, declining physical functions, shifting of social roles, caring for aging parents, experiencing of losses and multiple demands which are placed on women with too little discretionary time, energy, and disposable resources (Woods, 1993 cited by McElmurry & Tashiro, 1997: 48).

Today, women are employed in every industry and hold nearly every kind of job. However, gender discrimination in many occupations has occurred. Women and men still tend to be concentrated in different occupations. Women are over-represented in clerical and secretarial work, child care and service-related occupations, while men are disproportionately employed as engineers, lawyers, physicians, police officers, and craftsmen (Collins et al, 1997:5). Because of factors such as economic constraint, women have pursued a more continuous pattern of labour force participation throughout adulthood. Despite women's increasing role in the work force, their traditional family responsibilities as wives, mother, and head of households persist. Combining job and family responsibilities can be difficult, and the most popular presumption is that women's health is bound to suffer from increasing employment.(Sorensen& Verbrugge, 1987:237).

On the other hand, research on women, work and health suggests that women benefit from employment. Overall, employed women enjoy better health on both subjective and objective health indicators. For example, Sethaphut & Patraravanich (B.E.2541:66) studied 1,036 white-collar women and found out that more than 90 percent were not ill in the previous year. Most woman managers claimed that they had fairly happy families. Only few cases(1.6%) indicated that they were unhappy at the moment. This finding is consistent with Rubenstein's (Rebenstein, 1992 cited by Collins, et al, 1997: 6) that employed women have a greater sense of well-being and lower use of professional services to cope with mental health problems than non-employed women do.

However, most chronic diseases manifest after working women enter middle age. Incidence and prevalence of chronic disease among woman workers are likely to increase. Chronic disease also has ramifications for health and quality of life, not only while individuals are working, but also after they have retired or left the work force due to disability.

The leading chronic diseases in Thailand are described in the study of Sornsong et al (B.E.2542). Common medical diseases among the middle age (36-50 years), in-patients at Siriraj Hospital from 1988 to 1993, were cardiovascular disease(18.9%), urinary tract disease(16.2%), haematological disease(14.3%), and respiratory disease (14.1%).

Chronic back problems is a major cause of limitation of activity for women due to overweight, frequent bending, heavy lifting, prolonged sitting and standing, and lack of physical activity (Collins et al,1991: 7).

Furthermore, midlife women, sooner or later, are facing with the menopausal period. Known risk factors include, a diet low in calcium and diminished estrogen production which can cause osteoporosis estimated to affect 50% of women over the age of 45 (PHS, 1991 cited by Collins et al,1997: 7).

Risk factors for most of the chronic diseases identified above may be related to three aspects. First of all, personal lifestyle behaviors can be prevented or modified such as tobacco use, physical inactivity, and unhealthy diet. Secondly, work-place environment conditions such as noise, heavy lifting, or high demand/low control job designs is the one factors related to chronic illness. Finally, aging or genetic risk is the last factors related to chronic disease (CDC, 1993 cited by Collins et al, 1997:7).

From the existing literature concerning midlife working women, it has been found that this particular age group faces a number of significant medical problems. Thus, to counter all these problems or at least decrease their risks, the most important necessity is to encourage health promoting behaviors in midlife working women.

Health promotion has become a major goal of well-being in many countries of the world. Health promotion can be defined as a process, action, program, or endeavor to obtain the goal of “ complete physical, mental, and social well-being” (WHO, 1947 cited in McElmurry, 1997: 40), which includes the empowerment of people, encouragement of health-promoting behaviors, and the facilitation of advocate for health. A model that explains motivation to engage in health- enhancing behaviors in a comprehensive way is the Health Promotion Model (HPM) developed by Pender (1987). The HPM explains the likelihood of engaging in behaviors such as regular physical exercising, healthy eating,

developing interrelationship, and using relaxation techniques (Pender, 1996). Within the model, the primary motivational mechanisms for acquiring and maintaining health promoting behaviors are behavior-specific cognitions and affect (perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences). These factors can be modified by individual characteristics and experiences (prior related behaviors and personal factors: biological, psychological, sociocultural).

Pender (1996: 98) states that perceived health status is a personal psychological factor, and a significant predictor of the target behaviors in a number of studies, both of health promoting lifestyle and of specific behaviors such as exercise and use of hearing protection. Thus, perceived health status might best be reinterpreted as a psychological personal factor that can either directly or indirectly affect health behaviors when the current health status is relevant to performance of a given health action. The Health Perceptions Questionnaire (Ware, 1978) was used in four studies that examined perceived health status (Duffy, 1988; Frank-Stromberg et al, 1990; Killeen,1989; Zindler-Wernet&Weis,1987 cited by Gillis, 1993).

The study of Duffy (1988: 361) points out that subjects who reported their current health status as high (good) were those who had high scores of the self-actualization, nutrition, exercise, and interpersonal support subscales.

Age is a demographic factor which has an effect on health promoting behaviors. The study of Belloc and Breslow (1972 cited by Duffy, 1993: 24) shows that older people practice more good health habits than younger people. Moreover, Kuster and Fung (1993

cited by Duffy, Rossow, & Hernandez, 1996: 19) note that age is most highly and significantly correlated with the Spanish HPLP total scores.

Education is also related to the performance of several health-promotion behaviors among employed Mexican American women (Duffy, Rossow, & Hernandez, 1996: 23). Education in the study of Walker, Volkan, Sechrist, and Pender (1988: 84) contributed to the explanation of variance in overall health-promoting life styles. In this study, higher education was associated with better nutrition, interpersonal support and stress management.

Occupation is another demographic factor found to be significant. It is found that women with multiple roles who might experience role conflict and role overload suffered adverse effects on health and well-being (Baruch & Barnett, 1986 cited by Rogers, 1995: 365). On the contrary, Froberg, Gjerdingen, and Proston (1986 cited by Rogers, 1995: 365) propose that when women perform multiple roles, they receive certain benefits from each role, such as increased social contact and satisfaction which, in turn, contribute to better health and mental well-being. The study of Ahijevych and Bernard (1994 cited by Duffy, Rossow, & Hernandez, 1996: 19), of African American female smokers reported that employment was significantly and positively related with engagement in health-promoting behaviors.

Marital status is one of the personal factors which indicate spouse support. Personal factors are proposed as direct influences on both behavior-specific cognitions and health promoting behaviors (Pender, 1996: 68). The study of Rathanaamornchai (B.E.2535: 115) indicated that marital status has significant relation with the old-aged

health promoting lifestyle for both total scores and subscales ($p < .05$), while some study indicate that marital status contributes to the explanation of variance only in the nutrition dimensions (Walker, Volkan, Sechrist & Pender, 1988: 84). However, married women still have notably lower age-adjusted mortality and morbidity rates than nonmarried women (Rataerford; 1975; Verbrugge, 1979 cited by Sorensen & Verbrugge, 1987: 243).

In conclusion, midlife is a complex time for women with personal and social changes that affect health promoting behaviors. It is an essential time for promotive and preventive health measures. To improve the status of pre-menopausal and elderly women in the next decade, nurses should be concerned and develop useful interventions and appropriate health services for these particular groups of women. This study will enable us to fully understand the effects of employment on women's health, an issue which jointly requires both consideration of women's work and family roles in terms of marital status. It will also help us to understand the factors underpinning health promoting behaviors in midlife working women. Therefore, the purposes of the research are to investigate the relationships of and predictions among perceived health perception; some demographic factors such as age, education, occupation, and marital status; and health promoting behaviors, including the degree to which they explain midlife working women's current practice of health promoting activities in their lifestyle.

Statement of the problem.

How well do age, education, occupation, marital status, and health perception explain health promoting behaviors?

Purpose of the study

1. To describe health perceptions and health-promoting behaviors of midlife working women; and,
2. To investigate whether some demographic characteristics such as age, education, occupation, marital status, and health perceptions can be predicting variables of health-promoting behaviors in midlife working women.

Conceptual framework

According to the underlying assumption of Pender (1996: 67) which states that the behavioral outcome or conduct of an individual is a consequence of an influence on the individual characteristic and experience factors as well as, behavior-specific cognitions and affect factors, the Health Promotion Model have been revised and shown as follows:

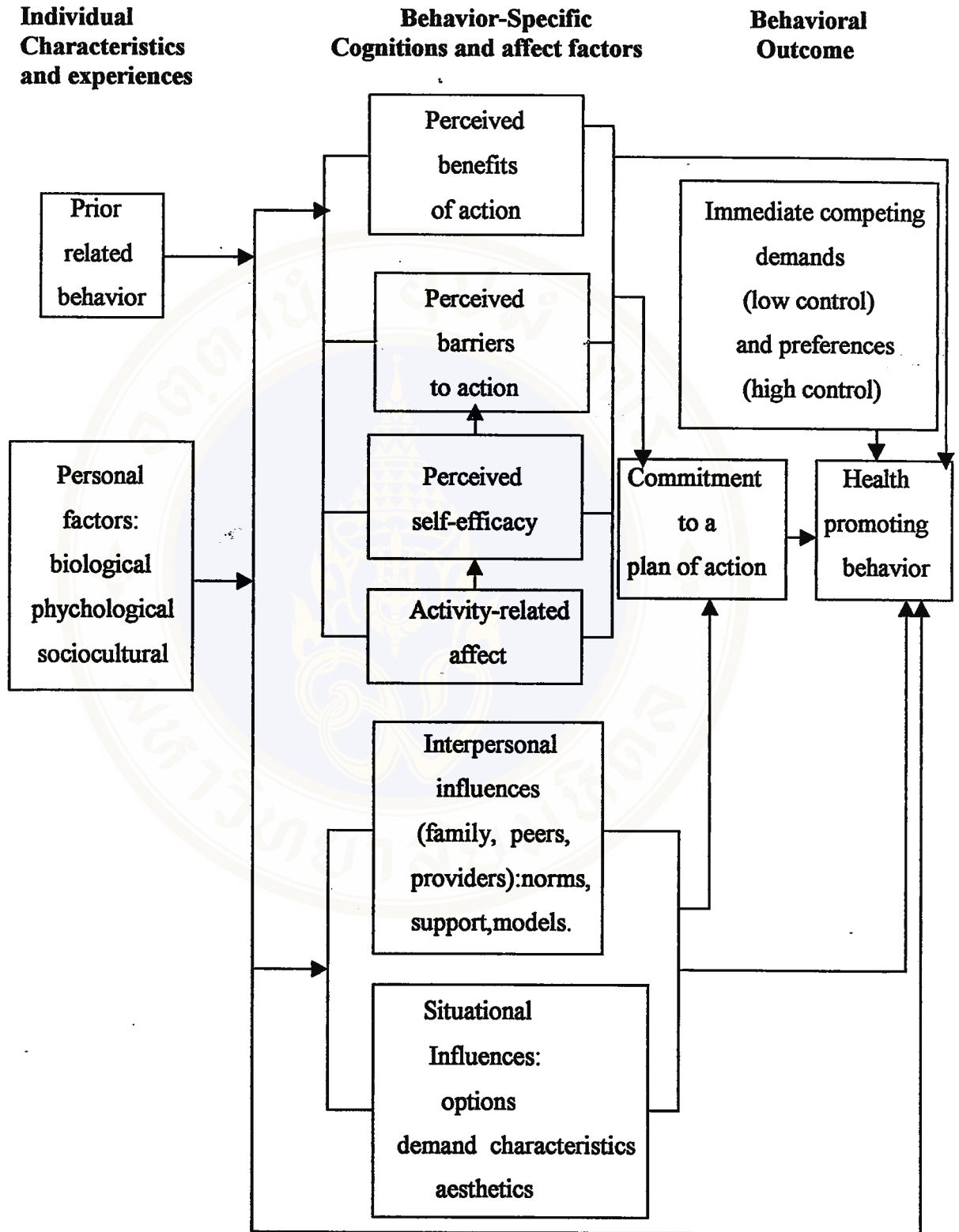


Figure 1: Revised Health Promotion Model

In this study, the researcher uses the revised health promoting behaviors of Pender(1996: 67). Because it is suitable to apply HPB into one's lifestyle. The researcher has studied the six aspects: nutrition, physical activities, health responsibility, interpersonal relations, spiritual growth, and stress management. Based on Pender, whether working women have good health promoting behaviors, the factors which affect their behaviors are individual characteristics and experiences, which are further divided into two subgroups: prior related behaviors and personal factors. Therefore, the researcher has chosen the psychological factor (health perception) and some characteristics: age, education, occupation, and marital status to be evaluated.

The framework is shown in Figure II

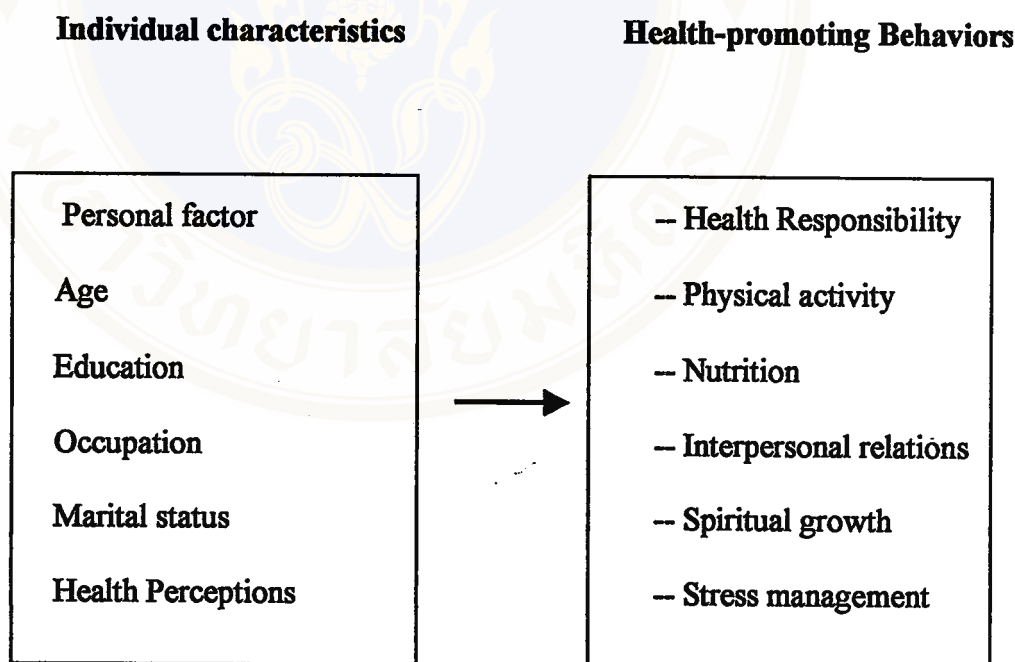


Figure II : Conceptual framework of the study demonstrates the relationships of factors influencing health - promoting behaviors in midlife working women.

Source : Adapted from the Health Promotion Model (Pender, 1996).

Hypotheses

Age, education, occupation, marital status, and perceived health perceptions altogether can predict the variance of the health-promoting behaviors of midlife working women.

Scope of the study

This study is a descriptive research of health-promoting behaviors in midlife working women. The target population is the midlife women who are working outside home in Bangkok. Four-hundred women were recruited from 4 occupations: teacher, clerical worker, bank official, and sale worker. The accessible population for this study is a group of women between the ages of 35 to 50 who have not yet achieved natural or artificial menopause, and have no chronic illness. The data was collected from March 2000 to May 2000.

Definition of variables

The operational definition of the variables used in the study are as follows:

1. **Age** is measured by the working women's report of age in years and by birthdate (if more than 6 months, a year was added). Age can be classified into three subgroups: 35-39, 40-44 and 45-50 years.
2. **Education** is defined as the final education as indicated in the self-report based on five categories ranging from primary school to graduate.
3. **Occupation** is an individual job characteristic of the subject. Occupation can be divided into four categories:

Teacher: a woman who teaches, especially in school

Clerical worker: a woman who deals with papers, accounts, etc. in a government agency

Bank official: a woman who carries her position in a bank

Sales worker: a woman who offers goods to someone in exchange for money in place which is not her home

4. **Marital status** is the status of the subjects' marriage. Marital status can be classified into three categories: single, divorce/separated, and married.
5. **Health Perception** is conceptualized as the individual's self-assessment of personal health and sick role propensity. Health Perceptions Questionnaire, HPQ (Ware, 1978), is used as a measure of perceptions of one's own health. It contains 28 items with subscale contribution divided into six types of perception : current health, prior health, health outlook, resistance/susceptibility to illness, health worry/concern, and adjustment of the sick role.
6. **Health-promoting behavior** is defined as a wellness approach behavior directed towards increasing the level of well-being, self-actualization, and fulfilment of individuals (Pender, 1996). Health-promoting behaviors are measured by a 47-item rating scale of the modified Thai version based on Health-Promoting Lifestyle Profile II (HPLP II; Walker, Sechrist and Pender, 1996) The HPLP II consists of six dimensions :
 - Nutrition refers to established meal patterns and also the right choice to eat.
 - Physical activities refer to adherence to regular exercise patterns.

- Health responsibility refers to attending to and acceptance of responsibility for working women's health. Also, working women should be educated about their health and own self- detected unusual signs. Seeking professional advice should be taken when necessary.
- Interpersonal relations refer to maintained relationship involving a sense of intimacy and chosenness.
- Stress management refers to recognized sources of stress, action to control stress and achievement relaxation.
- Spiritual growth refers to possession of a sense of purpose, a seek for personal development, and experience self-awareness and satisfaction.

Expected outcomes and benefits

The findings from this study can provide basic information about the effects of employment, as well as women's work and family roles, on women's health. Furthermore, the study can provide details of the factors used to determine health promoting behaviors in midlife working women. Finally, it is the researcher's hope that the research could shed light on ways to develop useful interventions and support this particular age group so that they can have a higher quality of life.

CHAPTER II

LITERATURE REVIEW

This chapter will present an integrative review of the theoretical and related literature describing the concepts of interest and the interrelationships among them. In this study, midlife women's health, health perceptions and health promoting behaviors of midlife working women, and personal factors and health promoting behaviors of midlife working women will be reviewed.

Midlife women's health

Definitions of Midlife

Some researchers consider midlife adulthood to include the years between the ages of 35 to 65 (Behler, 1994: 607; Fogel & Woods, 1995: 79); base their definitions on women's reproductive capacity, using menopause or hormonal changes consistent with menopause as markers. Another option is based on women's role patterns, using indicators such as a child leaving home (Brooks-Gunn & Kursh, 1994 cited by Fogel & Woods, 1995: 79).

Physical Changes

Although their onset is insidious, biologic changes come to the forefront during the middle years and affect most body systems (Sutterly & Donnelly, 1989 cited by Behler, 1994: 607). The hair of the adult begins to thin and turn gray. The

skin's moisture and turgor decrease and wrinkles occur. Moreover, fat deposition increases during these years with increases in weight gain. These changes are caused largely by more sedentary lifestyles with no changes in dietary habits. The inactive lifestyles are compromised further by a decrease in energy.

In the musculoskeletal system, bone density and mass progressively decrease (Behler, 1994: 608). The wear and tear on joints predispose the adult to degenerative joint diseases, with more frequent occurrence of annoying backaches.

At the same time, significant changes occur in the cardiovascular system as the blood vessels lose elasticity and become thicker. These predispose middle-aged adults to coronary artery diseases, hypertension, myocardial infarctions, and strokes. Heart disease is the leading cause of death in the adult during the middle years.

Social Changes

Several social changes occur during the course of midlife for women. These may include returning to or changing employment, watching and helping children as they leave home or move back in with parents, changing the nature of marital relationships, and caring for aging parents whose care needs are often met by midlife women (Fogel & Woods, 1995: 83).

Nowadays, the number of women working outside the home has increased steadily. Although more women work outside their home, most work is traditionally "female" occupations such as teachers, clerical workers, bank officials and sales workers, etc. Many women also continue to perform most or all of the work within home. Therefore, many women who hold full-time jobs also retain other roles and responsibilities as wives, mothers, and heads of households. Although technological

advances have made home-related chores less time consuming, employed women who continue to bear the responsibility for managing the home and family risk role overload, conflicting role demands, role differentiation problems, and emotional stress (Baruch & Barnett, 1986 cited by Rogers, 1995, 364).

Health Risks in Midlife Working Women

Until recently, women entering their middle years were thought to be on the threshold of declining health. Today, working women recognize that they can offset many of the health risks associated with aging by incorporating health-promoting and protective behaviors into their lifestyle.

During midlife, a working woman's risk of developing and dying from cardiovascular diseases increases after menopausal age. Known risk factors for coronary heart disease include obesity, cigarette smoking, elevated cholesterol and blood pressure levels, diabetes mellitus, family history of cardiac disease, alcohol abuse and the effect of aging on the cardiovascular system (Philosophe & Seibel, 1992 cited by Fogel & Woods, 1995: 87; Youngkin & Davis, 1995: 147).

Moreover, aging is associated with a progressive decline in bone density in both males and females. Losses in bone density, if severe enough, can result in fractures after minimal trauma. This condition is defined as osteoporosis.

Peak bone mass is probably reached between the ages of 25 and 35. Bone loss after 35 is a universal phenomenon in much the same way as loss of lean body mass occurs with age. All women eventually develop osteoporosis (Healy, 1992 cited by Youngkin & Davis, 1995: 147; Fogel & Woods, 1995: 87).

As regards workplace hazards, women constitute the largest group of workers in schools, offices, and other environments. Currently, the most common work-related injuries for working women are musculoskeletal disorders, particularly back injuries. Especially for teachers, clerical workers, bank officials and sale workers, their occupations require long periods of standing or sitting, sometimes staying in awkward positions. Prolonged sitting may cause blood pooling and edema in the lower legs, and poor sitting postures or prolonged standing can create postural imbalance, which may lead to back pain, muscle stress and overall fatigue (Rogers, 1995: 373).

Health perceptions and Health Promoting Behaviors of midlife working women

Health promoting behaviors

According to the World Health Organization (WHO) definition, health is described as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (United Nations, 1968 cited by Roy, 1991: 19). From this definition, health is commonly referred to as the absence of a disease, which means that, to be healthy, the focus of action is on eliminating the disease. The WHO definition continues to reflect health as a single dimension (Mitchell, 1995: 209).

In the Roy Adaptation Model, health is defined as “a state and a process of being and becoming an integrated and whole person. Lack of integration represents lack of health” (Roy, 1984 cited by Roy, 1991: 19). This definition of health does not permit the integration of disease and illness into an evaluation of the health status of a

patient. The focus of these single dimension models is either on altering the disease and illness or on enhancing wellness, though not on all components together. Placing disease and wellness at opposite ends of a continuum fragments the person and does not permit a holistic view of the person's health status (Mitchell, 1995: 210). In treating a woman as a whole person with or without disease, biological alterations and the responses to them cannot be separated from the health promoting behaviors that contribute to wellness.

As mentioned above, health is a dynamic state in which the extent of disease and illness and level of wellness are integrated. Models of health as the integrated health model have been developed by numerous researchers such as Pender (1987), Shaver (1985), Oelbaum (1974), and Dunn (1959) cited by Mitchell (1995), to name a few. This integrated model of health expands on earlier models by providing a framework on which the clinician and client can determine which health care goals are most appropriate for the client. By using this model, the clinician can determine the client's need for health maintenance, health promotion, health protection, and health restoration, as well as determine which goals take priority.

Pender's Health Promotion Model (HPM) was first developed in 1982 and later modified in 1987 and 1996. The HPM explains motivation to engage in health-enhancing behaviors in a comprehensive way, which is regarded as an adaptation of the Health Belief Model (HBM). The HPM explains the likelihood of engaging in behaviors such as regular physical exercise, healthy eating, developing social support, and using relaxation techniques (Pender, 1987). Within the model, the primary motivational mechanisms for acquiring and maintaining health promoting behaviors are cognitive and perceptual factors. These motivational factors, which directly

influence the likelihood of engagement in health promoting behaviors, are a) perceived benefits of action; b) perceived barriers to action; c) perceived self-efficacy; d) activity-related affect; e) interpersonal influences (family, peers, providers): norms, support, and model; and f) situational influences: option demand characteristic aesthetics. These cognitive-perceptual motivational factors can be modified by demographic and biological characteristics, expectation of others, and environmental and behavioral factors such as availability of alternatives and previously acquired knowledge and experience. Also, the likelihood to act refer to internal and environmental cues, such as awareness of the potential for growth, advice from others, and mass media materials. The HPM expands on the HBM by incorporating five cognitive and perceptual factors. In additions, the essence of health promotion are the importance of health, perceived control of health, perceived self-efficacy, definition of health, and perceived health status (Pender, 1987 cited by Mitchell, 1995: 217).

Later, HPM was modified again in 1996. The differences between Pender's HPM in 1987 and in 1996 are that in the former model, modifying factors, such as demographic characteristics, biological characteristics, and interpersonal influences, are proposed to affect health-promoting behaviors indirectly through cognitive perceptual mechanisms. Perceived health status is considered as a combination of cognitive and perceptual factors. However, the direct effects between the modifying factors and participation in health-promoting behaviors are not specified (Suwonnarop, 1999: 40).

In the revised HPM, the definition of perceived health status and demographic and biological characteristics have been repositioned in the category of personal

factors (Pender, 1996: 66). Importance of health, perceived control of health and cues of action have been deleted from the model because importance of health and perceived control of health did not contribute to the explanation of health-promoting behaviors. Moreover the reliability of cues to action was difficult to measure. Therefore, the usefulness of this variable was unclear. Later on, a number of new variables were added to the model including activity-related affect, commitment to a plan of action, and immediate competency demands and preferences.

Because the HPM was originally derived from social cognitive theory, the revised HPM integrates similar constructs from social cognitive theory, which are individual characteristics and experiences, behavior-specific cognition and effect, and behavioral outcome (Pender, 1996: 54). These factors are proposed within the model as the major motivational factors that either directly or indirectly affect the acquisition and maintenance of health-promoting behaviors. Those behavior-specific cognition variables are as follows: perceived benefits of action, perceived barriers to actions, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences. Individual characteristics and experiences, which can directly and indirectly affect health-promoting behaviors, include prior related behaviors and a number of personal factors which include biological, psychological, and sociocultural factors.

Prior behavior is proposed as the factor which has indirect influence on the health-promoting behaviors through behavior-specific cognition and affect (perceptions of self-efficacy, benefits of action, barriers to action and activity-related affect). Because the HPM evolved from social cognitive theory, the environment

(interpersonal and situational influences) and prior behaviors are proposed as having both direct and indirect effects on health-promoting behaviors.

The third component of the model consists of behavior outcomes, which include commitment to a plan of action, immediate competing demands and preferences, and health-promoting behaviors. Health-promoting behaviors are the end action of the outcomes in the HPM, resulting in a positive health outcome. Both commitment to a plan of action and immediate competing demands and preferences directly affect the probability of occurrence of health-promoting behaviors.

Assessment of Health-Promoting Behaviors

Pender (1996) states that lifestyle is defined as discretionary activities with significant impact on health status, a regular part of one's daily pattern of living. Health-promoting behavior is an expression of the human actualizing tendency that is directed toward optimal well-being, personal fulfillment, and productive living. The 52-item HPLP-II, which are intended to measure major components of a healthy lifestyle, consists of six subscales as follows:

1. Nutrition: The questions consist of how right a person chooses to eat in daily life as well as how a person receives a suitable nutrient in a day.
2. Physical activity: They ask about pattern and frequency of physical activity during the day.
3. Health responsibility: It is concerned with a general self-care and using health service system.
4. Interpersonal relation: It is an assessment of the relationship with others.

5. Stress management: It is an assessment related to pattern of sleeping and relaxation techniques. It also includes the activity a person does for relaxation such as exercises, meditation, etc.

6. Spiritual growth: It consists of questions asking about the concerning destination of life and the activity a person does to move toward his goal.

Health Promoting Behaviors in Midlife Working women

Women are expected to develop their physical, psychological, and social health, as well as the capacity to care for themselves (including their sexuality, reproductive functions, and other health issues). Health promotion programs enable women to “increase control over, and to improve, their health” (International Conference on Health Promotion, 1986 cited by McElmurry & Tashiro, 1997: 40).

The period of midlife is complex, multidimensional, and marked with many developmental changes. This is a time of change in physical appearances, declining physical functions, shifting of social roles, caring for aging parents, experiencing losses, and coping with multiple demands placed on women with too little discretionary time, energy, and disposable resources (Woods, 1993 cited by McElmurry & Tashiro, 1997: 48).

Therefore, the researcher presents the following recommendations on what midlife women should do in daily lifestyle based on Pender’s Health-Promoting Behaviors:

1. Nutrition: Women should change their diets as they move out of the childbearing years. Because metabolic rates decrease with age and many women also exercise less, fewer calories are needed for weight maintenance, as women grow

older. In general, foods chosen by midlife women should be high in nutrients but moderate or low in calories to allow for adequate nutrient intake while maintaining body weight. For example, they should use skim milk instead of whole milk. Furthermore, iron needs also decrease with age whereas calcium requirements increase. An essential component of all adult women's diets should contain adequate fluid intake (eight to ten 200 cc./glasses of water a day) for body metabolism and temperature regulation. With age the gastrointestinal (GI) tract functions less efficiently, so adequate fluid and fiber intake is important to help GI function regular and prevent constipation. Hypercholesterolemia is another significant risk factor for cardiovascular diseases in women. It is important to ensure that women's daily diet includes all the essential nutrients while simultaneously reducing the total amount of cholesterol and saturated fat consumed. When women are at greater risk for the development of osteoporosis, a calcium intake of 800 mg. is a necessary for women prior to menopause (Fogel & Woods, 1995: 90).

2. **Physical Activities:** An exercise program for midlife women should include both aerobic conditioning and muscle training. Regular aerobic exercise may improve cardiorespiratory endurance, reduce the risk of cardiovascular disease, and prevent some age-related increases in body fat. Examples of appropriate aerobic exercises are brisk walking, bicycling, stationary cycling, jogging, running, swimming, and low-impact aerobic program. Women beginning an exercise program are counseled ensure that an exercise selected fits into the women's lifestyle (Fogel & Woods, 1995: 91).

3. **Health Responsibility:** Midlife-working women are the group who should be concerned with their health about occupational risks such as long periods of

standing or sitting, sometimes in awkward positions. Also, environmental hazards are typically unrecognized or ignored. Therefore, working women should be encouraged to take their health responsibility by using protection's device during work, checking their health for any unusual sign, having an annual check up, and finding information about health from different sources.

4. **Interpersonal Relationship:** Working women should contact other persons in the society or in the family to share their emotion or stress from workplace. Moreover, by contacting other persons, working women will feel that they are accepted or cared about. On the other hand, when working women accept or care for others, they might be proud and thus their self-esteem increases. As an indirect effort to support their life, working women can take action of health-promoting behaviors by themselves. Therefore, working women should talk with their husbands, neighbors or people around them to resolve the problems they are facing.

5. **Spiritual growth:** Most working women will face with loss of their image when menopausal period occurs. It might cause working women who do not believe to spend their daily life in the wrong ways. Therefore, working women should promote spiritual growth by having something to believe in such as religion. Moreover, working women should adjust their beliefs to relate to the goals in their lives. By doing these, working women should feel calm and have a meaningful life, and also be able to help and be helped with others to achieve their goals.

6. **Stress management:** The midlife period can make working women stress both physically and mentally. Most changes, such as image-change, any stress from problems in family and workplace, make working women lose their confidence. Therefore, working women should have activities or creationary to relax such as

listening to favorite music, exercising, dancing, and watching television as well as consulting with close friends. However, each stress management technique should be selected by an individual to make it best fit their lifestyles.

Concepts of health perception

Perception means an impression of something obtained through the sense of the mental product or a sensation (a sensation plus memories of similar sensations and their relationships). Perception process is the process of responding to stimuli, and selecting, organizing and interpreting sensory stimuli into a meaningful and coherent picture of the world.

Because perception places its focus on sensory stimuli, each person has a unique perceptual field that includes public opinion, justice, value, love, hate, compassion, and other variables (Kozier & Erb, 1988: 145). Consequently, one's perceptions are related to past experiences, concept of self, socioeconomic groups, biological inheritance, and educational background (King, 1981: 146).

Perception is the basic of psychological process which respond to the stimuli supported by self-experience, knowledge and memory (Bunting, 1988: 168).

Perception is the interpretation of a stimulus and conscious appreciation of it; which is the result of activities of cells in the cortex (Roy, 1991: 166).

Perceptions are influenced by current interests, needs, and future goals. Human beings are in a continuous state of active participation in perception. Awareness of past events, values, and needs serve as organizing factors in one's perceptions (King, 1981: 23).

Health perception is based on individual knowledge and experiences include well-being and sickness or illness which differ in each person's representation.

In the cycle of good health and sickness/illness, the perception of humans can be divided into 3 stages: 1) The transition from health to illness, beginning with symptom development, which is accompanied by unpleasant sensations, loss of vigor and stamina, and a decrease in the ability to function. 2) The period of "accepted" which means that a person recognizes and acknowledges the illness and the need for assistance from others, especially from medical and nursing staff. 3) The convalescent or restitution period which is particularly true if the illness and treatment require major changes in work and family relations.

Health perception of midlife working women

Measures of general health perceptions differ from other measures of health status in that they do not focus on a specific dimension of health status (i.e., physical, physiological, mental, or social). Instead, such measures require responsibility for an assessment of self-rating of a person's health in general. Health perception has been defined with respect to time (perceptions of prior, current and future health) and to their other constructs indicative of general health perceptions, including resistance or susceptibility to illness, health worry and concern, and adjustment of the sick role (the extent to which people perceive illness to be a part of their lives).

In this study, the health perception means the concepts from the General Health Perception by Ware and others (1978), because this concept is used to measure the health of adults in the Health Insurance Study funded by the U.S. Department of Health, Education, and Welfare. The concepts consist of six aspects.

1. Prior health perception is an individual health acceptance in the past, which is based on individual belief, attitude, cognitive, and both direct and indirect experiences. Health perceptions tend to be negative a person has if had unfavorable impressions. On the other hand, if a person has a good impression and experience about their illness, he or she always has good perceptions and can suitably cope with and manage their anxiety.
2. Current health perception is a continuous health acceptance from the past. Health perceptions from the past experience can be changed if one has a new experience and acceptance for his health. Environments such as medical personal, mass media and health information are factors that influence the women's health perception. Women can change their health perceptions and may then disagree with their perceptions in the past.
3. Health outlook perception is a health acceptance in the future which assessed by both prior health and current health. Perceptions to the illness of the others have some influences on the expectation about self-health status with both positive and negative results.
4. Health worry/concern perception of working women about role functions and life styles always induces anxiety in a higher level and leads to incorrect perceptions.
5. Resistance/susceptibility to illness perception means an expectation in self-health status or physical performance. Midlife women accept that they may get sick more easily than other people or their bodies may resist the illness quite well.
6. Adjustment to the sick role means women understanding their health status including their well-being and illness. It is developed from life experiences and illness

status acceptions. In this state, women are going to learn and understand the process of their sickness which leads them to prepare for, adapt, cope with and seek medical health.

The job's stress or environment hazard from outside home has effect on health perception. The malperceptions and higher anxiety level of midlife working women make both physical and psychological conditions worse. They may feel harmed, frustrated, and angry and their perceptions will be changed or distorted from reality. If they have a mild level of anxiety, they tend to change their attitude and belief, and they are motivated to increase their self-esteem. They can accept the status of their illness and find suitable methods to solve their problems.

There are a number of previous studies about health perception in midlife women such as Duffy (Duffy, 1988). The purpose of Duffy's study was to investigate the relationship among perceived health status and the degree to which they explain midlife women's current practice of health-promoting lifestyle activities. The study showed that women who reported their current health as high (good) were those who had high scores on self-actualization, nutrition, exercise, and interpersonal support subscales. In contrast, women who were older in age, had high health worry/concern scores, and reported lower past health status (poor) were the ones who scored high on health responsibility, nutrition, and stress-management health promotion subscales.

In additioning, Frank-Stromberg (1990 cited by Duffy, 1993:24) found that better health status is related significantly to the health-promoting activities of nutrition, exercise, self-actualization, interpersonal support, health responsibility and stress management.

In Thailand, Leetheragul (B.E.2541) studied the health perception and health promoting behaviors of 120 pregnant women who were Hepatitis B carrier. The result showed that Health perception and age were able to predict 23.46 percent of the variances of health promoting behaviors ($p < .05$).

Sumpunyu (B.E.2539) studied health perception and health promoting behaviors of 275 hypertensive patients. The result showed that the patients with very good health perception had better health promoting behaviors than the fairly good patients. ($p < .001$ and $p < .05$)

Sittichai (B.E.2540) studied 100 mothers with HIV seropositive. The results revealed that there were significantly positive correlations between health perceptions, spousal support and health promoting behaviors at .001 level ($r = 0.4419$ in HP; and $r = 0.4214$ in spouse support). Both can predict HPB by 30.78%.

Thaewpia (B.E.2540) studied 120 pairs of syphilitic pregnant women and their husband. The result showed that health perception and income could predict 16.96% of variance of health promoting behaviors ($r = 0.3503$ in HP; and $r = 0.2208$ in income).

A study of Pungbangkadee (B.E.2540), concluded with 250 adolescent pregnant women, revealed that 18.8% of variance of self-care behaviors was accounted by two significantly predictors: education level and health perception.

Personal factors and health promoting behaviors of midlife working women

Age is one of the demographic factors which have been studied to determine health-promoting behaviors in numerous research. In the study of Walker, Volkan, Sechrist & Pender (1988), six dimensions of the life style were measured by the Health Promoting Lifestyle Profile in 452 adults aged 18 to 88. The purpose of this study was

to compare the health-promoting behaviors of older adults with those of young and middle-aged adults, and to examine the relationship between age and lifestyle. The results showed that older adults had higher scores in overall health-promoting lifestyle and in the dimensions of health responsibilities, nutrition, and stress management than both young and middle-aged adults. The study of Kuster and Fong (1993 cited by Duffy, Rossow&Hernandez, 1996:19) found that age correlated significantly and positively with the Spanish HPLP total and subscales scores. Similarly, Leetheragul (B.E.2541) reveals that age is able to predict the variance of health promoting behaviors as mentioned above. On the other hand, Sumpunyu (B.E.2539) studied health perception and health promoting behaviors of 275 hypertensive patients and found that high blood pressure patients with different age have no statistical difference in health promoting behaviors ($p>.05$)

Education is also a demographic factor. Many studies showed that education is the factor that can determine health promoting behaviors (Duffy, 1988; Hanner, 1986; Muhlenkamp& Sayles, 1986 cited by Duffy, 1997). Three hundred and ninety seven Mexican American women who were employed outside the home on a full-time basis (91%) were studied to determine their health promoting behaviors (Duffy, 1997). The results showed that age and education were minimal variance to explain all six health promoting activities. In Thailand, Moopayak et al (B.E.2536) studied the relationship between the health status and health behaviors of middle aged women (40-59 years).The groups with different education levels showed different systolic and diastolic blood pressure which was statistically significant ($p<.05$). Moreover, Kapraedee (B.E.2541) studied 120 elderly BPH patients and health promoting behaviors. Stepwise multiple regression analysis indicates that behaviors correlated

well with interpersonal influences and education levels. The two variables predicted the behaviors at the level of 46.10% ($p < .001$). It is the same in Pungbangkadee (B.E.2540) which shows that education can predict the variance of self-care behaviors.

Occupation gives women multiple roles that may lead to experience of role conflict and role overload, causing adverse effects on health and well-being (Baruch & Barnett, 1986 cited by Rogers, 1995: 365). However, Froberg, Gjerdingen, and Proston (1986 cited by Rogers, 1995: 365) purpose that when women perform multiple roles, they receive certain benefits from each role, such as increased social contact and satisfaction which contribute to better health and to mental well-being. Ahijevych and Bernard (1994 cited by Duffy, Rossow, & Hernandez, 1996: 19), studied African American women smokers and reported that employment was significantly and positively related to engagement in health-promoting behaviors. In Thailand, Sumpunyu (B.E.2539) studied health perception and health promoting behaviors of 275 hypertensive patients. It is found that high blood pressure patients with different jobs show no statistical difference in health promoting behaviors ($p > .05$) except for self-actualization in which workers with fixed schedule have better health promoting behaviors than the workers with unfixed schedule ($p < .05$).

Marital status is one of the personal factors which indicate spousal support. Personal factors are proposed as directly influencing both behavior-specific cognitions and effect as well as health promoting behaviors (Pender, 1996:69). In a study of Muhlenkamp et al (1985: 331), a sample of 175 clients was administered. The analysis suggests significant relationship between marital status and higher scores on safety and careful use of alcohol and tobacco.

In the study of Sittichai (B.E.2540), the subjects were 100 mothers with HIV seropositive. The finding of the study reveal that spousal support is a factor which has significantly positive correlations with health promoting behaviors ($r=0.4214$). And it also predicts 16.96% of variance of health promoting behaviors. Likewise, the study of Rathanaamornchai (B.E.2535) indicates that marital status is significantly related with the old-aged health promoting lifestyle in terms of total scores and subscales. ($p < .05$).

However, there are some studies indicating that marital status contributed to the explanation of variance only in the nutrition dimension (Walker, Volkan, Sechrist & Pender, 1988: 84). Married women still have notable lower age-adjusted mortality and morbidity rates than nonmarried women (Ratherford, 1975; Verbrugge, 1979 cited by Sorensen & Verbrugge, 1987: 243)

These variables are included in the present study to provide some perspectives in explaining health promoting life styles of midlife working women.

CHAPTER III

METHODOLOGY

Research design

This study is a descriptive research, which examines personal factors and health perceptions as predictors of health-promoting behaviors in midlife working women in Bangkok.

Population and sampling

The target population to which the results will be generalized is midlife women who are employed in Bangkok, Thailand. The selection criteria for participation in the study were women whose age ranged from 35 to 50 years, who had not achieved natural or artificial menopause, and who had no chronic illness. They were working in one of the four occupations of teachers, clerical workers, bank officials, or sale workers. Even though the midlife period is defined as the span of life from 35 to 65 years old (Fogel & Woods, 1995: 79), the accessible population of this study was limited to the age of 50 because 50 years or older can be considered as the average age of menopausal women.

A stratified random sample divides the population into homogeneous subgroups from which elements are selected at random (Polit & Hungler, 1995: 237). In this study, stratified random sampling was used in choosing the occupations of the subjects.



According to Report of the Labor Force Survey, National Statistical Office (B.E. 2542), employed persons can be divided into 8 stratum: professional, administrative and managerial workers, clerical workers, sales workers, farmers & fisherman and related workers, workers in transport and communication, craftsmen & production-process workers, and service sports and recreation workers. Thus, the researcher used simple random sampling to choose 4 from 8 stratum: professional, clerical workers, service, and sales workers. The chosen occupations should be one in the stratum that will be internally homogeneous. Teachers are referred to the professional stratum, while clerical workers and sales workers are clearly occupations. Moreover, bank officials are representatives from the service stratum. Therefore, all are representatives from each of the stratum that is dominated by women.

In this case, the stratifying occupations divided the population into unequal sub-populations. The researcher had decided to select the subjects in proportion to the size of the stratum in proportional stratified sampling. However, the real population in each occupation, as well as the percentage of premenopause and perimenopause in the population group was not known. Thus, the researcher used the formula in calculating the sample size. According to the criterion of Kerlinger & Pedhazur, 1973 (cited by Vorapongsathorn, 1989: 60), the sample size is thirty times the number of the independent variables: $n = 30 k$

When n = number of samples

k = number of independent variables

Five variables were included.

Then, $n > 30 (5)$

$n > 150$ samples

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According to the above calculation, the sample size should be at least 150. For this study, a sample size of 400 was selected. One hundred subjects were randomly selected from each stratum. The larger the sample, the more representative the population was likely to be.

Setting

Teacher: Two from 50 areas: Nung-Kam and Jomthong, were selected first. Then large schools in that area were chosen. Data was collected from subjects in these schools until 100 subjects were recruited.

Bank official: The main office of the Bangkok Bank Public Company Limited was selected. Data was collected from subjects in the health services clinic in the main office until 100 subjects were recruited.

Clerical worker: Main government offices in 3 areas were selected: Nung-Kam, Jomthong, and Bangkoknoi. Data was collected from subjects in these main government offices until 100 subjects were recruited.

Sale worker: Sale workers in department stores and grand markets: Maboonkrong, Banglumpoo, and Central Department Store were selected. Data was collected from subjects in these markets and department stores until 100 subjects were recruited.

Instrumentation

The self-administered questionnaire used in this study is divided into three parts as follows:

1. Demographic data sheet

Demographic data of the studied samples were collected at the beginning of the instrument (See Appendix). This information included age, education, occupation, and marital status.

2. Health-promoting behavior

Health-promoting behavior was measured by the Health-Promoting Life Style Profile II (HPLP II; Walker, Sechrist & Pender, 1996). To better suit the sample of the study, the researcher had slightly modified the Thai version of questionnaire translated by Sakbunditsakul, (B.E.2541), by asking for permission from she and her major advisor of that research. The HPLP II assesses the likelihood of the subjects' engagement in health-promoting behaviors. The questionnaire contains 47 items which measure the frequency of practice on the health promoting behaviors.

The meaning of scales:

Never means the respondents had never had any health promoting behaviors at all.

Sometimes means the respondents practiced the health promoting behaviors occasionally.

Often means the respondents practiced the health promoting behaviors frequently.

Regular means the respondents practiced the health promoting behaviors regularly or daily.

There are 44 positive items and 3 negative items in the questionnaire. The negative items are items 3, 4, and 39.

Scoring of the answers.

	Positive items	Negative items	
Never	1	4	point
Sometimes	2	3	point
Often	3	2	point
Regular	4	1	point

The contents of the questionnaire are then divided into 6 subscales: nutrition (items 1-11); physical activity (items 12-15); health responsibility (items 16-22); interpersonal relations (items 23-30); stress management (items 31-40); and spiritual growth (items 41-47). The total scores range from 47 to 188, with higher scores reflecting more health promoting behaviors in general or within a specific subscale. The mean score can be interpreted as follows:

Mean score between 1.00-2.00 means midlife working women perform “poor” health promoting behaviors;

Mean score between 2.01-3.00 means midlife working women perform “moderate” health promoting behaviors; and,

Mean score between 3.01-4.00 means midlife working women perform “good” health promoting behaviors.

Construct validity and reliability of the prior-modified instrument was assessed by 480 female workers in the textile industry. Scores based on Cronbach’s alpha coefficient were reported as 0.765 for the total scale. Previous studies of 712

adults aged 19 to 92 years confirmed the usefulness of the HPLPII (Walker & Hill, 1996 cited by Suwannaroop, 1999). Cronbach's alpha coefficient was 0.94 for the total scale and ranged from 0.79 to 0.82 for the subscales.

3. Health Perceptions

Health perceptions were assessed by the Health Perceptions Questionnaire-HPQ (Ware, 1976). The HPQ assesses the individual's perception level of physical health and well-being. The 28-item instrument employs a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5).

The meaning of scores:

Strongly agree means the respondents absolutely agree with that item.

Almost agree means the respondents quite agree with that item.

Neutral means the respondents do not agree or disagree with that item.

Almost disagree means the respondents quite disagree with that item.

Strongly disagree means the respondents absolutely disagree with that item.

There are 17 positive items and 11 negative items:

The Positive items : 1, 2, 4, 7, 10, 13, 15, 16, 17, 19, 21, 22, 23, 25, 26, 27, and 28.

The Negative items: 3, 5, 6, 8, 9, 11, 12, 14, 18, 20, and 24.

Scoring of the answers

	Positive items	Negative items	
Strongly agree	5	1	point
Almost agree	4	2	point
Neutral	3	3	point

Almost disagree	2	4	point
Strongly disagree	1	5	point

The contents of the questionnaire can be divided into 6 subscales:

Current health: 1, 4, 9, 12, 17, 24, and 28 (7 items)

Prior health: 11, 19, and 26 (3 items)

Health outlook: 5, 10, 18, and 22 (4 items)

Resistance/Susceptibility: 2, 3, 7, 15, and 27 (5 items)

Health worry/concern: 6, 13, 20, and 23 (4 items)

Adjustment of the sick role: 8, 14, 16, 21, and 25 (5 items)

The total scores ranged from 28-140, with higher scores reflecting higher levels of health perceptions.

Interpretation of scores:

Mean score between 1-2.33 means midlife working women perceived their health as “poor”.

Mean score between 2.34-3.66 means midlife working women perceived their health as “moderate”.

Mean score between 3.67-5.0 means midlife working women perceived their health as “good”.

The tool was originally piloted on 2,000 respondents in five field tests conducted at five locations in the United States. Internal consistency reliabilities ranged from 0.45 to 0.92 for the subscales and 0.70 to 0.92 for the overall scale. A test-retest reliability coefficient after 1 year (N = 1,200) was .88.

Validity and reliability

All of the following questionnaires, except the demographic data sheet, were translated and modified from English, the original language of the questionnaire. In the process of modification of the original by Pender (1996), health-promoting behaviors were modified from Sakbunditsakul (B.E.2541) to suit midlife women group. Also, health perceptions were modified, based on Ware (1978), to make them suitable for these groups. To establish the validity and reliability of the Thai version of the instrument, the following steps were taken:

1. The Thai version was evaluated for content validity by 6 experts:

Expert in the field of behavioral science	1
Experts in OB-GYN nursing professional	1
Expert in women's health nursing professional	1
Expert in the field of public health nursing	2
Expert in nutrition field	1

2. The internal consistency reliability (α - coefficient) for the subscales in the Thai version questionnaire was examined. The Thai version questionnaire, after having been approved by all experts, was used in the pilot study of 30 subjects.

- The reliability of the health promoting behavior questionnaire of midlife working women = .8185
- The reliability of the health perception questionnaire of midlife working women = .8251

Data collection procedure

The researcher collected data on her own. First, the introductory and permission letters were prepared by the Graduate Studies, Mahidol University, and delivered to the Director of Education Department, Bangkok; Director of Nung-kam, Jomthong, and Bangkoknoi Government offices; and Manager of Personnel of Bangkok Bank to ask for cooperation in data collection.

After the request was approved, the researcher introduced the purposes of the study to the ones who might be concerned. Then, potential subjects were approached after permission from their supervisors was obtained (teacher, clerical workers, and bank official), with one exception that sale workers gave their own permission. The subjects were informed of the overall purposes of the study and the time required for participation. Those who were interested in participating in the study were asked to sign a consent form and were also given freedom to withdraw from participation at any time they wanted to. All the data collected would be used for educational purposes only. The 3-part self-administrated questionnaire, in the order given above, was provided to the subjects. The whole questionnaire took approximately 20 to 30 minutes to complete. Finally, the questionnaires were then be checked for completeness before calculation.

Protection of human subjects

The data collection procedure in this study certainly encompassed the protection of human subjects. The researcher explained the purposes of this study to the subjects and asked for their permission to collect data and used an informed

consent form to ensure that the subjects had willingly volunteered. The subjects were assured that all of the responses and the information from the record would remain confidential, and the subjects had the right to participate and to withdraw from this study at any time.

Data analysis

The completed questionnaire from each subject was given an identification code number. Demographic data, health perceptions and health-promoting behavior scores were calculated for each subject. The SPSS statistical package was used for data analysis. In order to meet the specific aims of the study, Multiple classification was also applied. When applicable, statistical procedures were performed by using the significant level of .05. The confidence interval was calculated based on a 95% confidence level.

1. Descriptive statistics was used to analyze the demographic characteristics, health perceptions and health-promoting behavior. All of the demographic variables were categorized in terms of frequency distributions.

2. For continuous variables, which mean the scores of HPQ and HPLP II, statistical procedures were used to examine the central tendencies (mean) and variability (standard deviation) of the both total and subscale data.

3. If significant relationships between variables existed, multiple classification analysis was further employed to examine particular factors and groups in detail to characterize health-promoting behaviors. To complete the analysis,

residual and multicollinearity diagnosis were conducted to assure that the model was correctly specified.

MCA is chosen in the research analysis for many reasons. A key reason to use this technique is its ability to show the effect of each predictor on the dependent variable both before and after taking into account the effects of all other variables. The second reason to use the MCA program lies in its freedom from these restriction. The predictors are always treated as sets of classes or categories. Moreover, the appropriate data for the program, the dependent variable, should be an interval scale like the score of health promoting behaviors which comes from Likert scale instrument. An independent variables may be any combination of interval, ordinal, or nominal scales and these is no need to convert non-numerical variables into a series of dummy variables as the predictors of this research: education, occupation, and marital status. To convert non-numerical variables into series of dummy variables is a usual way of dealing with regression. The advantages of using the MCA program are largely those of convenience in input, output, and presentation (Andrew, 1971: 16).

Owing to all of the above reasons, the researcher chose the MCA technique to predict health promoting behaviors.

CHAPTER IV

RESULTS

This research was a study of health promoting behaviors; health perceptions; and the effects some demographic factors such as age, education, occupation and marital status had on midlife working women's practice of health promoting life-style activities. Four hundred working women were recruited from four occupations (teaching, clerk, banking, and sales), ranging in age from 35 to 50 years. They hadn't achieved natural or artificial menopause, and had no chronic illness.

The results will be illustrated in the tables as follows:

1. Descriptive statistics of demographic data of the midlife working women in Tables 1-3
2. Descriptive statistics for health perceptions and health promoting behaviors in Tables 4-12.
3. Multiple Classification Analysis of variables and health promoting behaviors in Tables 13-15.

1.Descriptive statistics of demographic of the samples.

Table 1: Number and percentage of midlife working women categorized by age, education, occupation, marital status, number of children they had, and age of younger child. (N=400)

Variables	Number	Percentage
Age (years)		
35-39	173	43.3
40-44	99	24.7
45-50	128	32.0
	Min = 35 / Max = 50 / Mean = 41.67 / SD = 4.92	
Education		
Primary school	23	5.7
Secondary school	72	18.0
Diploma	42	10.5
Bachelor	242	60.5
Graduate	21	5.3
Occupation		
Teacher	100	25.0
Clerical worker	100	25.0
Bank official	100	25.0
Sales worker	100	25.0
Marital status		
Single	102	25.5
Divorced/separated	31	7.8
Married	267	66.8
Number of children they had		
Divorced/separated (N=31)		
No child	5	16.1
Have a child/children	26	83.9
	Min 1 / Max 4	
Married (N=267)		
No child	29	10.9
Have a child/children	238	89.1
	Min 1 / Max 5	
Total (N=298)		
No child	34	11.4
Have a child/children	264	88.6
	Min 1 / Max 5	
Age of the younger child (N=264)		
1-5 (years)	67	25.4
6-12 (years)	119	45.1
13-18 (years)	47	17.8
>19 (years)	31	11.7
	Min 1 / Max 27 / Mean = 10.14 / SD = 5.97	

Table 1 shows that most subjects (43.3%) ranged in ages from 35 to 39 years old, and the second largest group (32%) were between 45-50 years, while the last group (24.7%) were 40-44 years old. The mean age was 41.67 years (SD = 4.92). Sixty percent had a bachelor's degree, with four years of primary school as the lowest level of education, and a master's degree as the highest. A sample of 400 was recruited from four occupations (25% per occupation). Sixty-six percent was married, while 25.5% was single. The last group, divorced/separated, constituted 7.8%. For those who had been married and divorced/separated, 88.6% had a child while 11.4% had no child (except the single group). The minimum number of child was 1, and the maximum was 5. The youngest of the last child was 1 year old and the oldest age of the younger child was 27. Mean age of the younger child was = 10.14 years (SD=5.97).

Table 2: Percentage of midlife working women concerning time spent in one day, and time spent doing a continuous job at home categorized by occupation. (N=400)

Variables	Percentage
Job characteristic	
Teacher (n=100)	
Time-used a day ≤ 10 hr.	82.0
> 10 hr.	18.0
Min 8 / Max 13 / Mean =9.84 / SD. = 1.14	
Job at home no	35.0
Yes	65.0
Time used at home	
<2	86.1
3-4	13.9
Min 1 / Max 4 / Mean = 1.72 / SD. = .74	
Clerical work (n=100)	
Time-used a day ≤ 10 hr.	60.0
> 10 hr.	40.0
Min 7 / Max 15 / Mean = 10.39/ SD. = 1.57	
Job at home no	85.0
Yes	15.0
Time used at home	
<2	80.0
3-4	20.0
Min 1 / Max 3 / Mean = 1.86 / SD. = .74	
Bank official (n=100)	
Time-used a day ≤ 10 hr.	49.0
> 10 hr.	51.0
Min 9 / Max 18 / Mean = 10.91/ SD. = 1.53	
Job at home no	77.0
Yes	23.0
Time used at home	
<2	73.9
3-4	17.4
>4	8.7
Min 1 / Max 6 / Mean = 2.21 / SD. = 1.38	
Sale worker (n=100)	
Time-used a day ≤ 10 hr.	43.0
> 10 hr.	57.0
Min 7 / Max 19 / Mean = 11 / SD. = 1.79	
Job at home no	57.0
Yes	43.0
Time used at home	
<2	79.1
3-4	11.6
>4	9.3
Min 1 / Max 6 / Mean = 2.04 / SD. = 1.34	

Table 2 displays the time spent by the subjects. Eighty-two percent of the teachers spent less than 10 hours a day, while 18 percent of the subjects spent more. The average time-spent a day of teachers was 9.84 hours (SD.=1.14). Sixty-five percent of the teachers brought their job to continue at home and most of them spent time less than 2 hours at home. In clerical work group, sixty percent of the subjects spent less than 10 hours a day, while 40% spent more than 10 (mean = 10.39 hours, SD.=1.57). Eighty-five percent of the subjects didn't bring their job to continue at home, while 15 percent of the subjects did their job at home. For most subjects who did their jobs at home, 80% spent less than 2 hours to continue their jobs at home. For bank official, half of the subjects spent less than 10 hours, while the other half spent more. Seventy-seven percent of the subjects didn't work at home while 23% did. For most of the subjects(73.9%) who worked at home, they spent less than 2 hours. As for sales worker, most subjects (57%) spent more than 10 hours a day, while 43% spent less. Fifty-seven percent of the subjects didn't work at home, while 43% did work at home. Most subjects (79.1%) who worked at home spent less than 2 hours.

Table 3: Percentage of midlife working women in job stress and job satisfaction as categorized by occupation. (N=400)

Occupation	Job stress		Total (%)	Job satisfaction			Total (%)
	Stress	Nonstress		satisfaction	Neutral	Dissatisfaction	
Teacher	45	55	100	87	12	1	100
Clerical worker	29	71	100	64	34	2	100
Bank official	47	53	100	65	29	6	100
Sale worker	38	62	100	83	15	2	100

Table 3 indicates that in the stress group, bank official had the highest response at 47%, while teachers and sale worker ranked second and third, at 45% and 38% respectively. Clerical workers ranked the least, at 29%.

Regarding to the satisfaction in job, 87% of teachers and 83% of sale workers were satisfied with their job. On the other hand, only 65% of bank official and 64% of clerical worker felt so.

2. Descriptive statistics for health perceptions and health promoting behaviors

Table 4: Mean, standard deviation, and interpretation of midlife working women in health perceptions scores and health promoting behaviors scores in terms of subscales and total (N=400)

Variables	Mean	S.D.	Interpretation
Health Perceptions			
Adjustment of the sick role	3.89	.51	good
Prior health	3.64	.90	moderate
Health outlook	3.51	.59	moderate
Current health	3.48	.62	moderate
Resistance/ Susceptibility to illness	3.47	.36	moderate
Health worry/ concern	3.37	.57	moderate
Total	3.56	.34	moderate
Health Promoting Behaviors			
Interpersonal relations	3.24	.46	good
Spiritual growth	3.21	.55	good
Stress management	3.11	.45	good
Nutrition	2.87	.39	moderate
Health responsibility	2.64	.64	moderate
Physical activity	2.48	.61	moderate
Total	2.90	.34	moderate

Table 4 shows that most of the subjects had moderate health perceptions, with a mean of 3.56 (SD=.34). By each subscale, adjustment of the sick role was at a good level, with the mean of 3.89. The other subscales were moderate health perceptions. Prior health, health outlook, current health, resistance/susceptibility to illness and health worry/concern had mean values of 3.64, 3.51, 3.48, 3.47, and 3.37 respectively.

Moreover, most subjects had moderate scores of health promoting behaviors with the mean of 2.90 (SD=.34). For each subscale, interpersonal relations had the highest score with the mean of 3.24 (SD= .46). The second highest score was

spiritual growth subscale (mean=3.21, SD=.55), while the third was stress management (mean=3.11, SD. =.45). Nutrition and health responsibility had the mean value of 2.87 and 2.64 (SD=.39 and .64) respectively. Physical activity had the lowest score with the mean of 2.48 (SD=.61).



Table 5: Mean, standard deviation, and percentage of respondents of midlife working women in adjustment of the sick role and prior health in terms of items (N=400)

Health Perceptions	5	4	3 (%)	2	1	Mean	S.D.
Adjustment of the sick role							
• When I'm sick, I try to keep it.	37.5	51.8	4.8	3.8	2.3	4.18	.86
• I don't bother to go to the doctor	37.3	43.8	12.3	5.0	1.8	4.10	.92
• Getting sick is a part of life	28.3	58.5	4.5	5.3	3.5	4.03	.92
• I don't like to go to the doctor*	5.8	8.5	7.3	35.8	42.8	4.01	1.17
• When I'm sick, I try to just keep going as usual.*	11.8	25.5	10.0	41.3	11.5	3.15	1.26
Prior health							
• I was so sick once I thought I might die*	8.5	9.5	7.3	15.8	59.0	4.07	1.34
• I have never been seriously ill	37.3	30.5	8.0	14.3	10.0	3.71	1.36
• I have never had an illness for a long time	15.0	36.8	12.5	20.5	15.3	3.16	1.33

5: Strongly agree; 4: Almost agree; 3: Neutral; 2: Almost disagree; 1: Strongly disagree.

* Negative item.

Table 5 states that the item of adjustment of the sick role, "When I'm sick, I try to keep it to myself" had the highest score with the mean of 4.18 (SD=.86). Most of the subjects (51.8%) almost agreed with the item. On the other hand, "When I am sick, I try to just keep going as usual" had the lowest score with the mean of 3.15 (SD=1.26), and the majority of the subjects (41.3%) almost disagreed with the item.

As for prior health, the item, "I was so sick once I thought I might die" had the highest score with the mean of 4.07 (SD=1.34). Most subjects (59%) strongly disagreed with the item, while "I've never had an illness that lasted for a long period of time" had the lowest score with the mean of 3.16 (SD=1.33) and the majority of the subjects (36.8%) almost agreed with it.

Table 6: Mean, standard deviation, and percentage of respondents of midlife working women in health outlook and current health in terms of items (N=400)

Health Perceptions	5	4	3	2	1	Mean	S.D.
	(%)						
Health outlook							
• I expect to have a healthy life	57.5	34.8	4.5	2.0	1.3	4.45	.78
• In the future, I expect to have better health than other people	15.3	32.5	38.8	8.0	5.0	3.44	1.02
• I will probable be sick a lot in the future*4.0	20.3	47.5	18.8	9.5	3.09	.96	
• I think my health will be worse in the future. *	6.3	20.3	45.5	17.5	10.5	3.06	1.02
Current health							
• I feel about as good as I ever have.	25.3	45.0	17.5	10.0	2.3	3.81	1.00
• I am somewhat ill *	4.3	14.3	10.0	39.8	31.8	3.80	1.16
• I'm as healthy as anybody I know	10.0	44.0	33.3	9.5	3.3	3.48	.91
• I'm not as healthy now as I used to be*	5.3	19.3	19.3	35.5	20.8	3.47	1.17
• According to the doctors , my health is excellent.	6.5	42.3	37.0	11.8	2.5	3.38	.87
• I have been feeling bad lately*	6.3	19.8	23.5	31.0	19.5	3.38	1.18
• I feel better now than I have ever before	6.8	29.0	35.8	21.8	6.8	3.07	1.12

5:Strongly agree; 4:Almost agree; 3: Neutral; 2: Almost disagree; 1: Strongly disagree.

*Negative items

Table 6 indicates that the item of health outlook, “ I expect to have a very healthy life ” received the highest score with the mean of 4.45(SD=.78) and most subjects (57.5%) strongly agreed with it. On the contrary, “ I think my health will be worse in the future than it is now” had the lowest score with the mean of 3.06 (SD=1.02) and the majority of the subjects (45.5%) felt neutral toward it.

The item of current health, “ I feel about as good now as I have ever before” had the highest score with the mean of 3.81 (SD=1.00) and the majority of the subjects (45.0%) almost agreed, and “ I feel better now than I ever have before ” had the lowest score with the mean of 3.07 (SD.=1.02), and the majority of the subjects (35.8%) were neutral.

Table 7: Mean, standard deviation, and percentage of respondents of midlife working women in health worry/concern and resistance/susceptibility in terms of items (N=400)

Health Perceptions	5	4	3	2	1	Mean	S.D.
	(%)						
Resistance/susceptibility to illness							
• I try to avoid letting illness interfere with my life.	31.3	55.5	9.5	2.8	1.0	4.13	.77
• When there is something going around, I usually catch it.	32.0	52.5	10.3	4.0	1.3	4.10	.83
• I seem to get sick a little easier*	7.0	16.8	19.5	42.3	14.5	3.41	1.14
• Most people get sick easier than I do.	3.5	22.5	46.8	19.0	8.3	2.94	.94
• My body seems to resist illness very well	4.8	17.3	37.8	33.0	7.0	2.80	.97
Health worry/concern							
• My health is a concern in my life.	56.3	38.0	4.0	0.8	1.0	4.48	.70
• I never worry about my health*	7.3	27.0	16.0	38.0	11.8	3.20	1.17
• Others seem more concerned with their health than I am about mine*	7.5	28.3	18.3	31.0	15.0	3.18	1.21
• I worry about my health more than other people worry about their health.	7.3	21.8	18.3	33.5	19.3	2.64	1.22

5: Strongly agree; 4: Almost agree; 3: Neutral; 2: Almost disagree; 1: Strongly disagree.

* Negative items

Table 7 shows that among these items of resistance/susceptibility to illness, “ I try to avoid letting illness interfere with my life ” had the highest score with the mean of 4.13 (SD=.77), and most of the subjects (55.5%) almost agreed. In the item, “ My body seems to resist illness very well ” had the lowest score with the mean of 2.80 (SD=.97), the majority of the subjects (37.8%) were neutral.

Regarding health worry/concern, the item, “ My health is a concern in my life ” had the highest score with the mean of 4.48 (SD=.70), and most subjects (56.3%) strongly agreed. The item, “ I worry about my health more than other people worry about their health ” had the lowest score with the mean of 2.64 (SD=1.22), and the majority of the subjects (33.5%) almost disagreed with this item.

Table 8: Mean, standard deviation, and percentage of respondents of midlife working women in interpersonal relations and spiritual growth in terms of items (N=400)

Health Promoting Behaviors	4	3	2	1	Mean	S.D.
	(%)					
Interpersonal relations						
• Have the way to relate with others	65.5	30.5	3.5	0.5	3.61	.58
• Maintain relationships with others	57.3	36.3	5.0	1.5	3.49	.66
• Praise other people easily	48.3	44.0	6.8	1.0	3.40	.66
• Get support from a network	47.3	33.0	18.3	1.5	3.26	.81
• Find it easy to be concerned with others	37.3	48.3	14.0	0.5	3.22	.70
• Touch and am touched by people.	40.8	41.3	15.8	2.3	3.21	.78
• Discuss my problems with close people.	31.3	45.5	19.0	4.3	3.04	.82
• Spend time with close friends.	21.0	35.3	37.5	6.3	2.71	.87
Spiritual growth						
• Aware of what is important in life.	54.5	36.8	7.8	1.0	3.45	.68
• Work toward long-term goals in life.	51.3	38.0	9.5	1.3	3.39	.71
• Look forward to the future.	48.8	38.3	9.5	3.5	3.32	.79
• Feel connected with some greater force	49.5	31.8	15.8	3.0	3.28	.84
• Find each day interesting	31.8	43.5	21.5	3.3	3.04	.81
• Feel I am going	28.5	46.5	21.5	3.3	3.04	.76
• Expose myself to new experiences	33.0	38.3	23.3	5.5	2.99	.89

4: Regular; 3: Often; 2: Sometimes; 1: Never.

*Negative items

Table 8 suggests that interpersonal relations of the subjects were at the good level. The item "have the way to relate with others" had the highest score with the mean of 3.61 (SD=.58), and most subjects (65.5%) reported that they regularly practiced this. On the contrary, "spend time with close friends" had the lowest score with the mean of 2.71 (SD=.87). Most of the subjects (37.5%) reported that they sometimes practiced this.

Spiritual growth of the most subjects were at the good level as well. The item "Aware of what is important in life" had the highest score with the mean of 3.45 (SD=.68). Most subjects (54.5%) reported that they regularly practiced this. And "expose myself to new experience and challenges" had the lowest score with the mean of 2.99(SD=.89), with most of the subjects (38.3%) often practicing this.

Table 9: Mean, standard deviation, and percentage of respondents of midlife working women in stress management and nutrition in terms of items.(N=400)

Health Promoting Behaviors	4	3	2	1	Mean	S.D.
	(%)					
Stress management						
• Use alcohol or smoking for relaxation*	1.0	2.0	4.5	92.5	3.89	.45
• Pace myself to prevent tiredness	46.0	43.8	9.0	1.3	3.35	.69
• Get enough sleep	43.8	39.0	15.3	2.0	3.25	.78
• Accept things in my life	40.3	46.0	12.5	1.3	3.25	.72
• Concentrate on pleasant thoughts at bedtime	40.8	43.8	12.8	2.8	3.23	.77
• Take time for relaxation	41.8	36.3	18.8	3.3	3.17	.84
• Balance time between work and play	29.0	42.0	25.5	3.5	2.97	.83
• Settle conflicts through compromise	26.8	44.8	24.0	4.5	2.94	.83
• Practice relaxation	21.0	49.5	25.3	4.3	2.87	.79
• Spend time on favorite hobby	17.8	19.3	37.3	25.8	2.29	1.04
Nutrition						
• Use an increase power beverage*	0.3	0.8	7.5	91.5	3.90	.34
• Eat 2-4 servings of fruit	41.5	46.0	11.8	0.8	3.28	.70
• Eat breakfast	50.0	18.0	23.3	8.8	3.09	1.04
• Eat 2-3 servings of meat	21.3	43.5	31.0	4.3	2.82	.81
• Read labels to identify nutrients	33.8	28.3	24.3	13.8	2.82	1.05
• Limit use of sugar	22.8	38.3	32.0	7.0	2.77	.88
• Eat food which contains calcium	19.5	38.0	37.3	5.3	2.72	.84
• Drink tea or coffee*	31.8	20.5	33.8	14.0	2.70	1.06
• Eat 3-5 servings of vegetables	16.3	40.8	34.5	8.5	2.65	.85
• Choose a diet low in fat.	12.8	40.0	40.5	6.8	2.59	.80
• Eat food which contains fiber	11.5	18.3	54.3	16.0	2.25	.86

4: Regular; 3: Often; 2: Sometimes; 1: Never.

*Negative items

Table 9 indicates that stress management of the most subjects was at the good level. The item "using an alcohol or smoking for relaxation" had the highest score with the mean of 3.89(SD=.45). Most of the subjects (92.5%) never practiced this. On the other hand, "use a leisure time for favorite hobby" had the lowest score with the mean of 2.29(SD=1.04). Most subjects (37.3%) sometimes practiced this.

Nutrition of the subjects was at the moderate level. The item "using an increase power beverage" had the highest scores with the mean of 3.90 (SD=.34). Most subjects (91.5%) never practiced this. In contrast, "eat food which contains fiber" had the lowest score with the mean of 2.25 (SD=.86). Most subjects (54.3%) sometimes practiced this.

Table 10: Mean, standard deviation, and percentage of respondents of midlife working women in health responsibility and physical activity in terms of items (N=400)

Health Promoting Behaviors	4	3	2	1	Mean	S.D.
	(%)					
Health responsibility						
• Question health professionals	36.0	32.0	26.0	6.0	2.98	.93
• Report any unusual signs	27.5	34.5	30.8	7.3	2.82	.92
• Read or watch improving health program	16.0	38.3	42.5	3.3	2.67	.78
• Get a second opinion	16.0	43.0	31.0	10.0	2.65	.87
• Have annual check up	27.8	14.3	29.0	29.0	2.41	1.17
• Ask for information from health professional	17.0	33.5	38.8	10.8	2.57	.90
• Inspect my body	15.0	26.5	40.8	17.8	2.39	.95
Physical activity						
• Take part in leisure activities	56.0	31.3	10.0	2.8	3.41	.78
• Get exercise during usual daily activities	24.5	34.5	28.5	12.5	2.71	.97
• Follow a planned exercise program	8.5	15.3	53.3	23.0	2.09	.85
• Exercise vigorously	7.5	7.0	37.3	48.3	1.74	.89

4: Regular; 3: Often; 2: Sometimes; 1: Never.

Table 10 shows that health responsibility of most subjects was at the moderate level. The item "question health professional in order to understand their instructions" had the highest score with a mean of 2.98 (SD=.93), and most of the subjects (36%) regularly practiced this. On the other hand, "inspect my body at least monthly" had the lowest score with the mean of 2.39 (SD=.95), and most of the subjects (40.8%) sometimes practiced this.

Physical activities of most of the subjects were at the moderate level. The item "having vigorous exercises" had the lowest score with the mean of 1.74 (SD=.89), and most subjects (48.3%) reported that they never practiced this. In contrast, "take part in leisure time" had the highest score with the mean of 3.41 (SD=.78), with most of subjects (56%) regularly practiced this.

Table 11: Mean, standard deviation, percentage of respondents and interpretation of midlife working women in health perceptions scores categorized by occupation (N=400)

Occupation (100 per each)	Health Perceptions					
	poor	moderate	good	Mean	SD.	Interpretation
Teacher	-	63	37	3.54	.32	moderate
Clerical worker	1	59	40	3.55	.37	moderate
Bank official	-	57	43	3.60	.28	moderate
Sales worker	-	63	37	3.54	.31	moderate

Table 11 reveals that bank official had the highest mean scores with the mean of 3.60. Clerical workers had the mean scores of 3.55, which ranked second. Teachers, as well as sales workers, had the lowest mean scores with the mean of 3.54.

Table 12: Mean, standard deviation, percentage of respondents and interpretation of midlife working women in health promoting behaviors scores categorized by occupation. (N=400)

Occupation (100 per each)	Health Promoting Behaviors					
	poor	moderate	good	Mean	SD.	Interpretation
Teacher	-	54	46	2.97	.29	moderate
Clerical worker	-	65	35	2.86	.36	moderate
Bank official	-	56	44	2.96	.28	moderate
Sales worker	3	62	35	2.81	.40	moderate

Table 12 suggests that teachers had the highest mean scores of 2.97. The second highest mean score was bank official (mean=2.96), while the third was clerical worker (mean =2.86). Sale workers had the lowest mean scores of 2.81.

3. Multiple Classification Analysis of Variance and Health Promoting Behaviors.

Multiple Classification Analysis (MCA)

Multiple Classification Analysis is a multivariate analysis which examines interrelationship between an independent or more independent variables and a dependent variable. The technique assumes that the dependent variable is predictable from an additive combination of the predictor variables. The appropriate data for the program, the dependent variable, should be an interval scale, while the independent variable may be any combination of interval, ordinal, or nominal scales. Moreover, it is recommended to have 3 to 10 predictor variables, and each predictor may have up to 32 categories (It is recommended that there be 6 or less predictors) (Andrew, 1971: 18).

As regards the consideration about the minimum number of cases appropriate for use with the MCA program, each category of each predictor must have enough cases to provide reasonably stable estimates of the mean. There should be substantially more than their degree of freedom in the predictive model. The degree of freedom is equal to the sum of the number of categories for each of the predictors minus the total number of predictors, as defined in the following formula:

$$df = \sum \text{no. of categories of the predictors} - \text{total number of predictors}$$

By this reason, health perceptions can be divided into 2 groups: fair (the number of subjects in "poor" level is only 1, which is less than df, so it should be more reasonable to combine the poor level and moderate level together in one group and separated from the good level.

The result of MCA is presented into 2 tables :

1. Table for analysis of variance (Table 14) is to show how well all the variables can be explained in relation with the dependent variable and how each predictor separately relates to the dependent variable significantly as well.

2. Table for multiple classification analysis (Table 15) illustrates the relationship and enables the dependent variable to be predicted. MCA can be statistically shown as follows:

2.1 Grand mean is the mean value of dependent variable which has not yet been categorized

2.2 Unadjusted deviation is the mean value which deviates for the category from the grand mean.(This indicates the gross or unadjusted effect of the predictor.)

2.3 Adjusted deviation is the mean value which deviates for the category from the grand mean after the grand mean has been adjusted for effects of other predictors, or after all other predictors have been "held constant".

2.4 Eta and Eta^2 : Eta is a correlation ratio and it indicates the ability of the predictor, using the categories given, to explain variation of the total sum of squares explainable by the predictor.

2.5 Beta and Beta^2 : these are directly analogous to the Eta statistics, but are on the adjusted means rather than the raw means. Beta provides a measure of the ability of the predictor to explain variation in the dependent variable after adjusting for the effects of all other predictors. This is not in terms of percent of variance explained.

2.6 R^2 : This coefficient (when squared) indicates the proportion of variance

in the dependent variable explained by all predictors together (after adjusting for degrees of freedom) (Andrew, 1971: 21-22).

All independent variables have been proved to detect collinearity as shown in Appendix D (Preliminary Analysis).

Table 13: Analysis of variance of independent variables and health promoting behaviors (N=400)

	sum of square	df	Mean	F	p-value
Main effects	9.819	12	.818	8.393	<.001
Health Perceptions					
Health	4.031	1	4.031	41.349	<.001
Education	3.404	4	.851	8.730	<.001
Marital status	1.203	2	.601	6.169	.002
Age	1.050	2	.525	5.383	.005
Occupation	.131	3	.043	.449	.718
Model	9.819	12	.818	8.393	<.001
Residual	37.729	387	.097		
Total	47.548	399	.119		

Table 13 indicates that all independent variables: age, education, occupation, marital status, and health perception were significant enough to explain the variance in health promoting behaviors ($F=8.393$, $p<.001$). After all other predictors had been “held constant”, it was found that only occupation was non-significant to health promoting behaviors. ($F=.449$, $p>.05$).

Table 14: Multiple Classification Analysis of health promoting behaviors by health perception, education, marital status, age, and occupation.

	N	Predicted Mean		Deviation	
		Unadjusted	Adjusted for factors	Unadjusted	Adjusted for factors
N=400 Grand mean= 2.902 SD.= .345 Min= 1 Max= 4					
Health Perception (Eta= .324 ;Eta²= 0.10; Beta= .298; Beta²=0.088)					
Fair	243	2.744	2.757	-.157	-.144
Good	157	2.981	2.975	.079	.072
Education (Eta= .277; Eta²=0.076; Beta= .216; Beta²=0.046)					
Primary	23	2.591	2.636	-.311	-.265
Secondary	72	2.852	2.868	-.049	-.033
Diploma	42	2.810	2.857	-.091	-.045
Bachelor	242	2.952	2.939	.050	.037
Graduate	21	3.020	2.965	.118	.063
Marital Status (Eta= .176; Eta²=.030; Beta= .172; Beta²=0.029)					
Single	102	2.879	2.881	-.022	-.020
Divorced/ separated	31	2.708	2.711	-.193	-.191
Married	267	2.933	2.932	.030	.029
Age (Eta= .149; Eta²=0.022; Beta= .135; Beta²=0.018)					
35-39	173	2.844	2.849	-.057	-.052
40-44	99	2.959	2.936	.057	.030
45-50	128	2.935	2.950	.033	.048
Occupation (Eta= .192; Eta²=0.036; Beta= .052; Beta²=0.002)					
Teacher	100	2.970	2.917	.068	.015
Clerical	100	2.861	2.874	-.041	-.028
Bank	100	2.961	2.899	.059	-.002
Sale	100	2.815	2.917	-.087	.015
R² = .207					
R = .454					

In Table 14, the result of the Multiple Classification Analysis of health promoting behaviors shows that the independent variables were found to explain the variance in health promoting behaviors at $R^2 = .207$.

When considering each independent separately:

Health perceptions had significant relationships with health promoting behaviors as can be explained below:

The unadjusted effect of this predictors were:

Health perception at “fair” level had the mean of health promoting behaviors = $2.90 - 0.157 = 2.744$; and,

Health perception at “good” level had the mean of health promoting behaviors = $2.90 + 0.079 = 2.981$.

Health perception with other predictors can explain in terms of the variance in HPB at 10% ($\text{Eta}^2 = 0.10$).

The adjusted effect of this predictor were:

Health perception at “fair” level had the mean of health promoting behaviors = $2.90 - 0.144 = 2.757$; and,

Health perception at “good” level had the mean of health promoting behaviors = $2.90 - 0.072 = 2.975$.

Health perception can explain the variance in HPB at 8.8% ($\text{Beta}^2 = 0.10$).

Education had a significant relationship with health promoting behaviors as can be explained below:

The unadjusted effect of education were:

Primary school had the mean of HPB = $2.90 - 0.311 = 2.59$;



Secondary school had the mean of HPB = $2.90-0.049 = 2.85$;

Diploma had the mean of HPB = $2.90-0.091 = 2.81$;

Bachelor had the mean of HPB = $2.90+0.050 = 2.95$; and,

Graduate had the mean of HPB = $2.90+0.118 = 3.020$.

Education with other independent variables account for the variance of HPB at 7.6 ($\text{Eta}^2 = 0.076$).

The adjusted effect of education were:

Primary school had the mean of HPB = $2.90-0.265 = 2.636$;

Secondary school had the mean of HPB = $2.90-0.033 = 2.868$;

Diploma had the mean of HPB = $2.90-0.045 = 2.857$;

Bachelor had the mean of HPB = $2.90+0.037 = 2.939$; and,

Graduate had the mean of HPB = $2.90+0.063 = 2.965$.

Education can explain the variance of HPB at 4.6% ($\text{Beta}^2 = 0.046$).

Marital status had a significant relationship with health promoting behaviors as can be explained below:

The unadjusted effect of marital status were:

Single had the mean of HPB = $2.90-0.022 = 2.879$;

Divorced/separated had the mean of HPB = $2.90-0.193 = 2.708$; and,

Married had the mean of HPB = $2.90+0.030 = 2.933$.

Marital status with other independent variables can explain the variance of HPB at 3% ($\text{Eta}^2 = 0.030$).

The adjusted effect of marital status were:

Single had the mean of HPB = $2.90-0.020 = 2.88$;

Divorced/separated had the mean of HPB = $2.90 - 0.191 = 2.711$; and,

Married had the mean of HPB = $2.90 + 0.029 = 2.932$.

Marital status can explain the variance of HPB at 2.9% ($\text{Beta}^2 = 0.029$).

Age had a significant relationship with health promoting behaviors as can be explained below:

The unadjusted effect of age were:

35-39 age group had the mean of HPB = $2.90 - 0.057 = 2.844$;

40-44 age group had the mean of HPB = $2.90 + 0.057 = 2.959$; and,

45-50 age group had the mean of HPB = $2.90 + 0.033 = 2.935$.

Age with other independent variables account for the variance of HPB at 2.2% ($\text{Eta}^2 = 0.022$).

The adjusted effect of age were:

35-39 age group had the mean of HPB = $2.90 - 0.052 = 2.849$;

40-44 age group had the mean of HPB = $2.90 + 0.030 = 2.936$; and,

45-50 age group had the mean of HPB = $2.90 + 0.048 = 2.950$.

Age can explain the variance of HPB at 1.8% ($\text{Beta}^2 = 0.018$).

Occupation had a non-significant relationship with health promoting behaviors ($F=0.449, p>.05$).

Table 15: Factor summary among predictors and health promoting behaviors

Variables	Eta ²	Beta	F	p-value
Health perceptions	.10	.298	41.349	<.001
Education	.076	.216	8.730	<.001
Marital status	.030	.172	6.169	.002
Age	.022	.135	5.383	.005
Occupation	.036	.052	.449	.718

R squared =.207

In conclusion, the most significant explainable independent variable was health perception (Eta²=.10, p<.001), the second was education, the third was marital status and the last one was age (Eta² = .076,.030, .022) (p<.001,.01, .01), while occupation could not explain HPB (Eta²=.036, p>.05).

For each independent variable, subjects who had good health perception had a higher score of health promoting behaviors than the ones who had a fair perception (predicted mean of fair perception = 2.75, and that of good perception = 2.97). In the group which had education lower than the diploma level, the mean score of health promoting behaviors was lower than that of the group with undergraduate degree or higher (predicted mean in primary school = 2.63, secondary school = 2.86, diploma = 2.85, undergraduate = 2.93, and graduate = 2.96).

Moreover, the subjects who got married had higher health promoting behavior scores than those who were single or divorced/separated. (predicted mean of single = 2.88, divorced/separated = 2.71, and married = 2.93). The subjects who were older than 40 years old had higher health promoting behavior scores than the subjects who were younger than 40 years old (predicted mean in the group of those who were

younger than 40 = 2.84, the group who were 40-44 and 45-50 = 2.93 and 2.95 respectively).



CHAPTER V

DISCUSSION

This study focused on health perceptions and health promoting behaviors of midlife working women. It also investigated health perceptions as well as some effects of demographic factors such as age, education, occupation and marital status on midlife working women's practice of health promoting life-style activities. Four-hundred working women in Bangkok were recruited from four occupations (teachers, clerical workers, bank officials, and sales workers) ranging in age from 35 to 50 years. They had not achieved natural or artificial menopause, and had no chronic illness. The findings are discussed according to the following objectives and hypotheses:

Objective I: Description of perceived health perceptions and health promoting behaviors in midlife working women

Health perceptions in midlife working women

The result shows that the mean scores of health perceptions of the subjects are considered moderate. For each category, adjustment of the sick role has the mean scores in the good level. The rest of the categories: prior health, health outlook, current health, resistance/susceptibility to illness, and health worry/concern have the mean scores in moderate levels (Table 4).

The findings also reveal that the subjects have moderate health perceptions. This can be explained by the fact that the average age of the subjects (56.75%) is higher than 40 years. It is a period when these women face with biological changes. For example, the hair of the adult decreases in growth, loses its shineness, and begins

to turn gray. In addition, the skin's moisture and turgor decrease and wrinkles occur. Moreover, fat deposition increases during these years as well as increases in weight gain. Furthermore, visual quality decreases and visual modification requires a longer time at night. Many symptoms called climacteric symptoms occur in the late forties or early fifties. (Sutterly&Donnelly, 1989 cited by Behler, 1994: 607; Moopayak, B.E. 2536:9) All these physical changes can be noticed by the middle-aged women themselves. Moreover, some of the subjects might have some discomfort symptoms from perimenopausal period. Those all make their health perceptions decrease, as can be seen from the moderate mean scores.

When considering each subscale, it was discovered that:

1. Adjustment of the sick role. The result shows that the scores of most of the subjects are in good level (mean=3.89)(Table 4). It is found that 80% of the sample chose "almost agree" and "strongly agree" in keeping the sickness to themselves, as going to the doctor does not bother them, and getting sick is a part of life (Table 5). It can be explained that midlife working women can understand their health status including consideration of their illness as well. Also, they have a correct perception when they get sick and go to see the doctor. According to the demographic data, sixty percent of the subjects had a bachelor's degree or higher. This can be an indicator that high education influences correct health perceptions of self-care or seeking medical help when necessary. This finding supports the result of the study by Suwan (B.E. 2526: 182) which reports that individuals who have a higher education level have better knowledge, vision, and self-conduct on physical health than those who have lower education.

However, it is noticeable that 35% of the subjects chose the responses “almost agree” and “strongly agree” with trying to keep going as usual when they get sick. That is an incorrect adjustment of the sick role. For these working women, their job description is rigid. For instance, teachers have a fixed schedule and no one can replace them, which is the same as bank officials who have specific job responsibilities and sometimes they have to work despite being sick.

2. Prior health. The results show that most of the subjects have scores in the moderate level (mean=3.64) (Table 4). More than 70% chose almost agree and strongly agree for being sick once they might die, and more than 60% in never being seriously ill (Table 5). It means that most of the subjects had no experience about serious illness before, so they had a good health perception in the past. Health perceptions tend to be negative if they have had previous bad impressions. On the other hand, if they have a good impression and experience about their health, they always have good perceptions, too. When they face current illness, they might have a moderate level of stress and this leads them to adapt themselves to cope with their health (Pavilai, B.E.2535: 60) Prior health has influence on current health and health outlook.

In addition, 35% of the subjects pointed out that they almost agreed and strongly agreed with having an illness for a long time. It means some of the subjects had just been sick lately, so the health perception scores are in moderate level.

3. Health outlook. The result shows that most subjects have scores in the moderate level(mean=3.51) (Table 4). Ninety percent of the subjects almost agreed and strongly agreed that they expected to have a very healthy life and 45% to have better health than other people in the future (Table 6). This means the subjects

expected their own-health status to have good results in the future. Health outlook perception is a health acceptance in the future and is influenced by both prior health and current health. If prior and current health of the subjects are well, they should have a positive expectation about their health and have a motivation to do the activities to continue their good health (Cobb, 1976:300 cited by Supparasri, B.E. 2538: 81).

In addition, 25% of the subjects almost agreed and strongly agreed that they probable faced be sick a lot in the future, and that their health would be worse in the future. This shows that although they expected a good health in the future, some thought that when they got older, more diseases would be waiting ahead. That is a wrong idea because if the elder take good care of their health, they will remain healthy for a long time. This explains why the mean score of health outlook is at the moderate level.

4. Current health. The study reveals that most subjects have moderate level of scores(mean=3.48) (Table 4). Seventy percent of the subjects almost agreed and strongly agreed with a feeling as good now as they ever had, and they were somewhat ill (Table 6). It can be explained that all the subjects were healthy women and did not have any chronic illness.

However, 25% of the subjects almost agreed and strongly agreed with feeling bad lately. When focusing on mental health, forty percent of the subjects had experienced stress in their work place. Stress can interfere with health and is associated with poor mental health. Their current health mean scores are in the moderate level.

5. Resistance/susceptibility to illness. The study indicates that most of the subjects have scores in the moderate level (mean=3.47) (Table4). Eighty-five percent of the subjects almost agreed and strongly agreed with trying to avoid letting illness interfere with their life, and their body seemed to resist illness very well (Table 7). That means the subjects had no confidence to defeat an illness. This may be because 56% of the subjects were older than 40 years old when had to face with many physical changes. Also, many chronic diseases such as cardiovascular disease, osteoporosis, hypertension, etc. were waiting ahead. Therefore, resistance/susceptibility perception scores are decreased.

6. Health worry/concern. The result indicates that most of the subjects have scores in the moderate level(mean=3.37) (Table 4). Ninety-five percent of the women almost agreed and strongly agreed that their health was a concern in their life, and 50% of them were worried about their health (Table 7). It can be explained that all the subjects ranged in age from 35-50 years olds, the age when they were going to be older and would have to face with many chronic illnesses in the next decade. Therefore, health concern was necessary. The results of the study are consistent with those of the study of Walker et al. (1988) which found that the elder have higher scores of health promoting behaviors than the younger. This suggests that older people are concerned about well-being

Finally, around 35 percent almost agreed and strongly agreed that they were felt more concerned about health than they were. It means that the subjects did not pay attention to their health as much as they should have. The reasons are because they were healthy, had no chronic illness, and spent most of their time working and taking care of their family, their scores are in moderate level.

Health promoting behaviors in midlife working women.

The study indicates that the mean scores of health promoting behaviors of the sample are in moderate level (mean=2.90) (Table 4). When considering the subscales, the mean scores of HPB in interpersonal relations, spiritual growth, and stress management are in good levels. But some aspects such as physical activity, nutrition, and health responsibility are found at moderate levels (Table 4).

The mean scores of HPB in interpersonal relations, spiritual growth, and stress management are in good level. It can be explained that most of the subjects were older than 40 years old and had more general growth. The relationship with others had already been developed and they also chose a good way to relax. This may result in scores in a good level. As for the rest of the subscales, they had scores in the moderate level. The reason for this finding might come from the time spent in one day of the subjects which ranged from 7-19 hours (Table 2). Furthermore, women spent their time on responsibility with their family: spousal role and maternal role. Combining job and family responsibilities can be difficult, and the most popular presumption is that women's health is bound to suffer from increasing employment. (Sorensen&Verbrugge, 1987: 237).

Moreover, the subjects have the mean score in the moderate level. It might depend on how high their education's, since 65% of these groups had a bachelor's or a higher degree. The higher their education, the more ways they can take care of themselves. It is believed that people who have higher education have more opportunity to seek useful or beneficial information relating to proper health activities as well as knowledge pursuance and experiences to take care of themselves (Pender, 1982:161-162). In addition, the subjects have the mean score of health perception in

the moderate level (Table 4), which tends to have moderate score of health promoting behaviors. The health perception is a factor which controls their attitudes and behaviors to continue their well-being. The results are congruent with Pender (1996) who states that health perception is a factor which influences health promoting behaviors. If the subjects have good health perceptions, they will have a clear way to perform health promoting behaviors.

In general, health promoting behaviors should be regularly practiced by midlife working women. However, it is found that subjects have moderate scores for each subscale, as discussed below:

1. **Interpersonal relations.** The study shows that the subjects have the highest scores in this subscale.(mean=3.24) (Table 4). Ninety-five percent of the subjects often practiced or regularly practiced, having the way to relate with others; with 90% maintaining relationships with others and praising other people easily (Table 8). That means the subjects had a good relationship with others such as co-workers or supervisors. It can also be explained that social supports were readily available within the work environment. Co-workers may fill individuals' needs for affiliation and stimulation. Support from co-worker and supervisors may reduce role conflict and ambiguity and enhance self-esteem (House&Wells, 1978 cited in Sorensen&Verbrugge, 1987: 241). Indeed, some working women report that major benefit of employment is the establishment of close social ties with co-workers. (House&Wells, 1978 cited in Sorensen&Verbrugge, 1987: 241). Around 64-87 percent of women in every occupation had satisfaction with their job (Table 3), so it can be concluded that co-workers can increase satisfaction in job.

However, 50% of the subjects revealed that they often or regularly practiced spending their time with close friends. All the subjects were employed and they also needed to take care of their family. Thus, they had no time left to spend with their close friends.

2. **Spiritual growth.** The study shows that the subjects have the second highest score in this subscale. (mean=3.21) (Table 4). Ninety percent more often or regularly were aware of what was important in their life, and worked toward long-term goals in their life, with 85% looking forward to the future (Table 8). That means the subjects had some goals in life. It can be their career advancement or growth or education of their children. It can further be explained that all the subjects were employed, so they had opportunities to build self-esteem and confidence in decision making (Sorensen&Verbrugge, 1987:240).

3. **Stress management.** The result shows that the subjects' scores are in the good level (mean=3.12) (Table 4). Around 92.5% of the subjects had never used alcohol or smoked for relaxation, 90% often to regularly paced themselves to prevent tiredness, and 80% got enough sleep (Table 9). It can be explained that the subjects were in the middle age group which had a lot of problems solving. Moreover, around 53-71% of the subjects in every occupation had a non-stress job (Table 3). That means most subjects had a good stress management strategy.

4. **Nutrition.** The study reveals that the subjects had the moderate score in this subscale (mean= 2.87) (Table 4). More than 90% of the subjects regularly did not use an increase power beverage, and 87.5% ate 2-4 servings of fruit (Table 9). Therefore, the subjects could do some activities correctly, especially those necessary for midlife women who require mineral and vitamin from fruits.

However, 70% of the subjects stated that they did not eat or only sometime ate food which contained fiber. It has also been found that nearly 50% revealed that they never or sometimes chose a diet low in fat, ate 3-5 servings of vegetables, ate food which contained calcium, and limited their use of sugar. All the behaviors mentioned above are necessary for the middle-aged because foods chosen by midlife women should be high in nutrients but moderate or low in calories to allow adequate nutrients intake while maintaining good body weight (Fogel&Woods, 1995: 89). Moreover, their gastrointestinal tract (GI) is less efficient, so receiving more fiber is a good way to reduce the work of the GI tract and to prevent constipation. Also, one of the most important aspects of prevention of cardiovascular disease is avoidance of obesity. Therefore, the midlife women need to ensure that their daily diet includes all the essential nutrients while simultaneously reduces the amount of cholesterol and saturated fats consumed (Fogel&Woods, 1995: 89). Furthermore, the minimum recommended daily allowance of calcium, calcium intake of 800 mg for women prior to menopause, should be taken into consideration by midlife women because they have greater risk of osteoporosis if they do not take enough calcium (Fogel&Woods, 1995: 90).

As can be seen from the present study, midlife working women have health promoting behavior scores in the moderate level. This can be considered to be an early sign that they may develop chronic illness. Although most of the subjects had higher levels of education, they may be too busy to cook as recommended.

5. Health responsibility. The result shows that most subjects have moderate scores in this subscale (mean=2.64) (Table 4). Sixty-eight percent of the subjects more often or regularly practice questioning health professional, 60% reporting any

unusual signs, and 54% reading or watching health improving programs (Table 10). This activity is very necessary for midlife women. If they have more knowledge, they understand more ways to prevent an illness.

Fifty-eight percent had never practiced or sometimes practiced inspecting their body such as performing self-breast exam once a month, and 40% having an annual-check up of their health. Although most subjects could be considered having high education, they still ignored these behaviors. It might be the time they spent on working and taking care of family in one day. Moreover, the age of child is a factor that influences health promoting behaviors of mother. In the group who have children, 70% of the children ranged in age from 1 to 12 years (Table 1). Small children tend to require more time of their parents to take care of them. This is consistent with the study of Verbrugge (1986 cited by Sorensen&Verbrugge, 1987: 240) which states that child bearing has been associated with lower mother physical well-being. Women with preschool children are more likely to adopt the health promoting behaviors, such as visiting the doctor or taking curative actions, than are those with school-age children. Ahijevych (1994:88) studied HPB in 187 African American women and found that the number of children under 18 in the household has significant relationships with HPB($r=.16$, $p<.05$). In this case, the findings concerning annual checking up and inspecting the body such as performing self-breast examination are consistent with those of the study of the cancer association survey in USA. The study states that only 29% of American women perform self-breast examination every month.(Mussey, 1986: 183 cited by Potaya, B.E. 2532: 15), and more than 20% have never developed this behaviors. The reasons why they ignored this were the fear and stress of breast cancer, lack of confidence in self-examination, lack of concern for

monthly self-breast examination and shyness to do it by themselves (Stromberg, 1981: 1652 cited by Potaya, B.E. 2532: 15).

In the study of Nakarit (B.E. 2541: 57) of the relationship between factors influence self-breast examination in 280 middle age women in Bangkok, it is reported that 37.9% of the subjects stated they hadn't done this before. The reasons why they ignored this practice were lack of knowledge (47.6%), feeling that it was not necessary (14.3%), fear to face cancer (11.5%), having no time (11.0%), feeling no convenience to check (10.2%), and shyness (5.4%).

Thus, midlife working women should be aware of health check up, and their knowledge should be increased by reading, listening, talking, etc.

6. Physical activity. The study indicates that the subjects have score of HPB in moderate level and this subscale has the lowest score (mean=2.48). Eighty-seven percents stated that they more often or regularly did some activities during leisure time and 60% exercised during usual daily activities (Table 10). All these behaviors make them fresher and more relaxed.

Eighty-five percent stated they had never exercised or sometimes exercised vigorously, and 75% followed a planned exercise program. That means these group ignored exercises. They might have thought that doing house-work was enough or that it could replace the vigorous exercise. In fact, house-work can not replace vigorous exercises. The results are consistent with Jakpituk (B.E. 2532: 125-127) which states that women have less exercise and more women spend their time on house-work and food-preparation. House-work might make housewives exhausted, but using 2-3 kilocalory/hour is less than exercise. In a report on non-infectious diseases of Thai, only 32.1% of the subjects who were 35 to 39 years old had regular exercise. The

reasons were lack of time and place (Public health administer, B.E.2539:40). It is congruent with a study of HPB of 3 groups (adolescent, middle aged, and old aged) whose results show that the mean score of physical activity subscale is the lowest. (Walker, Volkan, Secriest & Pender, 1988:82). This is the same as the study of 187 African American women whose physical activity received the lowest score as well (Ahijevch & Bernhaard, 1994:88). In addition, among 480 textile working women, physical activity received the lowest subscale (Sakbunditsakul, B.E.2541: 86). All of the explanations above suggest that women have sedentary lifestyle and lack of activity which uses a lot of energy. That could explain why the subject ignored exercises. To reduce the risk of illness associated with middle age, these behaviors should be pursued to enhance better health.

Objective II: An investigation whether some demographic characteristics such as age, education, occupation, marital status and perceived health perceptions can predict variables of health promoting behaviors in midlife working women.

Hypotheses: Age, education, occupation, marital status and health perceptions altogether can predict the variance of the health- promoting behaviors of midlife working women.

From the analysis of variance (Table 13), the results reveal that all variables: health perceptions, education, marital status, age, and occupation, significantly influence the variance of health promoting behaviors ($p < .001$). When considering each independent variable and hold other variables, the study shows that all variables except occupation have significant relationship with HPB. They indicate that the

determining factors comprising health perceptions, education, marital status, and age could predict the health promoting behaviors in midlife working women at 20.7% ($p < .001$).

For great explanation, the subcategory of each independent variables can be explained as follows:

First of all, the findings reveal that health perceptions exhibit the greatest relationship with health promoting behaviors ($r = .378$, $p < .01$) for which a prediction in MCA is at 8.8% ($Beta^2 = .088$, $F = 41.349$, $p < .001$) (Table 15). Moreover, when health perceptions are classified into 2 groups: fair health perceptions and good health perceptions, the results of MCA show that women with good health perceptions have higher scores of health promoting behaviors than those with fair health perceptions.

Health perception is a factor related with HPB. Cobb et al. and Pender (Cobb, et al, 1976:300 cited by Eumprahm, B.E. 2541: 96; Pender, 1987:64) state that when individuals perceive their health status as a reality, they will give the meaning and value to their health. Moreover, attitudes occur and they can be seen in their behaviors. Walker proposes that health and functional status may depend largely on the willingness of individuals to accept responsibility for initiating and maintaining healthy lifestyle throughout the course of life (Walker, 1989 cited by Suwannaroop, 1999).

This is congruent with Magnani (Magnani 1990:172 cited by Pavilai, B.E. 2535: 35) who points out that health perception is a motivative factor which stimulates the patients to their respond to health behavior. Duffy (1988) states that the women who report their current health as high (good) have high scores on self-

actualization, nutrition, exercise and interpersonal support subscales. It is the same as Frank-Stromberg who shows that better health status is significantly related to the six subscales of health promoting activities (Frank-Stromberg, 1990 cited by Duffy, 1993: 24).

In Thailand, Phancharoenworakul (B.E.2536) reports that post-partum mothers, who are hepatitis B carriers, tend to engage in health behaviors if they acknowledge their illness. The study of Sumpunyu (B.E.2539: 105) shows that patients with very good health perception have better health promoting behaviors than those with only fairly good perceptions ($p < .001$ and $p < .05$).

Secondly, it is found from the present study that education is associated with health promoting behaviors of midlife working women ($r = .247$, $p < .001$), and can be predicted in MCA at 4.6% ($Beta^2 = .046$, $F = 8.73$, $p < .001$) (Table 15).

When classifying education into 5 groups: primary school, secondary school, diploma, bachelor, and graduate, MCA shows that women with a bachelor's or graduate degree have higher HBP scores than women with lower education. More years of education would be positively associated with engagement in health promoting behaviors. The more years of education, the more knowledge that enables these women to understand and to make decision in conducting various activities leading to correct health behaviors (Suwan, B.E.2534).

Pender (1987: 161-162) states that people who have higher education have more opportunity to seek useful or beneficial information relating to proper health activities as well as knowledge pursuance and experiences for taking care of themselves.

The study of Suprarasri (B.E. 2538) states that post heart-surgical patients who have different education levels have significantly different HPB scores ($p < .001$). The higher education level of education tends to indicate more practice of HPB (Suprarasri, B.E.2538: 85). The study of Kapraedee (B.E.2541: 61) also supports this belief, confirming that behaviors correlate well with education, as shown by higher HPB scores.

Next, it is found from the study that marital status is associated with health promoting behaviors in midlife working women ($r = .136$, $p < .01$) for which a prediction in MCA is at 2.9% ($\text{Beta}^2 = .029$, $F = 6.169$, $p < .01$) (Table 15). When classifying marital status into 3 groups: single, divorced/separated and married, the results of MCA shows that married women have higher HPB scores than single women or divorced/separated women. It can be explained in this aspect that married women receive social support from their partners to practice health promoting lifestyles. Previous studies (Ratherford, 1975; Verbrugge, 1979 cited in Sorensen, 1987) suggest that married women still have notably lower age-adjusted mortality and morbidity rates than non-married women. Moreover, 175 in-patients show significant relationships between marital status and high score of non-smoking and non-alcoholic subjects (Muhlenkamp, Brown&Sands, 1985: 331). Sakbunditsakul (B.E. 2541: 71) points out that married women have higher HPB scores than single women. Sittichai (B.E. 2540) studies 100 mothers with HIV seropositive and finds significantly positive correlations between spousal support and HPB ($r = .42$, $p < .001$) which could also predict HPB. Marriage may also protect men and women from social stressors and contribute to feelings of success and satisfaction, as well as deter risk taking and promote self-protective behaviors.

Then, the findings from the study show that age is associated with health promoting behaviors in midlife working women ($r=.136$, $p<.01$) for which a prediction in MCA is at 1.8% ($Beta^2=.018$, $F=5.383$, $p<.01$) (Table 15). After categorizing age into 3 groups: 35-39, 40-44, and 45-50 years, the results of MCA shows that women who are 35-39 years old have lower HPB scores than older women.

It can be explained that age is a personal factor which influences attitudes toward practicing HPB (Pender, 1996: 68). Moreover, the older subjects may have passed more critical situations, have more life experience and develop more critical thinking skills to enable themselves to choose better ways to face the problems (Lazarus&Folkman, 1984: 172 cited by Leetherakul, B.E.2541: 68). It can also be the case that the ones who have more maturity can choose and make better decisions about their self-care (Orem, 1980: 154). This is consistent with Bunshom (B.E.2540) who states that pregnant women older than 35 years of age have better scores of HPB than those who are younger than 20.

Leetherakul (B.E.2541: 68) reveals that the older the pregnant women with hepatitis B, the higher the HPB scores they have.

These studies seem to suggest that older persons practice more HPB than younger person (Muhlenkamp et al, 1985; Walker et al, 1988; Kuster and Fong, 1993 cited by Duffy, Rossow& Hernandez, 1996).

Finally, it is also discovered that occupation is not a direct affective factor to predict HPB, but it can be still combined with other predictors to explain the variance in HPB as significantly ($p<.001$)(Table 13).

Anyway, occupation is a factor that could not be used to predict the health promoting behaviors of the midlife working women. It might be having relative homogeneity in the occupation. Job characteristics of these occupation also include inflexible work schedules, long hours of sitting or standing, and limited career rewards, etc.

When considering the research results of Pender's framework, the results are consistent with the framework. It shows that all variables which are psychological and personal factors have effects on behavior-specific cognition and affective factors and direct effects on health promoting behaviors (Figure 1). This means that midlife working women who have good health perceptions, have higher education, get married, and are older will have motivation to practice health promoting behaviors to continue well-being and retain quality of life.

However, the health promoting model points out that behavior-specific cognitions and affective factors are the essential factors to correlate with HPB of the individuals. Since this research does not take these factors into account, so it cannot be used to explain HPB at this point.

It can be concluded from this study that to develop well-being of midlife working women, concerned individuals factors, behavior-specific cognitions, and affective factors should be taken into careful consideration as parts of the developing process in order to more effectively implement the plans.

CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

Conclusion of the study

This research is a study of health perceptions, and health promoting behaviors of midlife working women. Also, investigation of health perception as well as some demographic factors are studied such as age, education, occupation and marital status of midlife working women's practice of health promoting life-style activities was conducted. Four-hundred working women are recruited from four occupations (teaching, clerk, banking official, and sales) whose ages ranging from 35 to 50 years, with no natural or artificial menopause, and no chronic illness. The instruments used in the study consist of demographic data sheet; health promoting behaviors questionnaire, which was modified from HPLPII (Walker, Sechrist& Pender, 1996); and health perceptions questionnaire, which is modified from HPQ (Ware, 1976). For the analysis of the obtained data, the frequency distributions and percentages of the demographic data, health perceptions, and health promoting behaviors were computed. The central tendencies (mean), and standard deviation of the HPQ and HPLPII in terms of subscales and total were calculated and examined. Finally, the predictive power of the factors of health promoting behaviors in midlife working women by multiple classification analysis was analyzed.

The findings of the study can be summarized as follows:

1. General characteristics of midlife working women

The subjects consisted of 400 midlife working women in Bangkok. Their average age was 41.67 years (SD.=4.92). Of these individuals, most subjects (60.5%) finished a bachelor's degree. Secondly, 18% finished secondary school while 10.5% graduated with a diploma. The rest finished primary school and graduate school (5.75% and 5.25% respectively.). Among these 400 subjects, 66.8% were married , 25.5% were single and 7.8% were divorced/separated. In the group of divorced/separate and married, 88.6% had at least one child, 11.4% had no child (lowest number of child = 1 and higher number =5). Finally, 45.1% had the younger child ranging in age from 6-12 years, 25.4% had the last child ranging in age from 1-5 years, and 11.7% had the youngest child who was 19 years old or older. (min=1, max=27, mean=10.14, SD.=5.97).

2. Health perceptions

The results from the study of midlife working women indicate that their average HPQ scores is 3.56, thus suggesting moderate health perceptions. Adjustment to the sick role's scores of all subjects are considered good, while the rest subscales' scores are in moderate level.

3. Health promoting behaviors

It is found from the study that the overall health promoting behaviors of the sample is in a moderate level, with the mean of 2.90. Interpersonal relations, spiritual growth, and stress management scores are considered good, while nutrition, health responsibility, and physical activity have a mean score at a moderate level.

4. Predictive power of independent factors on health promoting behaviors in midlife working women

The findings reveal that the independent factors consisting of age, education, marital status, and health perceptions could jointly predict the health promoting behaviors at 20.7%.

Recommendations

It is obvious from this study that the overall health promoting behaviors of the midlife working women is in a moderate level. That is partly influenced by the health perceptions, education, marital status, and age. The women who have good health perceptions, have higher education, get married, and are older seem to have more motivation to practice health promoting behaviors to continue well-being and retain quality of life. This study provides additional evidence of the usefulness to engage oneself in health promoting behaviors. Followings are the proposed recommendations resulted from this study:

Suggestions and applications of research findings

1. Employed middle-age women in any occupation should be provided with information related to midlife in order to increase the acceptance of their health in a correct way. The information they need should consist of the physical, mental and emotional changes. Furthermore, the knowledge of chronic diseases which can occur at this stage of life, including signs, symptoms and prevention, should be given. Particularly, the target group should be focused on the midlife working women whose education is lower than the undergraduate level. Moreover, divorced or separated and single working women should be motivated to practice health promoting behaviors.

Also, midlife working women who are younger than 40 years old are the special groups whose knowledge and perception about the changes of life-span should be enhanced. All of the above measures can assist the middle age women to pass this period as healthy as they can.

2. In addition to exercise, Thai midlife working women reported similarly low practice of health responsibilities and nutrition behaviors. For example, 85% of the subjects ignored vigorous exercise, and 58% had no practice on inspecting their body such as self-breast examination once a month. When viewed together, this constellation may be an early signal of a serious predisposition to those conditions found to be more prevalent in Thai midlife working women such as obesity, non-insulin dependent diabetes, hypertension, osteoporosis and other cardiovascular problems. Therefore, nurses and related health professionals should be aware of the importance of promoting these behaviors. Thus, education, whether formal or informal, is a way to broaden these women's scope of knowledge and give them more choices to take care of themselves.

3. Additionally, the higher reported scores of interpersonal relations, stress management, and spiritual growth illustrate that being employed outside the home may provide certain benefits for working women. For example, these women experience support of co-workers and the sense of fulfillment that comes from being a wage earner. Thus, nurses and related health professionals may establish a training group, or peer-group, for both individuals and groups in office places in order to promote their health promoting behaviors.

Suggestions for further studies

1. Other predicting factors on health promoting behaviors of working women such as parental role, spousal role, and influences of peer groups should be explored. Therefore, the further research should study the influence of these factors on health promoting behaviors.
2. An experiment-oriented study should be pursued in order to develop appropriate means and strategies to health responsibilities among the women in these age groups .
3. Comparisons between employed women and unemployed women on health promoting behaviors should be made to indicate whether or not role expansion of women influences their behaviors.
4. At present, since the problems of osteoporosis and cardiovascular problems tend to increase significantly in the group of sedentary women. An experiment-oriented research study to seek for means and strategies to solve these problems should also be conducted.
5. Further research should also include other variables of behavior-specific cognitions and affective factors such as perceived barriers and perceived self-efficacy, since behaviors-specific variables are considered to be a major motivational mechanism for acquisition and maintenance of health promoting behaviors.

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Appendix A

List of Experts

There are six experts who have validated the content of research instrument.

They are:

1. **Assoc.Prof. Dr. Sukunya Parisunyakul** : Department of obstetric and gynecology nursing, Faculty of Nursing, Chiangmai University.
2. **Assoc.Prof. Dr. Nirat Iamee** : Department of Public Education and Behavioral Science Faculty of Public Health, Mahidol University.
3. **Assist.Prof.Dr.Uraiporn Chittchang** : Community Nutrition Section, Institute of Nutrition, Mahidol University.
4. **Assist.Prof.Dr. Nitaya Sinsuksai** : Department of obstetric and gynecology nursing, Faculty of Nursing, Mahidol University.
5. **Assist.Prof. Supawadee Lympnanathorn** : Public Nursing Department, Faculty of Nursing, Mahidol University.
6. **Dr. Nantawan Suwannaroop** : Public Nursing Department, Faculty of Nursing, Mahidol University.

Appendix B

Inform consent

เรื่อง ขอความอนุเคราะห์ในการตอบแบบสอบถามเพื่อการวิจัย

เรียน ผู้ตอบแบบสอบถามทุกท่าน

เนื่องด้วยดิฉัน นางสาวปิยะนุช สินทนะโยธิน เป็นนักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการพยาบาลแม่และเด็ก คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล กำลังทำวิจัยเรื่องการรับรู้ภาวะสุขภาพกับพฤติกรรมการส่งเสริมสุขภาพ ของสตรีวัยกลางคนที่ทำงานนอกร้าน การวิจัยครั้งนี้ต้องการทราบถึงข้อมูลส่วนบุคคล พฤติกรรมการส่งเสริมสุขภาพ และการรับรู้ภาวะสุขภาพของท่าน หากท่านยินดีเข้าร่วมการวิจัย กรุณาตอบแบบสอบถามที่แสดงถึงความรู้สึกและการปฏิบัติเกี่ยวกับพฤติกรรมการส่งเสริมสุขภาพและการรับรู้ภาวะสุขภาพของท่านให้ครบทุกข้อคำถาม โดยจะใช้เวลาประมาณ 25-30 นาที

ข้อมูลที่ได้จากท่าน จะเป็นประโยชน์ในการปรับปรุงแนวทางการให้บริการทางด้านสุขภาพและการช่วยเหลือแก่ท่านและสตรีวัยกลางคนที่ทำงานนอกร้านเช่นเดียวกับท่านต่อไป ซึ่งการเข้าร่วมวิจัยในครั้งนี้จะเป็นไปตามความสมัครใจของท่าน ไม่ว่าจะท่านจะเข้าร่วมวิจัยหรือไม่ก็ตาม จะไม่มีผลกระทบต่อท่านแต่อย่างใด หากท่านยินดีเข้าร่วมวิจัย และภายหลังเกิดเปลี่ยนใจ ท่านมีสิทธิ์ที่จะถอนตัวได้ โดยไม่มีข้อแม้ใดๆและข้อมูลที่ได้จากท่านทั้งหมดนี้จะเป็นความลับ โดยจะแสดงออกมาเป็นภาพรวม ไม่ได้ระบุชื่อผู้หนึ่งผู้ใด และถ้าหากในระหว่างเข้าร่วมวิจัย ท่านมีข้อสงสัยประการใด ดิฉันยินดีตอบข้อสงสัยตลอดเวลา ดิฉันหวังว่าจะได้รับความอนุเคราะห์จากท่านเป็นอย่างดี และขอขอบคุณมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

นางสาวปิยะนุช สินทนะโยธิน

ผู้วิจัย

สำหรับผู้เข้าร่วมวิจัย

ข้าพเจ้าได้อ่านหรือได้รับคำอธิบายตามรายละเอียดข้างบนอย่างครบถ้วน และมีความเข้าใจเป็นอย่างดี ยินดีเข้าร่วมวิจัยในครั้งนี้

ลายเซ็น.....

(.....)

วันที่.....เดือน.....พ.ศ.....

Appendix C

แบบบันทึกข้อมูลส่วนบุคคล

คำชี้แจง : กรุณาใส่เครื่องหมาย ✓ ในช่อง หน้าข้อ

1. ปัจจุบันคุณอายุ.....ปี (ถ้ามีเศษเกิน 6 เดือน ให้นับเป็น 1 ปี)
2. ระดับการศึกษาสูงสุดของคุณ.....
3. อาชีพของคุณ
 - ครู คุณใช้เวลาอยู่ที่โรงเรียนและเดินทางไป-กลับ โดยเฉลี่ยวันละชั่วโมง
 - คุณต้องเอางานกลับมาทำที่บ้านหรือไม่ เองงานกลับมา ใช้เวลาในการทำ.....ชั่วโมง
 - ไม่ได้เอางานกลับมา
 - เจ้าหน้าที่ธุรการ คุณใช้เวลาอยู่ที่ทำงานและเดินทางไป-กลับ โดยเฉลี่ยวันละ.....ชั่วโมง
 - คุณต้องเอางานกลับมาทำที่บ้านหรือไม่ เองงานกลับมา ใช้เวลาในการทำ.....ชั่วโมง
 - ไม่ได้เอางานกลับมา
 - พนักงานธนาคาร คุณใช้เวลาอยู่ที่ธนาคารและเดินทางไป-กลับ โดยเฉลี่ยวันละ.....ชั่วโมง
 - คุณต้องเอางานกลับมาทำที่บ้านหรือไม่ เองงานกลับมา ใช้เวลาในการทำ.....ชั่วโมง
 - ไม่ได้เอางานกลับมา
 - ค้าขาย คุณใช้เวลาในการขายสินค้าและเดินทางไป-กลับ โดยเฉลี่ยวันละ.....ชั่วโมง
 - คุณเตรียมข้าวของเพื่อนำไปขายหรือไม่ เตรียม ใช้เวลาในการเตรียม.....ชั่วโมง
 - ไม่ต้องตระเตรียม
4. สถานภาพครอบครัวของคุณ
 - โสด
 - ม่าย / หย่า / แยก ไม่มีบุตร
 - มีบุตรอยู่ในความดูแล จำนวน.....คน
 - อายุบุตรคนสุดท้าย.....ปี
 - มีคู่สมรส ไม่มีบุตร
 - มีบุตรอยู่ในความดูแล จำนวน.....คน
 - อายุบุตรคนสุดท้าย.....ปี
5. คุณรู้สึกเครียดในการทำงานของคุณหรือไม่
 - เครียด ไม่เครียด
6. คุณมีความพึงพอใจในงานของคุณ
 - ใช่ เฉยๆ ไม่ใช่

แบบสอบถามพฤติกรรมกรรมการส่งเสริมสุขภาพ

คำชี้แจง : แบบสอบถามนี้ต้องการทราบข้อมูลเกี่ยวกับวิธีการดำเนินชีวิตเพื่อส่งเสริมสุขภาพของท่านในปัจจุบัน ขอให้ท่านตอบแบบสอบถามตามความเป็นจริงหรือความรู้สึกที่แท้จริงของท่าน ขอให้ท่านตอบแบบสอบถามให้ครบทุกข้อ โดยเรียงตามลำดับข้อคำถาม และกรุณาใส่เครื่องหมาย ✓ ลงในช่องที่ต้องการระบุถึงความถี่ของพฤติกรรมแต่ละอย่างที่ท่านปฏิบัติ ดังนี้

ปฏิบัติสม่ำเสมอ	หมายถึง	ผู้ตอบมีพฤติกรรมหรือปฏิบัติกิจกรรมในเรื่องนั้นๆ เป็นประจำอย่างสม่ำเสมอหรือเกือบทุกวัน
ปฏิบัติบ่อยครั้ง	หมายถึง	ผู้ตอบมีพฤติกรรมหรือปฏิบัติกิจกรรมในเรื่องนั้นๆ บ่อยครั้งแต่ไม่ปฏิบัติเป็นประจำ
ปฏิบัตินานๆ ครั้ง	หมายถึง	ผู้ตอบมีพฤติกรรมหรือปฏิบัติกิจกรรมในเรื่องนั้นๆ ไม่สม่ำเสมอหรือ ปฏิบัติเป็นบางครั้งหรือนานๆ ครั้ง
ไม่เคยปฏิบัติเลย	หมายถึง	ผู้ตอบไม่เคยปฏิบัติกิจกรรมนั้นๆ เลย

ตัวอย่าง

ข้อความ	ไม่เคยปฏิบัติ	ปฏิบัติ นานๆ ครั้ง	ปฏิบัติ บ่อยครั้ง	ปฏิบัติ สม่ำเสมอ
ก. ดันรับประทานอาหารเช้า			✓	
ข. ดันดูโทรทัศน์				✓

ข้อความ	ไม่เคยปฏิบัติ	ปฏิบัติ นานๆ ครั้ง	ปฏิบัติ บ่อยครั้ง	ปฏิบัติ สม่ำเสมอ
1. ดันเลือกรับประทานอาหารที่มีไขมันและโคเลสเตอรอลต่ำ				
2. ดันหลีกเลี่ยงอาหารที่หวานจัด				
.....				
46. ดันรู้ว่าอะไรเป็นสิ่งสำคัญในชีวิตของดิฉัน				
47. ดันเปิดโอกาสให้ตัวเองได้มีประสบการณ์ใหม่ๆ และสิ่งที่ท้าทาย				

แบบสอบถามการรับรู้ภาวะสุขภาพ

คำชี้แจง: แบบสอบถามนี้ ต้องการทราบข้อมูลเกี่ยวกับการรับรู้ต่อภาวะสุขภาพของตัวเอง ขอความร่วมมือในการอ่านข้อความแต่ละข้อความ และกรอมาใส่เครื่องหมาย ✓ ลงในช่องที่ต้องการระบุเพื่อแสดงความคิดเห็นต่อข้อความนั้นตามความเข้าใจ และความคิดเห็นของท่าน ในทุกคำถามจะไม่มีคำตอบที่ถูกต้องหรือผิด โดย

เห็นด้วยทั้งหมด หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดเห็นเกี่ยวกับสุขภาพของท่านทุกประการ

เห็นด้วยเป็นส่วนมาก หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดเห็นเกี่ยวกับสุขภาพของท่านเป็นส่วนมาก

ไม่แน่ใจ หมายถึง ท่านมีความรู้สึก ความคิดเห็น ไม่แน่ใจกับข้อความที่เกี่ยวกับสุขภาพนั้น

ไม่เห็นด้วยเป็นส่วนมาก หมายถึง ข้อความนั้นไม่ตรงกับความรู้สึก ความคิดเห็นเกี่ยวกับสุขภาพของท่านเป็นส่วนมาก

ไม่เห็นด้วยทั้งหมด หมายถึง ข้อความนั้นไม่ตรงกับความรู้สึก ความคิดเห็นเกี่ยวกับสุขภาพของท่านทั้งหมด

ตัวอย่าง

ข้อความ	เห็นด้วยทั้งหมด	เห็นด้วยเป็นส่วนมาก	ไม่แน่ใจ	ไม่เห็นด้วยเป็นส่วนมาก	ไม่เห็นด้วยทั้งหมด
ก. ฉันรู้สึกว่าฉันเป็นคนที่มึนงงสับสน		✓			
ข. ฉันคิดว่าฉันเป็นคนดี				✓	

ข้อความ	เห็นด้วยทั้งหมด	เห็นด้วยเป็นส่วนมาก	ไม่แน่ใจ	ไม่เห็นด้วยเป็นส่วนมาก	ไม่เห็นด้วยทั้งหมด
1. ในปัจจุบันฉันมองว่าสุขภาพของฉันในขณะนี้ดีมาก					
3. ฉันพยายามไม่ให้ความเจ็บป่วยเข้ามารบกวนชีวิตของฉัน					
.....					
27. โดยทั่วไปแล้วฉันเป็นคนที่ให้ความสนใจกับสิ่งที่เกิดขึ้นรอบตัวฉัน					
28. ขณะนี้ฉันรู้สึกสบายดีเท่ากับที่เคยเป็นมาก่อน					

Appendix D

Preliminary Analysis

The Pearson correlation analysis was performed to determine the association among the studied variables and to detect collinearity. The results of correlation coefficients are presented in Table 16. The correlation matrix indicates that demographic variables of age, education, occupation, marital status, and health perceptions are significantly correlated with other demographic variables and also with independent variable, which is health promoting behaviors.

Table 16: Summary of correlation matrix of the studied variables

Variables	1	2	3	4	5	6
1. Age	1.00					
2. Education	.050	1.00				
3. Occupation	-.070	-.499**	1.00			
4. Marital status	.165**	-.066	-.006	1.00		
5. Health Perception	-.017	.123*	.035	-.028	1.00	
6. Health Promoting Behaviors	.136**	.247**	-.118*	.088	.378**	1.00

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Significant correlations are found among health promoting behaviors and health perceptions ($r=.378$, $p<.01$), education ($r=.247$, $p<.01$), age ($r=.136$, $p<.01$), and occupation ($r=-.118$, $p<.05$). Age is significantly correlated with marital status ($r=.165$, $p<.01$). There is also a significant correlation between education and occupation ($r=-.499$, $p<.01$) as well as education and health perception ($r=.123$, $p<.05$).

The correlation coefficients range from $-.499$ to $.123$ which are less than $.60$ indicating that the independent variables are not too highly intercorrelated or redundant (Polit & Hungler, 1995:435).

However, two variables, occupation and marital status, are considered nominal scales which do not proved the collinearity with correlation matrix as illustrated above. However, they should be tested by chi-square for relationship assumption between occupation and marital status.

Table 17 : The relationship between occupation and marital status of midlife working women.

	Single	Divorce/ separated	Maried	Total	χ^2	p-value
Teacher	24	6	70	100		
Clerical	32	5	63	100		
Bank official	22	6	72	100	10.240	.115
Sale worker	24	14	62	100		
Total	102	31	267	400		

Table 17 presented the chi-square test of the relationship between occupation and marital status of midlife working women. The result showed that occupation was no significantly correlated with the marital status of midlife working women ($\chi^2 = 10.240$, $p < .05$). On the other hand, it indicates that there is no relationship between each other.

All of the above indicates that the independent variables has no relationship or does not highly related to each variables which can be calculated by advanced statistics.

BIOGRAPHY

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- DATE OF BIRTH** : 11 October 1969
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