

**THE STUDY OF MOTIVATION LEADING PEOPLE TO AEROBIC
EXERCISE ON THE REGULAR BASIS**



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ABSTRACT

The purpose of this thematic paper is to find out the motivations leading people to aerobically exercise on the regular basis and the reasons preventing people from doing so. This study uses the Self Determination Theory and Transtheoretical model as the baseline. The qualitative method is employed to obtain the data for analysis.

The analysis is performed to obtain the information about what type of motivations leading people to aerobically exercise on the regular basis and reasons preventing people to do so. It is found that for people, who aerobically exercise on the regular basis, intrinsic motivation is key factor with some support from extrinsic motivation. For people who aerobically exercise because of extrinsic motivation, they will do on sporadic basis. Once external factor disappears, people will stop to exercise.

The outcome of this analysis is used to develop strategies for Thai Health Promotion Foundation, local government, and business firms to motivate or convince people to aerobically exercise on the regular basis.

KEY WORDS: Extrinsic Motivation/ Intrinsic Motivation/ Regular Exercise/ Strategy leading people to exercise

46 pages

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CHAPTER I

INTRODUCTION

1.1 Background

Nowadays, Thais become more health conscious people. With the awareness of the benefit from healthy conditions, some of them concentrate on the healthy food. Another group of people uses aerobic exercise as the tool to promote their health while the others not only eat healthy food but also perform aerobic exercise on the regular basis.

Aerobic exercise is any physical activity which utilizes the large muscle groups and causes the body to consume more oxygen to generate energy than it would while resting (NHLBI, 2006). The benefits of aerobic exercise include the less chance for coronary heart disease, adult onset diabetes, obesity, certain cancers, and more recently, metabolic syndrome (Wilson et al., 2008). To achieve the benefit aerobic exercise, the Department of Health & Human Services, 2018, recommend the time for aerobic exercise to be between 150 and 300 minute per week. With known benefit of aerobic exercise, some people still don't exercise. (Wilson et al., 2008) Some people even realize the negative impact to them due to the lack of exercise, but they still maintain their habit of not exercise.

To promote the health of Thai, government agencies launch several campaigns to motivate people to aerobically exercise on the regular basis. Some private firms organize the sport day on the weekly basis to encourage people to aerobically exercise. Furthermore, some private sectors organize the event such as marathon, Tri Athlon and any other sport event. All of them are part of the factors contributing to the increase number of people who aerobically exercise on the regular basis.

1.2 Problem Statement

Thai government agencies and other private firms have launched several campaigns to promote people to aerobically exercise in order to minimize the economic impact due to the lack of aerobic exercise. Despite being promoted to aerobically exercise, Thai people still maintain their sedentary lifestyle.

Studies on economic impacts, from obesity and other non-exercise related health problem, find that they cause the capital and economic losses around 12,142 million baht, based on the care and treatment costs and productivity loss. The cost for care and treatment is around 5,584 million baht and that for productivity loss is around 6,558 million baht. The absence from work to receive treatment at the hospital causes the production loss around 448.8 million baht or about 12 million days(Assembly, 2017).

Based on above information, despite the action taken to promote aerobically exercise to minimize the economic impact due to disease related to non-exercise, Thailand still experience little change in the behavior of people. There must be some kinds of motivations preventing Thai people from changing behavior.

This research will focus on the motivations which can lead people to change behavior in exercise. The outcome of this research will provide the recommendation to the government agencies or private sectors to use as part of the campaign to promote people to aerobically exercise on the regular basis. If the campaign success, it can minimize the economic impact from disease related to non-exercise to be less than 12,142 million Thai baths.

1.3 Research Questions

1. What are the motivations, which lead people to aerobically exercise on regular basis?
2. Why do people not aerobically exercise on the regular basis or not exercise
3. How can people be motivated to regularly exercise?

1.4 Research Objectives

1. To study the motivations, which underlie the behavior of people to aerobically exercise on the regular basis.
2. To study the motivations, which underlie the behavior of people to aerobically exercise on the sporadic basis and of people to not exercise.
3. To recommend the strategies to convince people to regularly exercise.

1.5 The Scope of the Research

This research will study the motivations which lead people to regularly exercise. The exercise in this research will be any kind of aerobic type, therefore the scope of respondent's behavior are people who use jogging, running and bicycle as the mean for exercise

This research will focus on 3 groups of people. These 3 groups will include the group of people who exercise regularly, sporadically and the group of people who do not exercise. The total number of people in this research is 30 people. Each group of people will comprise of 10 people for both men and women whose age are between 23 and 60 year olds. The percentage of men and women in each group will be randomized balance design.

The regular exercise group refers to people who exercise longer than 150 minute per week, while the sporadic exercise group refers to those exercise less than 150 per week.

The Self Determination theory will be used as a basis for this research. The qualitative survey, interview, will be utilized to acquire the data for the analysis. The result of analysis will be used as the ground to the develop the strategy to convince people to exercise on the regular basis.

1.6 Expected Benefits

The outcome in this research will provide the recommended strategies which can be used by both government agencies and private firms. They can apply the

recommended strategies to launch the campaign to motivate people to aerobically exercise on the regular basis.

If the campaign success, it will help boost the economics of Thailand. The healthy people will be able to yield more efficiency output in term of quality production and service. Furthermore, the downtime, due to sickness of employee in companies, will be reduced.



CHAPTER II

LITERATURE REVIEW

THEORY FOUNDATION

This research is based on Self Determination Theory. This theory grew out of the work of Edward Deci and Richard Ryan, introducing their ideas in their 1985 book *Self-Determination and Intrinsic Motivation in Human Behavior*.(Ryan & Deci, 1985)(Kendra, 2019). The theory has been applied to various fields such sport, education, and health care etc.(Deci & Ryan, 2008).

2.1 Self Determination Theory

Being empirically based theory, Self-determination theory (SDT) focuses on types of motivations which related to the human activities in term of performance, relational, and well-being outcomes (Deci & Ryan, 2008). In this theory, there are two main types of motivation, intrinsic and extrinsic. These motivations are powerful forces in shaping human personality and behavior (Ackerman, 2020).

According to Deci and Ryan (2008), intrinsic motivation comes from human's interest, enjoyment, awareness, and inherent satisfaction in doing any activity. These are internal drives that inspire human to behave in certain ways, including core values, interests, and personal sense of morality. On the other hand, extrinsic motivation comes from external sources, such sources as grading systems, employee evaluations, awards and accolades, and the respect and admiration of others. This motivation will also result in external reward or punishment (Ackerman, 2020).

2.2 Intrinsic and Extrinsic Motivation in Exercise

Intrinsic motivation in exercise include, at least, the internal desire to make the physical improvement, to enjoy the activities and the healthy conditions or to reach the setting performance goal in sport. This motivation lead people to exercise are for the pleasure and satisfaction of the success game and for challenging oneself to perform better on sustainable basis (Buckworth et al., 2007).

On the other hand, the desire to be part of society, to have perfect body or the external force such as order from company to exercise are the example of extrinsic motivation in exercise. This leads people to exercise for outcomes which are not related the activity itself, such as gaining compliment for perfect body (Buckworth et al., 2007).

In general, the work of Deci and Ryan (1985) stated that “intrinsic motivation results from the needs for maintained and less likely to fall to extinction in the absence of external reinforcers” (Buckworth et al., 2007)

2.3 Relationship between the Transtheoretical model and Motivation in Exercise

The transtheoretical model has been used to understand the stages of change in behavior of people. The stages of change are labeled as precontemplation (no intention to change, contemplation (seriously considering change), preparation (making small change, action actively engaged in changing behavior) and maintenance (continuation of successfully change effort (Marcus & Simkin, 1994).

Based figure 2.1, each stage of change has related motivation to help people move toward the goal of maintenance stage in exercise. Extrinsic motivation is effective for initiating the change process. While extrinsic motivation keeps declining when people progress in the change stage, intrinsic motivation gradually evolve in each stage up to maintenance stage. In the maintenance stage, intrinsic motivation plays an important role to keep people to exercise on the regular basis. Without the evolvment of intrinsic motivation, moving people in contemplation into action stage may not yield the positive outcome (Buckworth et al., 2007).

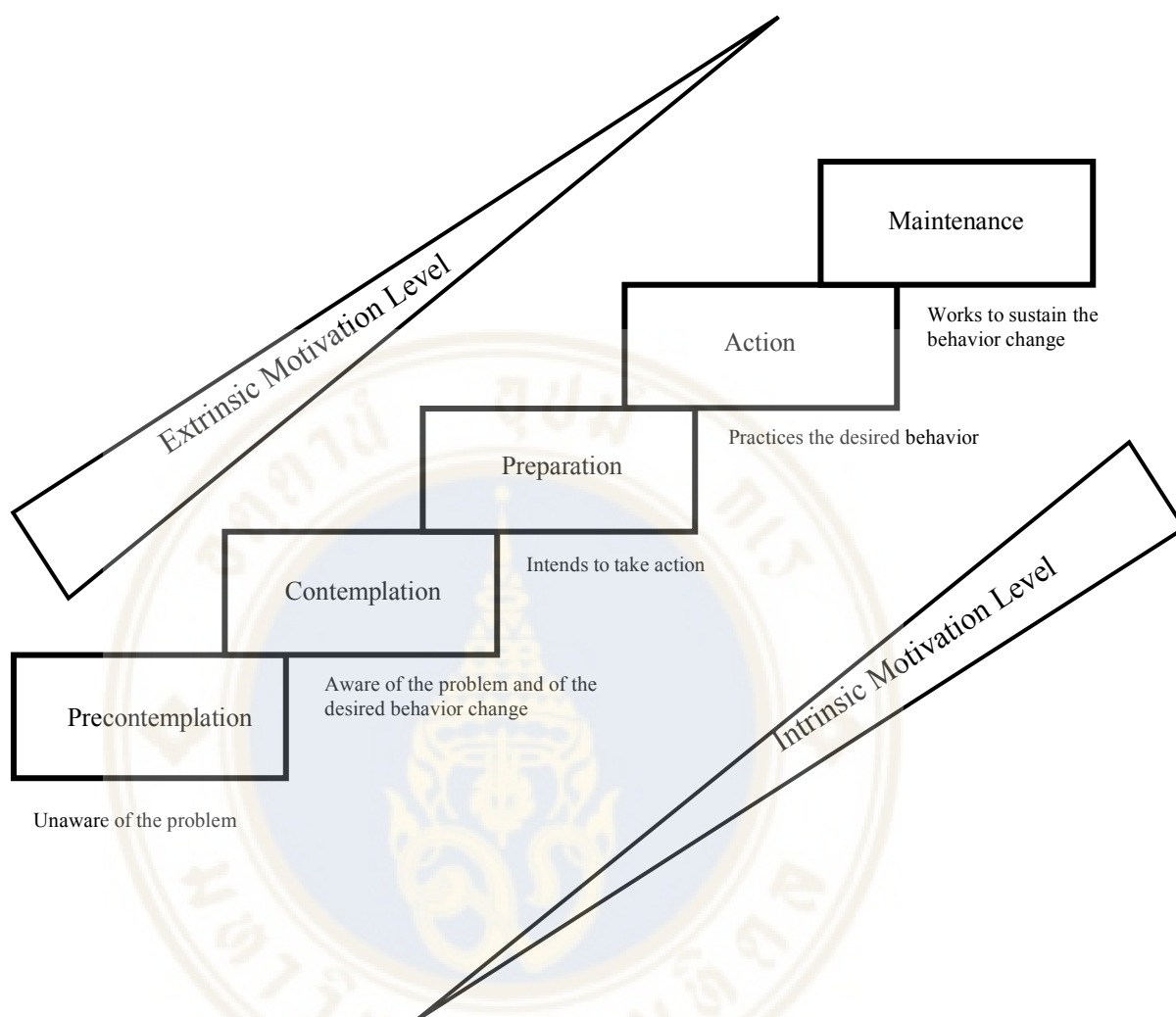


Figure 2.1 State of change and related motivation level

However, extrinsic, competition and social, motivation is still high for some group of people in maintenance stage (Buckworth et al., 2007). Professional athletes, who compete for the glory, are among the people in this group. In general, the intrinsic motivation keeps them on practicing to improve the performance with the complement from extrinsic motivation to keep them putting more effort on their activities.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Methodology

The objectives of this research are to find out the motivations, which underlies the behaviors related to exercise habit of people, and to provide recommendation for the strategy to convince people to aerobically exercise on the regular basis. In order to thoroughly analyze these motivation, qualitative method will be used in this research.

The strong point of qualitative method is its ability to provide detail information about motivation and behavior of people. Data from this method will provide the insight information leading to better understand the complex reality human behavior and motivation (Farr, 2008).

3.2 Data Collection

In-depth interview will be used as a mean to collect the data. To gain insight for the motivations and behaviors of people in the research subject, this research will use the open-end question with the supplementary of close end question if required. Beside the questions regarding the personal information, questions in this research will start with what, why, when and how. These kinds of question will lead to the discovery of not only motivations related to aerobic exercise behavior of people but also motivations in the stage of behavioral change from none to regular aerobic exercise.

3.3 Sample Selection

This research will focus on 3 groups of people. These 3 groups will include the group of people who exercise regularly, sporadically and the group of people who do not exercise. The total number of people in this research is 30 people. Each group of people will comprise of 10 people for both men and women whose age are between 23

and 60-year old. The R1 to R10, S1-S10 and N1-N10 will be used as the interviewee ID for regularly, sporadically and non-exercise group respectively.

3.4 Research Questions

The research questions for each group of people are listed in the following tables.

Table 3.1 Screening and General Questions

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
1. Screening and General Questions			
1.1 What kind of aerobic exercise do you perform?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 How many days per week do you exercised?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 How long do you exercise for each time?	<input type="radio"/>	<input type="radio"/>	
1.4 Why do you select this sport as your aerobic exercise?	<input type="radio"/>	<input type="radio"/>	
1.5 How long have you aerobically exercised on the regular basis?	<input type="radio"/>		
1.6 How long have you aerobically exercised?		<input type="radio"/>	
1.7 What are your activities in your free time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Table 3.2 Screening and General Questions (cont.)

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
1.8 How do feel about these activities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.9 Why are you interested or engaged in these activities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Table 3.3 The List of Motivation related to Exercise Questions

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
1. The List of Motivation to regular Exercise Questions			
1.1 Why do you exercise in the regular basis?	<input type="radio"/>		
In case the answer is to increase physical performance, or to be in the competition, the following additional questions will be asked.			
1.2 Why do you need to improve your physical performance or to be in competition?	<input type="radio"/>		
1.3 How do you feel if you cannot achieve your performance or competition goal?	<input type="radio"/>		
1.4 How do you overcome such obstacles?	<input type="radio"/>		
2. The List of Motivation to Sporadic Exercise Questions			
Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
2.1 Why do you aerobically exercise?		<input type="radio"/>	

Table 3.4 The List of Motivation related to Exercise Questions (cont.)

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
2.2 Why don't you aerobically exercise on the regular basis?		<input type="radio"/>	
2.2 What are your other activities in free time?		<input type="radio"/>	
2.3 Please give the ranking of your activities which you do in free time.		<input type="radio"/>	
2.4 please explain the reason for you to choose the top three activities.		<input type="radio"/>	
2.5 How do you feel about your physical condition?		<input type="radio"/>	
3. The List of Motivations Preventing People from Exercising.			
3.1 How do feel about your physical condition?			<input type="radio"/>
3.2 How do you plan to improve your physical condition?			<input type="radio"/>
3.3 What is your opinion about benefit of aerobic exercise?			<input type="radio"/>
3.4 In the workplace, have your organization ever requested you to join aerobic exercise event? If yes, how do feel about exercise?			<input type="radio"/>

Table 3.5 The List of Motivation related to Exercise Questions (cont.)

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
3.5 When you were in the school, how did you feel when school asked you to exercise or study the exercise class?			<input type="radio"/>
3.6 What are the reasons preventing you from exercise during your childhood or adult?			<input type="radio"/>

Table 3. 6 The List of Motivations Leading People to Change the Behavior from Contemplation to Maintenance Stage in the Exercise questions

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
1. The List of Motivations Leading People to Change the Behavior from Contemplation to Maintenance Stage in the Exercise.			
1.1 What were the reasons for you to interest in aerobic exercise?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 After you were interested in aerobic exercise, what were your actions from the interesting up to start to exercise?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 How did you feel about exercising at that time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.4 How many days per week did you exercised?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5 How long did you exercise for each time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Table 3.6 The List of Motivations Leading People to Change the Behavior from Contemplation to Maintenance Stage in the Exercise questions (cont.)

Research question	Regular Exercise	Sporadic Exercise	Non-Exercise
1.6 Why did you keep exercise during this period?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.7 How long did it take for you to maintain this intensity and duration before you increase it to nowadays level?	<input type="radio"/>		
1.8 How did you feel that it was time for you to increase the intensity and duration?	<input type="radio"/>		
1.9 Had you ever felt that you wanted to stop exercising during this period? If yes, how did you overcome this feeling	<input type="radio"/>		
1.10 Why don't you increase intensity and duration of your exercise?		<input type="radio"/>	
1.11 Why do you stop exercising?			<input type="radio"/>
1.12 How can I convince or motivate you to exercise?		<input type="radio"/>	<input type="radio"/>

CHAPTER IV

DATA ANALYSIS

This analysis is based on the data derived from interviewing people in the 3 groups, regular exercise, sporadic exercise and non-exercise. The total number of people in this research is 30 people. Each group of people will comprise of 10 people for both men and women whose age are between 23 and 60-year old.

The interview questions are designed to find out the motivations leading people to regularly, sporadically, and none exercise. The result of interview will be analyzed to obtain the answers for what kind of motivations, intrinsic or extrinsic, leading people to have difference behavior related to exercise. The analysis in this part is based on Self Determination Theory.

Other section of interview questions is designed to find out how to convince people to exercise. These questions will mainly focus on the motivations and actions of people from changing the stage from non-exercise to exercise on the regular basis. The analysis for this part will be based on the relationship between the transtheoretical model and related motivation leading people to exercise on regular basis. The outcome of this analysis will be used to formulate the strategy to convince people to exercise.

4.1 Motivations underlying the behavior of people to aerobically exercise on the regular basis

The interviewed people in this group comprise of people from various background, athlete, coach, weekend warriors, and office staff. Both women and men whose age are between 23-60 years old are part of the sampling group. Almost all of them share common reason to begin to exercise. Desire to improve the health condition is the most common reason which lead people in this sampling group to aerobically exercise in the regular basis. The table 4.1 is the summary of the personal attribute,

reason to exercise and related type of motivation leading to aerobically exercise in the regular basis.

Table 4.1 Summary of motivation to regular exercise

Interviewee ID	Gender	Age	Reason to start and continue aerobic exercise	Type of motivation
R01	Male	47	Health problem, competition	Intrinsic then combine with Extrinsic
R02	Male	45	Want to have baby, enjoy doing so	Intrinsic
R03	Male	29	To be looked good in social, enjoy doing so	Extrinsic then combined with Intrinsic
R04	Male	35	To play new toy, enjoy doing so	Intrinsic
R05	Male	32	Health problem, enjoy doing so	Intrinsic
R06	Male	45	To be with friend, desire to enhance physical condition	Extrinsic then combined with Intrinsic
R07	Female	44	To be with friend, desire to enhance physical condition	Extrinsic then combined with Intrinsic
R08	Female	44	Health problem, desire to enhance physical condition	Intrinsic then combined with Extrinsic

Table 4.1 Summary of motivation to regular exercise (cont.)

Interviewee ID	Gender	Age	Reason to start and continue aerobic exercise	Type of motivation
R09	Female	32	Health problem, desire to enhance physical condition	Intrinsic then combined with Extrinsic
R10	Male	30	Health problem, enjoy doing so	Intrinsic

Based on this table, both intrinsic and extrinsic motivations play the role which lead people to exercise on the regular basis. 50% of the group start with intrinsic motivation while the other half, extrinsic motivation leads them to start exercise. In the long run, all of them keep on aerobically exercise on regular basic because they feel fun and enjoy doing so. In addition, 70% in the sampling group continue to do so because of intrinsic and extrinsic motivation. However, for people in this 70% group, all of them mentioned that they will continue to exercise because they desire to maintain their fitness level or enjoy doing so. in the long run, intrinsic motivation is the key factor for people to maintain their exercise behavior.

R06 mentioned that,

“The more I exercised, the more fun I had. I do not need to have friends to go to exercise with me.”

For the group of people who desire to improve their health condition, they share the common answer that they have experience of health problem therefore they feel the need to make their life to better by using the mean of aerobic exercise.

R10 mentioned that,

“I could not tolerate my health condition anymore, so I need to exercise to improve my health condition.”

All of them have known the benefit of exercise well before exercising. All of them continue to exercise to achieve the goal of health problem. For this group, purely intrinsic motivation leads them to exercise.

The interesting case for improving health condition group is athlete and coach for bicycle sport. He used to be volleyball player for the school. In the college, he had to study and played music to fund himself then became full time musician. As musician, he had to slept very late and this had serious impact to his health. Therefore, Doctor asked him to start exercise. He decided to ride the bicycle to work every night and started to feel fun. Then he joined the group for riding and start to compete the racing. At the beginning he could not win the race, but he desired to be well known in the bicycle society.

R01 stated that,

“Some of his friends looked down his capability and said that he could not win any race. He could not accept these wordings and also desired to be known in the bicycle society.”

As a result, he practiced very hard to improve his condition and to earn the glory of being accepted. In this case, intrinsic motivation initiates his exercise behavior then extrinsic motivation comes in to play during competition stage. This finding is in line with the result of previous study “Decomposing intrinsic and extrinsic motivation for exercise”. This study states that intrinsic and extrinsic play important role in leading athlete to keep on practicing to reach their winning goal (Buckworth et al., 2007).

Other cases of starting exercise with intrinsic motivation then later combining with extrinsic motivation to keep on exercise are female executive and business owner. Both of them have the health problem and feel the need to make an improvement. Female executive starts to run on her own and use her goal of health problem to overcome all obstacle. Then she belongs to the group of people who desire to improve their physical performance. As a result, she would like to be in the same level of her friends, so she hires the coach and continue to run. She also mentions that she enjoys running with friend.

For the female business owner, she has similar patterns as that of female executive. The difference is the use bicycle as the tool for exercise. Both of them report that they will continues to exercise although all of her friends stop. In this case both intrinsic and extrinsic motivation play important role and intrinsic motivation is the key to keep her going on with the exercise.

One people in the group start to exercise because he would like to spend more time with his bicycle, being considered as a toy at the beginning. He mentions that he has a habit of looking for the new toy and have fun to do so. After spending more time with his toy, he continues to exercise as he feels fresh after exercise. In this case, he continues to exercise as of intrinsic motivation.

R04 mentioned that,

“I really enjoy riding my bicycle because I feel very fun and like being in the childhood playing with toy.”

Extrinsic motivation can also lead people to aerobically exercise at the initial stage. One people in the group start to aerobically exercise because he wants to have a good figure so that he will be looked good in the social. Another case of extrinsic motivation leading to exercise is the family of doctor. At the beginning, they start to exercise because they would like to go out with friend. Their friends also convince them to aim at improving performance in the sport. Once they feel the achievement of improving their performance, they enjoy continuing with riding the bicycle.

Based on the interview, for people who started with extrinsic motivation to aerobically exercise, once they realize how happy they are during the exercise, they continue to do because of enjoyment, going out with friend, desire to looking good or have a baby. In this case, both extrinsic and intrinsic motivation play important role for them to aerobically exercise on the regular basis. However, they mention that they will continue to exercise as they feel happy to do so.

4.2 Motivations underlying the behavior of people to aerobically exercise on the sporadic basis and of people to not exercise

From the interview, majority of these two group share the common patterns of extrinsic motivation leading to exercise. They go to exercise because their friend or family ask them to do so and if no one go along with them, they will not exercise.

N04 stated that,

“I exercise because I had a friend to go along with and it was my happy time to be with friends.”

When being asked why you stop exercise and how I can convince you to do so, N04 answered that

“I had no friend to go along with and I would exercise only my friend went with me.”

In addition, it is also found that people who are in sporadic exercise group will change to non-exercise group and vice versa if the related motivation to exercise is not exist. The table 4.2 provides the summary of motivation to exercise for the sporadic exercise group.

Table 4.2 Summary of motivation to sporadic exercise

Interviewee ID	Gender	Age	Reason to start aerobic exercise	Type of motivation
S01	Male	39	To go along with wife once per week	Extrinsic
S02	Female	35	Being asked by workplace once per week	Extrinsic
S03	Male	44	Desire to look good but too lazy to exercise on regular basis	Extrinsic
S04	Male	48	Desire to have relax activities with friend	Extrinsic
S05	Male	36	Desire to have good health and need to see exercise expert to do so on regular basis	Intrinsic
S06	Female	28	Health problem but house is too far from exercise place	Intrinsic
S07	Female	27	Being forced by her mother	Extrinsic
S08	Male	27	Desire to have good figure but too lazy to exercise on regular basis	Extrinsic

Table 4.2 Summary of motivation to sporadic exercise (cont.)

Interviewee ID	Gender	Age	Reason to start aerobic exercise	Type of motivation
S09	Female	26	Being ask by boyfriend once per week	Extrinsic
S10	Female	30	Being asked by workplace once per week	Extrinsic

From the above table, 80 percent of the sampling group exercise because of extrinsic motivation. Based on interview, they have tendency to stop exercise if their related extrinsic motivations are not there. The minority of this group would like to exercise on the regular basis but one of them do not have enough time and another worry that he might not exercise in the right way.

S06 who had the health problem mentioned that,

“I really wanted to exercise every day, but my house was far away from the park and I did not want to run in the gym because of my overweight leading to knee injury.”

For the non-exercise group, it is interesting to see that 40 percent of the group is used to exercise on the regular basis and then stop exercise because there is interruption to their way of life. For these people, they will go back to exercise by themselves once they can remove their obstacle.

One the interviewees in this 40 percent group, N01 mentioned that,

“I really wanted to exercise but my new office was far away. I needed to arrange my travelling time so that I could go back to exercise.”

The other people in this group also had exercise sporadically based on extrinsic motivation but stop exercise because such motivations are not existed. However, there is one case that person in this group does not exercise because intrinsic motivation.

N07 mentioned that,

“I saw no need to exercise because I already had a good health”

The table 4.3 provides the summary for reason to exercise, stop exercising and related motivations for the non-exercise group.

Table 4.3 Summary of motivation to none exercise

Interviewee ID	Gender	Age	Reason to start and stop aerobic exercise	Type of motivation
N01	Male	29	Health Problem. New office was far away from gym so no time to exercise.	Intrinsic
N02	Female	34	Being asked by family and then enjoy doing by herself. Stop exercise because park being closed as of Covid 19 and could not find motivation to go back to exercise.	Extrinsic then intrinsic
N03	Female	29	Desire to have beautiful souvenir. No time and not interested in souvenir anymore.	Extrinsic
N04	Female	25	Being asked by friends. All friends stop exercising.	Extrinsic
N05	Female	26	Do not want to hear her mother complain. Exercise only when her mother come to visit once a month.	Extrinsic
N06	Male	36	Health problem. Used to regularly exercise. Being promoted to higher position so no time to exercise.	Intrinsic
N07	Male	35	Not exercise as of satisfy with current health condition.	Intrinsic

Table 4.3 Summary of motivation to none exercise (cont.)

Interviewee ID	Gender	Age	Reason to start and stop aerobic exercise	Type of motivation
N08	Female	29	Being asked by friend. Stop exercising because changing the office and no one exercise.	Extrinsic
N09	Male	34	Health problem. Used to regularly exercise. Stop when study MBA.	Intrinsic
N10	Female	30	Being asked by workplace. Stop as of no more sport day.	Extrinsic

4.3 Motivations related to the change in behavior OF PEOPLE to regularly exercise

To study how to change people from none to aerobically exercise on the regular basis, the group of people, who regularly exercise (R group), is the main target group to study how they change behavior. The result of this analysis will be compared with those of the people who sporadically exercise (S group) and who do not exercise (N group) in order to develop the strategy to convince people to regularly exercise.

From the interview, people, who start to exercise on regular basis because of the health problem, will change their behavior from contemplation to maintenance phase by intrinsic motivation. For other people in regular exercise group, who start exercise with extrinsic motivation, will continue to exercise with the increase in intrinsic motivation. For the none regular exercise group, they used to exercise but stop for a long time or exercised once per week. These group mainly exercises because of extrinsic motivation. As a result, they cannot reach the maintenance phase in exercise.

The comparisons between the motivation and reason to exercise for difference group of people are listed based on contemplation, preparation, action and maintenance phases of transtheoretical model as detail below.

4.3.1 Contemplation Phase

The table 4.4 provides the summary of interview result from all groups for the reasons to consider exercising and related motivation type. From this table, the majority of people start to aerobically exercise due to extrinsic motivation.

Table 4.4 Summary of reason and related motivation to exercise and not exercise for all groups

Interviewee Group	Reason to start exercise or not to exercise	Type of Motivation leading to exercise
Aerobic exercise on regular basis (R)	<ul style="list-style-type: none"> -Health problem. -Looking for new toy to play for fun. -Desire to have baby. -Desire to be looked good -To be with friends 	<ul style="list-style-type: none"> Intrinsic Intrinsic Intrinsic Extrinsic Extrinsic
Aerobic exercise on sporadic(S) and non-exercise (N)	<ul style="list-style-type: none"> -Being forced by workplace or family member. -Desire to have souvenir from event. -Social participation. -To be with friend -Feel comfortable with current health condition 	<ul style="list-style-type: none"> Extrinsic Extrinsic Extrinsic Extrinsic Intrinsic

From the interview, all people are aware of benefit of aerobic exercise on the regular basis. Another interesting point is that 60% people, who do not aerobic exercise on the regular basis, do not have good experience about exercise during school period. They felt very tired and did not want to exercise at that time.

4.3.2 Preparation and Action Phase

All groups, R, S and N, share common pattern during preparation phase. They look for the sport which require minimum set up or equipment. As a result, majority of people select jogging and running as the sport for exercise. Five people from these sampling group select bicycle because of transportation to work, looking for toy or fascination with travelling by bicycle.

The table 4.5 summarize feeling, action and related motivation of people in action phase.

Table 4.5 Summary of feeling, action and motivation of people in action phase

Group	Reason to start exercise or not to exercise	Action Phase	
		Feeling and Reason to action	Motivation
R	Health problem.	-Feeling enjoy and have fun. -Very tired in the first 2 weeks but desire to achieve the goal of health problem drive them to continue. -Feeling fun and want to win competition. Have the feeling of giving up when losing the competition, he continues to do so because of the glory place for winner in the social. -Once pass the first two weeks, feeling fun to continue. Belonging to the group of performance oriented, she agrees to hire the coach when being asked by the group in order to be in the same level with the team.	Intrinsic Intrinsic Intrinsic and Extrinsic Intrinsic and extrinsic
	Looking for new toy to play for fun.	-Feeling enjoy playing with toy in the form of aerobic exercise.	Intrinsic

Table 4.5 Summary of feeling, action and motivation of people in action phase (cont.)

Group	Reason to start exercise or not to exercise	Action Phase	
		Feeling and Reason to action	Motivation
	Desire to have baby.	-Very tired in the first two weeks and almost give up. Continue to do so as of desire to have baby and start to enjoy exercise after two weeks.	Extrinsic and Intrinsic
	Desire to be looked good.	-Very tired in the first two weeks. With the desire to be looking good, he keeps on exercising for two weeks. In week three, he starts to feel achievement that he can reach his goal and feel fun to continue.	Extrinsic and Intrinsic
	To be with friend	-At the beginning, they want to be able to ride with friend so they desire to improve performance. Once they experience the joyfulness of exercise, they continue to ride by themselves.	Extrinsic and Intrinsic
N	-Asked by workplace, family member or friends.	Feeling fresh and fun to go along with college, family or friends. They will exercise only with the group.	Extrinsic
	-Desire to have souvenir from event.	Feeling happy to collect the beautiful souvenir and will go to the event with friend or facility member only.	Extrinsic

Table 4.5 Summary of feeling, action and motivation of people in action phase (cont.)

	-To be with friend.	Enjoy being with friend and will stop exercise if no friend to go along with them	Extrinsic
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Based on this table, people who start to aerobically exercise because of intrinsic motivation will continue to go through this action phase with intrinsic motivation. Especially for the group of people who have health problem, they have the strong will to aerobically exercise to improve their health condition. They can exercise alone and persist to any obstacle as they have poor experience of health problem. In addition, some people in this group.

The interesting case for people who exercise as of health problem is that once they can improve their health condition, some of them desire to improve their physical performance in order to gain acceptance from friends or social. They desire to have the same performance level as their friends or to win the competition. This indicate the increase in the level of extrinsic motivation while maintaining the level of intrinsic motivation. They still feel the sense of challenging themselves to reach their limit in exercise.

Majority of people in regular exercise group share common ground of the first two critical week. Most of them report that they feel very tired and difficult to keep on going. However, these people commit to their goal of health improvement. The desire to achieve their goal drives them to pass through this obstacle. In this case, the intrinsic motivation is a key for success.

For people in the regular exercise, R, group who start to exercise because of extrinsic motivation, they continue to exercise based on extrinsic reward such as to be with friend and to be looked good. Once the people in the R group keep on exercise until they experience the enjoyment of exercise, they will keep on doing so without external factor. As a result, they report that they keep on exercising no matter their friends go along or not and that meeting with friend during with friends is the bonus. This indicate the increase in the level of intrinsic motivation while decreasing level of extrinsic motivation.

In group of people who aerobically exercise on sporadic basis or do not exercise, S and N group, they mainly exercise or are used to exercise as of extrinsic motivation. These extrinsic motivations include being asked by workplace or family member or to be with friend. For the sporadic exercise, they maintain current level as of people in their group do not increase intensity and duration for exercise. In case there is no friend, family member or being asked by workplace, these people tend to stop exercise.

For S and N groups, when being asked how to convince them to exercise on regular basis, they share common answer that if they have friend to go along with, they will do so.

4.3.3 Maintenance Phase

Although all people in regular exercise group have difference motivation to start to exercise, they share the common ground of maintain or increase exercise level due to intrinsic motivation. All of them experience the sense of accomplishment in term of enhance their physical condition or enjoy exercise. Therefore, at this stage, intrinsic motivation is the key factor leading people to maintain or increase exercise level.

At this stage, some people also have extrinsic motivation to help them to continue exercise as well. For athlete or people who desire to improve their performance, extrinsic motivation still have the role in this part. This also apply to people who start to exercise because being asked by friends. They still enjoy go along with friends to exercise. However, all of them report that they will continue to exercise even though extrinsic motivation disappears.

In the group of sporadic or non-exercise, S and N group, none of them reach this phase. All of them does not exercise enough to reach the level that they enjoy exercising.

The table 4.6 provides the summary for the result of interview for maintenance phase.

Table 4.6 Summary of feeling, action and motivation of people in maintenance phase

Group	Reason to start exercise or not to exercise	Maintenance Phase	
		Feeling and reason to maintain exercise	Motivation
R	Health problem.	-Feeling fun to achieve the goal setting and always set the new goal to challenge themselves.	Intrinsic
		-In athlete case, once achieve the competition result, he feels very pound and still continue with the new goal setting to achieve higher performance to win the major competition event.	Intrinsic and Extrinsic
		-In case of female executive and business owner, both of them enjoy challenge themselves to keep on going no matter they have a friend or not. They still enjoy going with friend.	Intrinsic and Extrinsic
	Looking for new toy to play for fun.	-Feeling enjoy with the toy and keep on setting the new goal to raise physical performance in order to maximize his fun with toy.	Intrinsic
	Desire to have baby.	-After experience how good of being in healthy condition, he still continue to exercise after having the baby.	Intrinsic

Table 4.6 Summary of feeling, action and motivation of people in maintenance phase (cont.)

Group	Reason to start exercise or not to exercise	Maintenance Phase	
		Feeling and reason to maintain exercise	Motivation
	Desire to be looked good.	-Keep on exercise as he achieves his goal and have fun to exercise. Still want to be looked good than other people.	Intrinsic and Extrinsic
	To be with friend.	-Continue to improve their performance as they feel achievement. They still love to go out with friend. However, they will continue to exercise although having no friend to go with.	Intrinsic and Extrinsic

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

The objective of this study is to find out what kind of the motivations, which underlie the behavior of people to aerobically exercise on the regular and sporadically basis. The kind of motivations leading people to not exercise is also part of this study. Then the results of this study will be used to develop the strategies to convince people to aerobically exercise on the regular basis.

Based on the study, the group of people who have health problem will start to exercise by intrinsic motivation. They feel the need to do and have their own goal setting to improve their health condition. Only intrinsic motivation will lead them to change behavior from non-exercise to regular exercise. The change in behavior in this case is difference from what stated in Transtheoretical model (Marcus & Simkin, 1994).

For the group of people who start to exercise as of extrinsic motivation, their behaviors are in line with motivations related to the stage of change in behavior as stated in Transtheoretical model. The level of extrinsic motivation will be high at the contemplation phase then gradually decrease to the maintenance phase while the level of intrinsic motivation will keep increasing all the way through the maintenance phase. Therefore, intrinsic motivation is the primary key factor leading people to exercise on the regular basis.

The majority of people in sporadic exercise and none exercise group exercise or are used to exercise as of extrinsic motivation. Once the related extrinsic motivations disappear, these people will stop exercise. However, in the non-exercise group, if people in this group were used to exercise on regular basis and stopped exercise for some reasons such as no time, moving the office, they would come back to exercise right away once such obstacles are disappeared. In this case, extrinsic motivation is the key factor leading people to aerobically exercise on sporadically basis or to not exercise.

5.2 Recommendations

Based on the result of analysis, the Recommended strategies to convince or motivate people to regular exercise are provided as detailed below.

Strategy 1 Intrinsic Motivation

Based on the aforementioned information, people, who experience the health problems, will start to exercise by themselves. They have strong will to exercise on the regular basis because they cannot tolerate their health condition. As of intrinsic motivation, these people pass thorough all phases from contemplation to maintenance. It can be inferred that if people realize the negative impact of health condition from the lack of exercise, it will be easy for them to start exercise by themselves. This is the most effective way to convince the people to exercise.

However, it is difficult for people to understand this negative impact unless they experience poor health condition by themselves. Comparing to the campaign to reduce people to stop smoking, initially Ministry of Public Health warned the people about negative impact from smoking. However, people still smoke because they do not have the clear picture about this impact. To solve this problem, Ministry of Public Health started asking cigarette manufacturer to include the image of poor health condition on the box. Based on the study for the effectiveness of including picture for the tobacco warning, it was found that in 2006, after Thailand implemented new warning labels that included graphic pictures at the top 50% of the package, Thai smokers stated that the labels made them think about the health risks (Fong et al., 2009).

To emulate this effect, the Health Promotion Foundation can lunch the advertise campaign in social media, TV, and YouTube, to motivate people to exercise. This campaign should include the pictures or video to show the picture or story of health problem in the people who do not exercise. For example, the video will show the dramatic story of family who lost the family leader, who has never exercised and pass away as of heart attack. This lost causes the financial problem to the family such as losing the house, unable to spend school tuition fee. Once people have seen this kind of campaign more often, the awareness level for the health problem due to the lack of aerobic exercise among the people will increase as of the love for family. Then some of people might motivate themselves to exercise on the regular basis to avoid the health problem.

For the business firms, they can do the same campaign as that of Health Promotion Foundation. For example, they can set up the exhibition with negative picture of people who have to go to heart surgery due to the lack of exercise. The advertise campaign can be reached by employee through internal communication media such as email or exhibition to promote people to exercise.

Strategy 2 The Mix Use of Extrinsic and Intrinsic Motivation

From the above analysis, Extrinsic motivation will be the good starting point to lead people to exercise. With the exception of health problem leading to exercise group, all people, who sporadically exercise or do not exercise, report that they will exercise if they have friend to do so. Some of them stop exercising because they have no friend to go along with. In addition, they will go to exercise if their workplaces ask them to do so and they also enjoy the exercise. However, to reach the maintenance phase or exercising on the regular basis, they need to exercise to reach the point which they enjoy the activities itself. The recommend strategies in this section are divided in to two groups, one for government agencies and the other for business firm.

For the government agencies, they need to synchronize the activities between central and local agencies. Thai Health Promotion Foundation should lunch the advertising campaign to alert people for the negative impact to people as of non-exercise. The recommend content should the short story telling via the clip video for the people who do not exercise and have health problem which cause big impact to the family. This is one way to stimulate the intrinsic motivation to lead people to exercise as of the love for family. Then Thai Health Promotion Foundation can launch another advertising clip video to show happiness moment when exercise with family. In this video, they can use popular actors/actress family to be the presenters. However, these advertising alone may not have strong impact if the local agencies do not take action.

The local Government in each province or district have to launch the major sport event, such as city run, on monthly basis. In this event, they have to ask all local government sections and companies in the area to send people to joy. This event will raise the awareness among the local people about benefit of exercise and people will enjoy this event because they will have activities to do with their friends. In each month, the local government can set up challenge such as maximum time to run and give souvenir to people who can pass. In addition, they can also give the prize the firms or

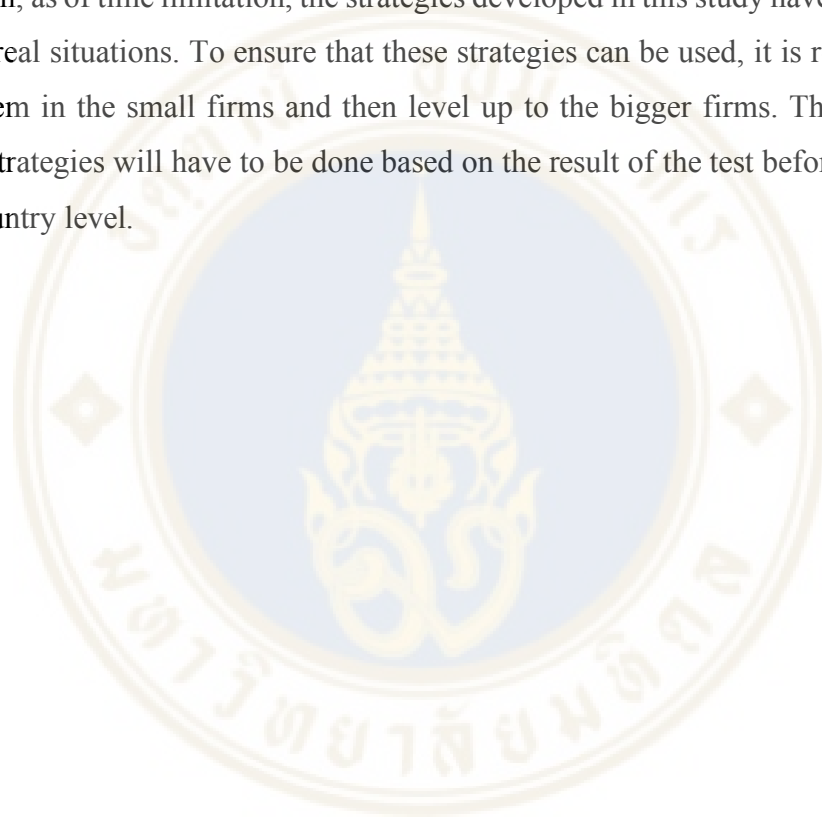
government sections whose 60 percent staff attend the event can finish before the time limit. This will indirectly pursue them to ask their staff to exercise more often in order to prepare for the events. This strategy is purely based on extrinsic reward to pull people to exercise. Based on this study, if people continue to exercise continuously for more than two weeks, they have a high chance of experiencing the enjoyment of exercise thus increasing the level of intrinsic motivation. This will lead them to exercise in the regular basis.

For the business firms, they can organize the sport day in weekly basis. Based on this study, most people love to have activities to do for fun with friends as many people report that they will exercise if they have friend to go along with. They have to ask all department to set up sport day once per week to allow people to go along together such as jogging in the park. In addition to the extrinsic motivation, they also can launch the campaign to show the negative picture or story of health problem due to the lack of exercise, same concept as picture on cigarette package. This will help increase the intrinsic motivation level for the staff.

The next step that the firms can do is to use the extrinsic reward to increase the intrinsic motivation level for their staff to exercise on regular basis. They should open the reward program to pursue people to exercise regularly. This reward program can be in the form of setting up KPI scores, or extra bonus for the people who have good health. They can define good health such as never taking sick leave due to sickness related to non exercise or resting heart rate measurement lower than 55 bpm in men and 60 bpm in women. Resting heart rate (RHR) is heart beats per minute which is measured when resting or waking up. It is the indicator of fitness level. It will decrease as heart becomes stronger as of aerobic exercise. Typically RHR lower than 60 and 65 bpm is considered excellent condition for men and women respectively (Bumgardner, n.d.). In this way, beside those regularly exercising, some staff will start to regularly exercise as of extrinsic reward. Once they pass the first two week, they have the high chance to enjoy and addict to exercise by themselves.

5.3 Limitation And Future Research

As the analysis in this study is based on the interview of 30 people, 10 in each regular, sporadic and none exercise group, the majority of people in Thailand may have difference motivations and reasons related to exercise behavior. In order to develop proper strategies leading people to exercise on the regular basis, more samplings are required in order to determine the type of motivations leading people to do so. In addition, as of time limitation, the strategies developed in this study have not been tested in the real situations. To ensure that these strategies can be used, it is recommended to test them in the small firms and then level up to the bigger firms. The adjustment to these strategies will have to be done based on the result of the test before using them in the country level.



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