TESTING OF A NEW JOB CRAFTING MEASURE AND INTERVENTION TO ENHANCE THAI HEALTHCARE PROFESSIONALS' MOTIVATION, WORK ENGAGEMENT AND, JOB PERFORMANCE

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การทดสอบการวัดตัวแปรและการแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มแรงจูงใจ ความผูกใจมั่นในงาน และผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย

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พิชญา โรจนดำรงกุล : การทดสอบการวัดตัวแปรและการแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มแรงจูงใจ ความผูกใจมั่นในงาน และผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย . (TESTING OF A NEW JOB CRAFTING MEASURE AND INTERVENTION TO ENHANCE THAI HEALTHCARE PROFESSIONALS' MOTIVATION, WORK ENGAGEMENT AND, JOB PERFORMANCE) อ.ที่ปรึกษาหลัก : ประพิมพา จรัลรัตนกุล

งานวิจัยนี้ประกอบด้วย การศึกษาที่ 1 มีวัตถุประสงค์เพื่อพัฒนาและตรวจสอบคุณภาพโมเดลการวัด การปรับงานแบบใหม่ และโมเดลโครงสร้างการปรับงานแบบใหม่เพื่อเพิ่ม แรงจูงใจ ความผูกใจมั่นในงานและผลการปฏิบัติงาน ในกลุ่มบุคลากรการแพทย์ไทย การพัฒนาโมเดลผ่านการวิจัยเชิงคุณภาพ เก็บข้อมูลโดยการสัมภาษณ์แบบมีโครงสร้างกลุ่มบุคลากรทางการแพทย์จำนวน 20 คน เกี่ยวกับประสบการณ์และวิธีการปรับงาน ผลการพบว่าบุคลากรทางการแพทย์ได้เพิ่มมิติการปรับงานด้าน ‘อารมณ์ขัน (humor)’ จากมิติเดิมทำให้ได้ โมเดลการปรับงานแบบใหม่ (Thai Job Crafting Behavior scale, Thai JCB) ที่ประกอบด้วยมิติการปรับตัวงาน (physical crafting), การปรับความสัมพันธ์ (relational crafting), การปรับความคิด (cognitive crafting) และอารมณ์ขัน (humor) การพัฒนาโมเดลผ่านการวิจัยเชิงปริมาณ ในการตรวจสอบคุณภาพโมเดลการวัด (150 คน) ได้แก่ ตรวจสอบความตรงตามเนื้อหา (content validity) ตรวจสอบความตรงเชิงเหมือน (convergent validity) ตรวจสอบความตรงตามสภาพ(concurrent validity) ตรวจสอบความตรงตามโครงสร้าง(construct validity) ในการวิเคราะห์องค์ประกอบเชิงยืนยัน (CFA) รวมถึงในการตรวจสอบโมเดลโครงสร้าง(structural equation modeling : SEM)(260 คน) ของตัวแปรการปรับงานแบบใหม่ แรงจูงใจ ความผูกใจมั่นในงานและผลการปฏิบัติงาน ผลการตรวจสอบพบว่ามีความตรงสอดคล้องกับข้อมูลเชิงประจักษ์ ผลการศึกษาดังกล่าวถูกนำไปใช้เป็นโมเดลการวัดในการศึกษาที่ 2

การศึกษาที่ 2 มีวัตถุประสงค์เพื่อศึกษาผลของโปรแกรมการปรับงาน เพื่อเพิ่มแรงจูงใจ ความผูกใจมั่นในงานและผลการปฏิบัติงานในกลุ่มบุคลากรทางการแพทย์ไทย ในช่วงการระบาดของโควิด -19 ผ่านการวิเคราะห์ข้อมูลในทั้งสิ้น 3 ครั้ง ได้แก่ ก่อน หลัง และติดตามผล ห่างกันครั้งละ 2 สัปดาห์ โดยใช้ 1) การวิเคราะห์ความแปรปรวนแบบวัดซ้ำ(Repeated measures ANOVA) 2) การวิเคราะห์โมเดลโคงพัฒนาการ (LGCM) ด้วย Bayesian estimator และ3) การวิเคราะห์เนื้อหาสำหรับการสัมภาษณ์ข้อเสนอแนะในเวลาติดตามผล ผลการศึกษา 1) การวิเคราะห์ความแปรปรวนแบบวัดซ้ำพบว่าผลกลุ่มทดลอง (25 คน) มีระดับแรงจูงใจ ความผูกใจมั่นในงานและผลการปฏิบัติงานสูงกว่ากลุ่มควบคุม (25 คน) และสูงกว่าก่อนการเข้าร่วมโปรแกรมอย่างมีนัยสำคัญทางสถิติ ($p < .05$) 2) การวิเคราะห์โมเดลโคงพัฒนาการ (LGCM) ด้วย Bayesian estimator พบว่าโมเดลมีความสอดคล้องกับข้อมูลเชิงประจักษ์ ตัวแปรแรงจูงใจ ความผูกใจมั่นในงาน และผลการปฏิบัติงานมีการเปลี่ยนแปลงที่เพิ่มขึ้นอย่างมีนัยสำคัญเมื่อเวลาผ่านไป และพบอิทธิพลทางอ้อมของการให้การปรับงานต่อผลการปฏิบัติงาน ผ่านตัวแปรแรงจูงใจอย่างมีนัยสำคัญทางสถิติ และผ่านตัวแปรความผูกใจมั่นในงานอย่างมีนัยสำคัญทางสถิติ กล่าวได้ว่า ตัวแปรแรงจูงใจและตัวแปรความผูกใจมั่นในงาน เป็นตัวแปรส่งผ่าน ระหว่างการให้การปรับงานต่อผลการปฏิบัติงานเมื่อเวลาผ่านไป นอกจากนี้ ในระยะติดตามผลของโปรแกรม พบว่าความเห็นของกลุ่มทดลองเป็นไปในทางบวกและสามารถนำคำแนะนำไปใช้ในการพัฒนาต่อไป

สาขาวิชา จิตวิทยา ลายมือชื่อนิสิต .....

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The present research consisted of two studies. In Study I, the objective was to develop and validate the job crafting measure in related to the levels of motivation, work engagement and job performance in Thai healthcare professionals using structured interview and structure equation model (SEM). Qualitative method using the interview (*N* = 20) was employed to extract employees' experiences of crafting their job and explore additional dimension of job crafting. The results of the interview revealed an additional dimension of job crafting namely "humor" for Thai Job Crafting Behavior scale (Thai JCB) (physical crafting, relational crafting, cognitive crafting and humor). The quantitative method of the content, construct (CFA) , concurrent and convergent validation (*N* = 150) were used to meet the validation of the Thai JCB measurement model. Moreover, the results of the Thai JCB structural model and related variables (i.e., motivation, work engagement, and job performance) (*N* = 260) fit well with the observed data in the expected direction. The results from Study I was further used for assessing the job crafting intervention in Study II.The main objective of Study II was to examine the intervention effect to professionals' motivation, engagement and job performance over time during the COVID-19 pandemic. Pretest, posttest, and follow-up design were conducted for investigating the changes. Data analysis was performed using 1) Repeated measures ANOVA analyses, 2) The latent growth curve modeling (LGCM) with Bayesian estimation and 3) Content analysis for recommendation interviews in the follow-up time. The results revealed that levels of, motivation, work engagement, and job performance in the intervention group (*n* = 25) were significantly greater than those in the control group (*n* = 25). As time passed, within the intervention group, motivation, work engagement, and job performance were increasing overtime. For The latent growth curve modeling (LGCM) with Bayesian estimation, the models of all variables were fitted with empirical data and significantly increased over time. Significant indirect effect of the intervention on the slope of performance via the slope of motivation was found. The indirect effect of the intervention on the slope of performance via the slope of engagement was also statistically significant. These findings indicated that enhancement of motivation and engagement were important mediators of the intervention in improving the performance. In addition of follow- up time, the content analysis of recommendation on job crafting program was provided for further development. In conclusion, the results provided empirical support for validity of Thai JCB and the effectiveness of job crafting intervention program in promoting motivation, work engagement and performance in the long-term effect. Regarding, the implications and applications of this present study, it is expected that this Thai JCB measurement scale and intervention program would be applied to deliver to other organization contexts.

Field of Study: Psychology Student's Signature .....

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CHAPTER I
INTRODUCTION

The first chapter of this study begins with a background and conceptualization of job crafting, as well as related variables for the study. This is followed by the objective of the study and the basic study's design.

Background of the study

Hospital is a complex institution that requires highly effective healthcare professionals in order to deliver high-quality services and cost-effective care to patients. These healthcare professionals, however, apparently suffer from physical loads or psychological overload with high pressure - the increasing complexity of patients' treatments. This could make them less motivated, engaged and have poor performance in their works (Van der Colff, 2009). Challenging that manager in this industry might deal with how to enhance the levels of employees' motivation, engagement and job performance in the organization. There were strong empirical evidences suggesting that many strategic interventions, such as incentives, technological, services for professionals or some commitments, have been examined in the employees' motivation and work engagement in the context of the healthcare industry (Schill, 2017; Vanderbilt, Wynia, Gadon, & Alexander, 2007). Encouraging employees' motivation and work engagement for better job performance appears to be important for the long-term success of the healthcare organization.

Previous research has discovered that job crafting interventions have a significant and positive effect on employees' motivation and work engagement, which can help individuals perform their jobs effectively. Job crafting is the method of how employees reframe their jobs based on job characteristics, physically (changing the form of the task), socially (changing interactions among work colleagues), and cognitively (changing ways of perceiving the job), resulting in a higher level of

performance. (Laurence, Williamson, Sumner, & Fleming, 2010; Makikangas, Bakker, Aunola, & Demerouti, 2010; Tims, Bakker, Derks, & van Rhenen, 2013).

In the context of business or education, those in the job crafting intervention group increased their job satisfaction, motivation, work engagement, and performance(Ghitulescu, 2007) . The study, which was conducted in a large consumer products company, discovered that more than three-quarters of the salespeople engaged in job crafting (i.e. changing relationships, content of work, and quantity of work), which had a positive impact on motivation, work engagement, and improved performance (Lyons, 2008). However, examining the impacts of job crafting on related work outcomes has been scarce in health care contexts. As enhancing professionals' motivation, work engagement through job crafting interventions is considered as an effective way of ensuring high-quality service performance to patients. Thus, the current proposed study was to extend the existing research on job crafting in the Thai healthcare context.

Moreover, taken from the recently published, the majority of studies have been conducted in Western settings. It has been uncovered how pervasive the job crafting practice might be in Eastern cultures (Thai) of the healthcare context. Furthermore, most studies that have looked at the longitudinal evidence of the basic dimensions of job crafting have depended on self-reported behaviors based on cross-sectional with single data collection to analyze job crafting dependent variable (Petrou, Demerouti, & Schaufeli, 2015). However, the longitudinal relationships (long-term effect) between job crafting behaviors and their outcomes have been unclear (Demerouti, Bakker, & Gevers, 2015) . In this light, this study filled these gaps by exploring job crafting behaviors and their relevant outcomes in collectivist cultures (i.e., Thai culture). This study also examined the impact of job crafting approaches over time, both in terms of cross- sectional and longitudinal analysis.

In short, the current study had two main purposes, which included the development and validation of a job crafting measure for the context of Thai healthcare professionals in Study 1 and examining the impacts of job crafting interventions on employees' motivation, work engagement and job performance in

Study 2. In Study 1, a newly developed job crafting (Thai JCB) measure was validated and linked to work related outcomes, such as employees' motivation, engagement, and job performance. Regarding the item generation of the developed measure, the interview method was employed to extract employees' experiences of crafting their job and to explore additional dimensions of job crafting in the healthcare context. In Study 2, an experiment with growth analysis of longitudinal data was used to investigate the role of job crafting intervention programs in improving of motivation, work engagement and job performance. Pretest, posttest, and follow-up design were conducted to investigate the changes in healthcare professionals' levels of, motivation, work engagement, and job performance.

CHAPTER II

REVIEW LITERATURE

This chapter is a critical review of the literature that pertains to the topic of job crafting and related variable outcomes (motivation, work engagement and job performance). The review will be organized conceptually or thematically, which sets out as the framework of research model, research questions, objective, and hypotheses of the study.

1. Job crafting conceptualization

Job crafting is characterized as an ongoing process in which employees make physical, relational and cognitive adjustments to their job's role or relational boundaries on a daily basis (Wrzesniewski & Dutton, 2001). Employees will craft their jobs from personal experience, talents, abilities, interests, and desires as a result of their needs(Grant & Parker, 2009). There are two key conceptualizations of job crafting that illustrate what employees can craft and how employees motivate and engage in their working behaviors. The conceptualizations of job crafting are summarized in Table1.

1.1 The conceptualization by Wrzesniewski and Dutton (2001)

According to this conceptualization, there are three dimensions of job crafting (Wrzesniewski & Dutton, 2001).

1) Task crafting

   When workers change or refine the job's boundaries, this is known as task crafting. For example, employees may adjust the role of their work in a variety of ways, including changing the number, scope, or type of tasks (adding more tasks, emphasizing tasks by managing more time, and redesigning tasks) (Tims, Bakker, Derks, et al., 2013).

2) Relational crafting

   Relational crafting is the process of altering the relational boundaries or interpersonal relationships. This may imply changing the form of social interaction. Relational crafting can make the job more meaningful by building, reframing, and adapting relationships (Makikangas et al., 2010; Wrzesniewski, Berg, & Dutton, 2010).

3) Cognitive crafting

   Cognitive crafting entails changing how employees perceive tasks and the work environment (for example, when employees begin to think of a boring task, they will reframe their thoughts).It can be explained that the task itself does not change, but workers who engage in this type of job crafting can reframe how they think about their task (Wrzesniewski & Dutton, 2001).

1.2 The conceptualization by Tims et al.(2012)

The job crafting model can be explained by two types of working conditions, namely job resources, and job demands. The employees may adjust their level of job resources and demands to match their abilities at work (Tims, 2010).The model specifies the four dimensions of job crafting as follows (Tims, Bakker, & Derks, 2012).

1) For increasing structural job resources (such as autonomy at work and a variety of learning new things), employees can improve structural resources by asking for more autonomy, enhancing new activities with the intention to achieving self-development.
2) For increasing social job resources (such as social support and feedback), employees may seek advice or opinions from superiors or subordinates in order to improve their performance. This type of resources can lead to the development of desired social support in the workplace and affect to their job performance.
3) For increasingly challenging job demands (such as requiring extra or new projects), employees may try to make the job more challenging, in order to keep interest and avoid boredom in their jobs.
4) For reduce the amount of hindering job demands (such as ensuring that work is emotionally less intense), For example, employees will eliminate some jobs that make them physically and mentally restless. This type of crafting can involve things like avoiding dispensable long working hours or things that can have an emotional effect on them.

Table 1

Summary of job crafting conceptualization.

Conceptualization	Definitions	Dimensions
(Wrzesniewski & Dutton, 2001)	Employees can make changes by physical and cognitive and relational of their work	▪ Task crafting ▪ Relation crafting ▪ Cognitive crafting

(Tims et al., 2012)	Employees can adapt their job demands and job resources to fit their personal skill. .	▪ Increasing structural job resources ▪ Increasing social job resources ▪ Increasingly challenging job demands ▪ Decreasing hindering job demands

1.3 Comparisons of job crafting conceptualizations

The model proposed by Wrzesniewski and Dutton (2001) and the model proposed by Tims et al. (2012) offer different concepts for the job crafting behaviors. According to Wrzesniewski and Dutton (2001), the aim of job crafting behavior is to improve physically, socially, and mentally in order to find the meaning of the work. These improvements may change the entire job or even a part of it. On the other hand, the perspective of Tims et al. (2012) is especially focused on job characteristics that can affect employee health. However, comparable between the two models, some dimensions of both models capture similar information.

Consistent with the changing the job demand dimensions by Tims et al. (2012) and task crafting dimension proposed by Wrzesniewski and Dutton (2001), Both mean that workers change the nature or amount of tasks they perform (i.e., the amounts, context, or types of tasks).

Relational crafting dimension, both models emphasize the relational boundaries at work. The relational crafting dimension proposed by Wrzesniewski and Dutton (2001) appears to be close to increasing social job resources, proposed by Tims et al. (2012).

Another aspect of job crafting, cognitive crafting, suggested by Wrzesniewski and Dutton (2001), tends to differ from Tims et al. (2012) model. Employees rely on their cognition, which is involved in a task redefinition, as they change their perception of the task.

1.4 Job crafting using in current study

Hereby, the current proposed study integrated each aspect of the existing job crafting behaviors model to three dimension-forms as physical, relational, and cognitive crafting (as summarized in Table 2).

Physical crafting is composed of the task crafting dimension proposed by Wrzesniewski and Dutton (2001) and three dimensions of job crafting proposed by Tims et al. (2012) (increasingly challenging job demands, decreasing hindering job demands, and increasing structural job resources). This job crafting entails employees making active changes to their individual tasks.

A second dimension known as relational crafting, which is derived from a relational aspect of job crafting proposed by Wrzesniewski and Dutton (2001) and seeking social resources dimension proposed by Tims et al. (2012), emphasizes development of employees' relationships or building new relationships.

Lastly, cognitive crafting dimension proposed by Wrzesniewski (2001) is explored as another dimension of job crafting in current study. It represents changes in how employees think about their tasks or their perception of tasks.

Table 2

Summary of job crafting behaviors used in the study, based on existing job crafting concept.

Job crafting behaviors		
In this study	**By Wrzesniewski & Dutton (2001)**	**By Tims et al. (2012)**
▪ Physical crafting	▪ Task crafting	▪ Increasing structural job resources ▪ Increasingly challenging job demands ▪ Decreasing hindering job demands
▪ Relational crafting	▪ Relational crafting	▪ Increasing social job resources
▪ Cognitive crafting	▪ Cognitive crafting	-

In order to study job crafting behaviors, the current study was interested to conduct job crafting in Eastern (collectivist) cultures, specifically Thailand.

According to the study, people define themselves as individualists or collectivists based on whether they are concerned with themselves or with their in-group. Individualistic cultures is valued and experienced in self. Whereas, conformity, social harmony, and family interconnectedness are valued and experienced in collectivist cultures (Hofstede, 1984). Thus, to study job crafting behaviors in Thai, it may be discouraged due to in-group concerns. Employees in collectivist cultures may weigh differently in job crafting dimensions. Employees in collectivist may consider their co-worker – relational crafting before attempting to craft other dimensions to their job, as opposed to individualistic, when specific in relational crafting. These differences in cultural values may alter the degrees of job crafting behaviors' influence on employees' motivation, work engagement and job performance.

Due to cultural differences, the current study focused on investigating the job crafting model in Thai healthcare contexts and examining the degrees of each job crafting dimension's influence on employee motivation, work engagement, and job performance. A semi-structured interview approach was used to explore professionals' different in job crafting behaviors which was brought another dimension to their job crafting.

2. Job crafting and psychological processes

Crafting a job can lead to positive work outcomes in an organization. This current study examined motivation and work engagement and job performance as the outcome variables in healthcare professionals.

2.1 Job Characteristic Model

The Job Characteristics Model theory developed by Hackman and Oldham (1980) suggests that employee job consequences are influenced by five core

dimensions: skill variety, task importance, task identity, autonomy, and feedback (Oldham & Hackman, 2010). Experience meaningfulness of employment, experienced responsibility for work outcomes, and knowledge of the actual results or outcomes are three psychological states of job characteristics (as shown in figure1).

For the first of psychological states of job characteristics, individuals tend to experience meaningfulness of work when job characteristics indicate task variety, task significance, and task identity. Task variety reflects a wide range of tasks, which the job requires different skills and talents (Humphrey, Nahrgang, & Morgeson, 2007). According to the Job Characteristics Theory, a job with more variety and needing more abilities and talents would increase the meaningfulness of work. Task significance involves perceptions that one's work has a substantial impact on others. Employees will find the work more meaningful as they perceive that they are making significant contributions to the organization or other people. Task identity reflects the completion of the job from beginning to the end. These job characteristics are related to a positive effect on job crafting. If employees feel like they are doing important work or understand what needs to be done, they will accomplish it from the beginning to the end. For these notions mentioned above, task variety, task significance, and task identity are associated with physical crafting of job crafting.

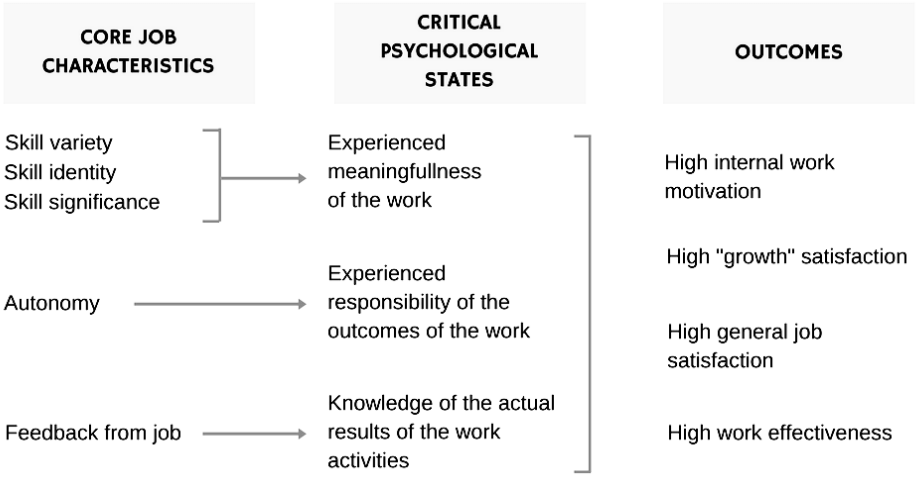
A second critical psychological state is experiencing responsibility for the outcomes of work or autonomy at work**.** Employee autonomy refers to how much flexibility they have to accomplish their tasks. It refers to the degree to which workers have control over how they complete particular tasks and how they plan their jobs. The Job Characteristics Theory states that employees with more autonomy will have a stronger sense of responsibility for the consequences of their work and, as a result, will perform better. The physical crafting of job crafting dimension is linked to work autonomy perception.

Another critical psychological state is knowledge of the actual results or outcomes of the work. The outcomes of one's work will assist them in tracking or monitoring their job's effectiveness. Feedback from work can help employees evaluate their job performance better. The theory states that adequate amounts of feedback can lead to increased knowledge of the job's outcomes. If employees are

given proper feedback about the work, their self-esteem will be boosted and they will be motivated or engaged in their work. For those employees who receive negative feedback, this might give them the opportunity to make improvements and corrections to their work. Team contacts' feedback from the job is positively associated with relational crafting of job crafting.

Figure 1

Components of the job characteristics model (Hackman and Oldham, 1980).



The five core job characteristics can be measured as motivation for a job. This allows organizations to assess the extent to which job characteristics have the potential to influence employees' attitudes and behaviors. Therefore, organizations can focus on the job crafting as the five core characteristics, in order to design the intervention for developing employees' motivation and work engagement.

Following the job characteristics model, the concept of job crafting is one of the design techniques, suggesting that the job crafting components are needed to be maintained in accordance with capabilities, abilities, and individuals for developing motivation, engagement, and work effective outcomes.

2.2 Job crafting and motivation

Motivation refers to a person's wants, expectations, and wishes. It's a technique for inspiring people to take initiative in order to accomplish their goals. Lack of motivation (amotivation), extrinsic motivation, and intrinsic motivation are the three forms of motivation according to the self-determination theory (SDT) (Ryan & Deci, 2000). Extrinsic motivation is defined as our desire to participate in order to earn some kind of external reward. Extrinsic rewards are usually in the form of money, trophies, or supporting resources. For intrinsic motivation, it is considered as autonomy, which is for people's desire to perform an activity with satisfaction, enjoyment and fulfillment by themselves. A number of studies that have found a positive relationship between job crafting and employee intrinsic motivation are discussed in the following section.

2.2.1 The motivation arises from physical crafting

The relationship between physical crafting and motivation can be explained with the self-determination theory (SDT).One assumption of SDT is that individuals have innate tendencies towards personal growth and innate psychological needs that can be affected by their environment (Ryan & Deci, 2000). The optimal conditions are defined by needs such as competence and autonomy. Competence refers to achieving desired outcomes and completing difficult tasks. It includes a sense of being successful and control over the tasks. Having a sense of autonomy refers to a person's ability to be in control of their own actions and decisions. It is a self-initiated and self-endorsed action.

Engaging in physical crafting, if employees can challenge competency by changing the boundaries of the task, they might fulfill the needs for autonomy and competence as mentioned above. This is in line with the concept of seeking demand and reducing hindering demand.

Employees with high work autonomy will experience emotionally less intense and intrinsically motivated to do the task to challenge the new responsibility and enhance job control with autonomy. Seeking job resources is a form of physical

crafting, occurring when employees put an effort into seeking more opportunities that can be instrumental for intrinsic motivation and lead to well-being in achieving the work goal.

Therefore, the following relationship of physical crafting has referred to a positive effect on intrinsic motivation, which is completing feelings of needs, in order to involve pleasure of doing task with autonomy and more motivating challenges.

2.2.2 The motivation arises from relational crafting

Relational crafting (Wrzesniewski, 2001) and seeking social resources (Tims, 2010) are supposed to play an intrinsic motivational role. Employees, who participate in relational crafting, change their experiences with others at work in ways to promote meaningfulness by modifying their relationships. High-quality of interpersonal interactions is related to greater job and career adaptability, increased level of motivation at work. As a result, relational crafting has an effect on intrinsic motivation because it allows employees to have supportive and meaningful experiences with their coworkers. In the former case, job resources also fulfill basic human needs. According to self-determination theory, the desire for relatedness, which is fulfilled by fosters learning, and social satisfaction and the need for belonging. As a consequence, the motivation from relational crafting can be predicted.

2.2.3 The motivation arises from cognitive crafting

Employees' cognitive crafting focuses on changing how they think about their roles, which can lead to increased job meaning. The potential of cognitive crafting is supported by the mindsets for changing how workers subjectively experience their jobs without altering the details of the job. Thus, this type of job crafting helps employees to enhance their values, beliefs and motivations by creating a sense of alignment between self and the work. Thus, cognitive crafting creates prospects for employees to experience the meaning of their work by parallel doing the job with their values and leading to intrinsic motivation.

In conclusion, the studies in job crafting illuminated as job characteristics that employees could adjust their job to fit their own needs, and could enhance employees' intrinsic motivation (Bakker & Demerouti, 2007).

Hypothesis 1 Job crafting (physical, relational, and cognitive crafting) will positively predict intrinsic motivation.

2.3 Job crafting and work engagement

Work engagement is a motivational concept that provides workers with positive energy. They can contribute to their jobs, which is characterized by vigor, dedication, and absorption, by physical participation, cognitive knowledge, and emotional relations (W. B. Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). Vigor is a motivational word for having a lot of energy and mental toughness. Dedication can be described as active participation in and contribution to one's work. Absorption can be as a motivation to concentration or cognition in work (Bakker, Schaufeli, Leiter, & Taris, 2008).

There were studies of job crafting that impact on the psychological process and then consequently led to increase work engagement (Crawford, LePine, & Rich, 2010).

Start with, the study of physical crafting and work engagement, task crafting or increasing structural job resources, and challenging job demand raised personal learning and development, which were attributed to the three most essential human needs (autonomy, competence, and relatedness). According to Self Determination, these needs establish intrinsic motivation and work engagement (Tims, Bakker, & Derks, 2015).

Furthermore, employees who responded to physical crafting (challenging job demands) were more engaged. According to a previous report, employees were encouraged to use their skills and abilities while retaining autonomy, and they saw these demands as leading to personal job satisfaction. As a result, employees who

increased their challenges job demands scored well on the three dimensions of work engagement (vigor, dedication, and absorption) (Bakker, 2011).

A positive relationship between relational crafting (social job resources, such as asking for feedback) and work engagement was found in previous research on job crafting (Tims, Bakker, Derks, et al., 2013). The longitudinal research also discovered that changing workers' social job resources resulted in improvements in well-being and work engagement. Higher levels of social support, autonomy, and performance feedback could affect higher levels of work engagement. Thus, when employees increase in social job resources, work engagement will increase as well.

Cognitive crafting has been discovered when employees alter their perception of their tasks to be more optimistic. The positive perception lets those employees have a better sense of meaningfulness at work and clarifies their identity in their work. This type of crafting could be a result of their enthusiasm, dedication, and inspiration for their work, which would lead to work engagement (Bakker, Rodríguez-Muñoz, & Sanz Vergel, 2016; Bakker et al., 2008).

In conclusion, numerous studies in the field of job crafting have found that job crafting can enhance work engagement (Bakker & Demerouti, 2007).

Hypothesis 2 Job crafting will positively predict levels of work engagement.

3. Job performance

Job performance is a significant criterion in the workplace. Because, it can determine employees, in order to promote or earn an award (Mahapatro & Parkar, 2005). According to Griffin, Neal and Neale (2000), there are two types of performance in the working organization, namely job performance and contextual performance(Griffin, Neal, & Neale, 2000).

Job performance and contextual performance are two main types of behavior that each lead to organizational results in various ways. Job performance is applicable to the formal position or job description. Contextual performance applies

to what the employee agreed to do, such as assisting others or working an additional hour (Torrente, Salanova, Llorens, & Schaufeli, 2012). For job performance, when workers use their functional skills or expertise to generate or provide services as the job description, they are considered to be engaged in the job. On the other hand, when employees participate in contextual performance, they voluntarily support other colleagues' jobs without expecting anything to return, to maintain good working relationships, or to go as far to finish the job on time (Van Scotter, 2000).

In the current study, job performance was selected as an outcome variable. There was a study that indicated that employees, who craft their jobs, firstly perform in their specific role. They were more invested in their jobs and working harder to complete the job as defined description (Tims et al., 2012). Moreover prior studies found that the individual's resourcefulness by job crafting allowed workers to perform within their tasks more effectively (Bakker, Demerouti, & Sanz-Vergel, 2014). Thus, to perform specific tasks in a healthcare context, job crafting will directly predict job performance rather than contextual performance in this study.

3.1 Motivation, work engagement and job performance

Kahn (1990) first addressed that employees' motivation and engagement, was related to their job performance (Kahn, 1990). Prior studies found that employees' weekly levels of motivation and work engagement might predict their weekly performance(Bakker & Bal, 2010). The study of Christian et al. (2011) also indicated that work engagement was reported to be correlated to success in job performance (Christian, Garza, & Slaughter, 2011).

There were various explanations why people who were engaged and motivated, performed better. To begin with, when workers are inspired, motivated or engaged, they experience positive emotions such as enjoyment. Positive emotions broaden people's thinking and actions, allowing them to focus on personal performance (Fredrickson, 2004; Schaufeli, 2012). Secondly, motivated employees attain more wellbeing at work and better performance (Bakker, 2011). The study discovered that wellbeing workers had a lower level of turnover and a greater

capacity to concentrate on their work, which might contribute to them being more effective in the long run (Schaufeli, 2012). Moreover, work engagement and motivation are likely to be a nature of cognitive abilities. Increased productivity by cognitive processing has a direct effect on successful performance (Schaufeli, 2012). As a result of all of these studies, it is clear that people who are motivated and engaged will perform efficiently at work.

3.2 Job crafting and job performance

Job crafting had a strong correlation with job performance. When employees crafted or made improvements to their work, they were able to perform better (Tims et al., 2015). According to Berg, Dutton, and Wrzesniewski (2010), job crafting contributed to beneficial individual outcomes as increased better performance. Employees who participated in job crafting could concentrate their efforts on improving the quality of their jobs in order to meet their expectations (Wrzesniewski et al., 2010). Their efforts could contribute to positive results, such as positive feelings, which could make them feel more confident in their ability to do their job (Warr & Inceoglu, 2012). Job crafting is related to autonomy to lets the employees put in more effort in order to perform better at work (Parker & Ohly, 2008).

Besides, employees who had more challenging job demands combined with sufficient social job resources, performed much better (Tims et al., 2012). According to Bakker et al. (2012), employees who participated in job crafting activities by changing their work environment, were more engaged and performed better. Job crafting has been discovered to result in higher levels of job performance as a result of combining from the previous mentioned studies (Bakker, Tims, & Derks, 2012).

Hypothesis 3 Job crafting will positively predict levels of job performance.

Hypothesis 4 Motivation will mediate the relationship between job crafting and job performance.

Hypothesis 5 Work engagement will mediate the relationship between job crafting and job performance.

4. Job crafting in healthcare professionals

Job crafting could be used in the healthcare sector. There was a lot of job pressure because of the growing regulations for patient care and the sophistication of treatment, which impacted health care professionals' motivation and engagement in their work (Shanafelt et al., 2011). Many studies have indicated that job crafting for healthcare professionals is needed. In cultivating job crafting, it could support health-care workers in order to deal with challenging circumstances by promoting personal renewal, emotional self-awareness, and appropriate social support to overcome the obstacles at work (Shanafelt et al., 2011). According to Wrzesniewski and Dutton (2001), using physical, relational and cognitive crafting could lead professionals to cope well with their responsibility in their role (Wrzesniewski & Dutton, 2001). For example, in the prior study of relational crafting (social job resources), healthcare professionals indicated importance in building, strengthening, and refining their relationships (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). In the healthcare industry, collaboration and suggestions have been established as essential motivating factors. With relational crafting, previous research indicated that individuals who were asking for support would become more encouraged to provide assistance, help, and suggestions. This states that health care professionals receive the benefit from the support of their involved colleagues to improve their performance (Tims, Bakker, Derks, et al., 2013).

5. Research model with basic statistical approach of the study

The job crafting scale and intervention program were developed and validated in this study in both qualitative and quantitative methods.

For both Studies I and II, the participants were recruited from Thai public hospitals which are similar in terms of size and scale based on the basic information of hospitals of the Ministry of public health (MOPH) Thailand. According to MOPH,

hospitals are categorized in terms of number of beds, operation scale and affiliation (as summarized in Table 3).

Table 3

Example of hospitals from the Basic Information of Hospitals of the Ministory of public health (MOPH).

Hospital	Operation and Affiliation	Funding	Type	Specialty	Province	Beds
Phramongkutklao	Royal Thai Army	Public	Teaching	General	Bangkok	1236
Ramathibodi	Mahidol University	Public	Teaching	General	Bangkok	1300
King Chulalongkorn Memorial	Thai Red Cross Society	Public	Teaching	General	Bangkok	1433
Siriraj	Mahidol University	Public	Teaching	General	Bangkok	2000
...	...	...	...	...	...	...

Note. Basic Information of Hospitals of the Ministry of public health (MOPH) in the 2015 fiscal year, recorded in January 2017. Retrieved 20 October 2019.

Three public general hospitals were recruited in Study I, and for two public general hospitals were recruited in Study II. All hospitals have the same scale of operation, affiliation and numbers of beds located in Bangkok, Thailand and are under the management of the Ministry of public health (MOPH).

Study I, Scale development and construct clarification of job crafting behaviors among Thai healthcare professionals

Job crafting has been investigated in Western contexts (individualistic cultures), it is important to clarify for Thai professionals (collectivist cultures) in this study. Start with qualitative research methods, many recent studies on job crafting have used a qualitative approach, which encourages workers to share their insights and experiences with job crafting behaviors (Berg, Wrzesniewski, & Dutton, 2010). According to a report, qualitative research methods allow the researcher to generate in depth information of organization (Bakker, Demerouti, & Verbeke, 2004). Furthermore, it appears that gathering personal stories, insights, and descriptions as a

variable factor for the study is required to fully depict the process of job crafting and the function of organizational features.

Therefore, the open-ended interview was conducted for information collection, to be able to study healthcare professionals' perceptions and to gain more added dimensions of job crafting.

Following this, the study was also validated the newly developed job crafting scale behavior in Thailand (Thai JCB) by exploring different forms of job crafting, which might have unique impacts on professionals' motivation, work engagement, and job performance via quantitative analyses.

Basic statistical approach of the study I

The interview study was analyzed with content validity to examine whether each item reflected 4 dimensions of Thai JCB (based on the additional dimension from the interview and the concept of Wrzesniewski and Dutton (2001). Content validity was derived the detail of the measure to the objective of the study. Validation can be left by the experts, who will measure the required aspects of the concept. To assess with content validity, a number of statistical indicators have been proposed. One of them is the Content Validity Index (CVI) (Namey & Trotter, 2015).

Then, the current study was reflective measurement by construct validity, by Confirmation factor analysis (CFA). CFA has lately been used to test the validity and validity of several instruments. For those latent construct hypothesized models, CFA process illustrates the pattern of observed variables. In most social science and psychological studies, CFA serves as the resources of validating and determining the accuracy of any measurement (Wang, 2019). As the purpose of the study, the CFA procedure has been chosen.

It is necessary to validate the Thai JCB that was associated with the relevant measures in order to verify convergent validity. Convergent validity is the validated method to investigate the relationships between two measures (Allen, 2017). The

prior study of job crafting behavior and theoretically relevant variables of self-efficacy and proactive personality were discovered in a previous study (Slemp & Vella-Brodrick, 2013; Tims, Bakker, & Derks, 2014). Thus, the current investigation was evaluated with relevant variables of correlations to support the creation of convergent validity.

The association between two measure, the new and the similarly or related constructs measure are determined by concurrency validity. (Allen, 2017). There were the prior studies found in construct validity for the adapted Spanish and Turkish version of the job crafting measurement. In this case of new languages version, all Cronbach alphas of validity were positive. The adapted measurement was designed to have concurrent validity, using the same premise as job crafting scale by Tims (2013). As a result of the existence of job crafting scale, the current study was assumed that Thai JCB would provide the concurrent validity with existing of job crafting scale (Akın, Sarıçam, Kaya, & Demir, 2014; Bakker, Ficapal-Cusí, Torrent-Sellens, Boada-Grau, & Hontangas-Beltrán, 2018).

As a consequence, the current study aimed to confirm the validity of the Thai JCB's structural measurement model on professional motivation, work engagement, and job performance by the structural Equation Modeling (SEM) analysis. The SEM was to determine whether latent and observable variables were causally related.

According to the study, SEM is frequently used in quantitative research since it allows for the modification and assessment of theoretical models. Indeed, SEM is extremely beneficial for investigating the interdependencies between latent variables (Hair, Black, Babin, Anderson, & Tatham, 2006). The SEM In this study was used to test the presented hypotheses in Chapters III and IV about the impact of JCB on professional motivation, work engagement, and job performance.

Study II, the job crafting intervention for healthcare professionals to increase levels of work engagement and job performance

The aim of this study was to see how a job crafting intervention will improve job crafting, motivation, work engagement, and job performance in the short and long term.

The causal relation of job crafting interventions to motivation, work engagement, and job performance was investigated using quantitative and qualitative analyses in the health care context by comparing pre-test (T1), post-test (T2), and follow-up (T3) improvements with participants' feedback interviews after completing intervention programs. This section of the study expected to continue how job crafting, motivation, work engagement, and job performance would change over time.

Basic statistical approach of the study II

Start with the Repeated measure ANOVA, the Study II was designed to quantify the effect of intervention. As the participants completed identical set of questionnaires more than twice and two groups of participants were compared, the use of Repeated measure ANOVA was appropriate in Study II (Kinnear & Gray, 2006).

Additionally, the hypotheses of Study II was to investigate the mediating effect of motivation and work engagement on the relationship between the Thai JCB intervention and job performance in 3 time-points. The LGCM was performed to handle in this part.

Though the framework, the LGCM is one of SEM, The LGCM is for longitudinal data with many waves where both mediator and the result changed. LGCM allowed with the latent intercept (ie, initial status) and slope (ie, rate of change) factors being estimated for the longitudinal data(Lee, Wickrama, & O'Neal, 2018; Murphy, Sloper, & Berry, 2014). The LGCM is for maximum likelihood estimation to determine the

criteria parameters together with several requirements. One of those is sample size; it must be large enough for the detection of person-level effects. A good rule of thumb is *N* = 200 or more per time point (Murphy et al., 2014). But due to a nascent pandemic situation, it can be mitigated by increasing sample size for the study.

With the sample size condition, the Bayesian estimation was used for the small sample sized study. The Bayesian estimation is the flexible approach to estimate the structural equation modeling. Bayesian statistics is an approach for observed and unobserved parameters in a statistical model. It is given a joint probability distribution in the data. According to Love et al. (2007), the parameter estimates in the Bayesian technique are frequently consistent, implying that can closely to the predictive distributions. This type of estimation allows testing hypotheses without having to accurately base on sample size selection (Love, Ye, Smith, & Prisley, 2007).

There were many studies indicated for Bayesian estimation. The study indicated that the Bayesian technique was used to estimate time series data. The result was effective in data analysis, as well as being simple and intuitive to users(Monahan, 1983).

Another study indicated that Bayesian method was more plausible than maximum likelihood estimation. The study found in both of the AIC and BIC for Bayesian method showed the lowest value, indicating superior fits. This finding was consistent with a study that found the Bayesian method to be superior to maximum likelihood and median estimation when modeling life time event data (Nasir & Al-Anber, 2012).

Furthermore, Pandey et al. (2011) found that when the sample size was limited with over time the Bayesian technique outperforms maximum likelihood estimation (Phoong & Ismail, 2015). Thus with the basis of the hypothesis and

limitation for small sample size testing, the LGCM with Bayesian estimation was estimated in study II.

In order to extend the job crafting research in the Thai health care professionals' work contexts, this proposed research aims to answer the following questions

What forms or types of job crafting dimensions will have impacts on employees' motivation, work engagement and job performance in the context of Thai healthcare professional?

The objective of the study

1) To obtain a new job crafting measurement for Thai healthcare professionals.
2) To develop job crafting intervention programs for Thai healthcare professions for an improvement in their motivation, work engagement and job performance.

Summary of Hypothesis

Based on the theoretical review, study I was employed both qualitative and quantitative method to develop and investigate the relationship of Thai healthcare professionals on enhancing levels of work engagement and job performance among Thai health care professionals. Hypotheses were proposed as follows:

Hypothesis 1	Job crafting (physical, relational, and cognitive crafting) will positively predict intrinsic motivation.
Hypothesis 2	Job crafting will positively predict levels of work engagement.
Hypothesis 3	Job crafting will positively predict levels of job performance.
Hypothesis 4	Motivation will mediate the relationship between job crafting and job performance.

Hypothesis 5 Work engagement will mediate the relationship between job crafting and job performance.

In Study 2, the job crafting programs (as the intervention program) for Thai health care professionals was conducted to increase higher levels of their motivation, work engagement and job performance, hypotheses are proposed as follows:

Hypothesis 6 Those healthcare professional participants in the job crafting intervention group will have higher levels of motivation, work engagement and job performance after the intervention than those in the control group.(Between group)

Hypothesis 7 After participating in job crafting intervention programs, the levels of motivation work engagement and job performance will increase over time. (Within group)

Hypothesis 8 Motivation will mediate the relationship between job crafting and work job performance.

Hypothesis 9 Work engagement will mediate the relationship between job crafting and job performance.

CHAPTER III

METHODOLOGY OF STUDY I

The main purposes of this chapter are to refine the construct of job crafting in Thai healthcare contexts; Thai job crafting behaviors Scale (JCB). The methodology and research procedures used in both studies are presented in this chapter.

Study I Scale development and construct clarification of job crafting behaviors among Thai healthcare professionals

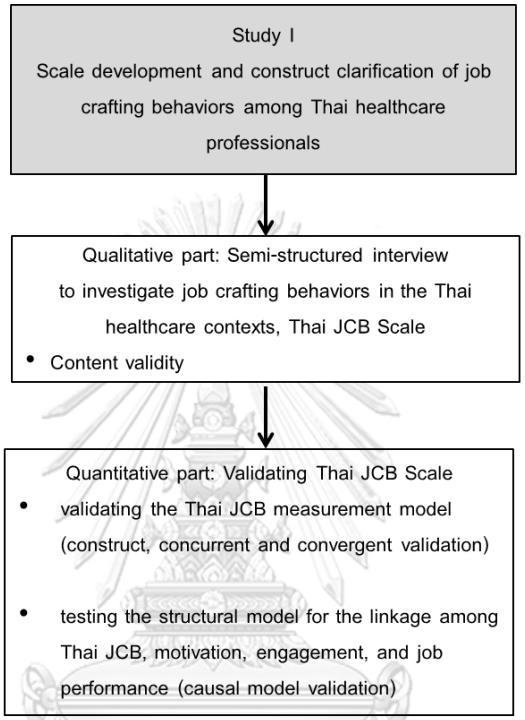
Study I was employed in both qualitative and quantitative method to investigate job crafting behaviors of Thai healthcare professionals. An integrated construct of job crafting was derived from the existing literature. Subscale items were generated as three potential dimensions: physical crafting, relational crafting, and cognitive crafting, which were based on the concepts of job crafting models by Wrzesniewski (2001) and Tims et al. (2012).

A semi-structured interview approach was employed for exploration the job crafting behaviors that were derived from western contexts and exploration of additional dimensions to the developed model (whether there would be additional dimensions that might be overlooked or specific job crafting behaviors that related to cultural contexts of Thai healthcare).

After obtaining the interview results, item generation for any additional constructs of job crafting and content validity were conducted. Regarding for the scale validation, the newly developed Thai job Crafting Behaviors' Scale (Thai JCB) was validated using confirmatory factor analysis (CFA), concurrent and convergent validity. Moreover, the structural model of job crafting, motivation, work engagement, and job performance was also examined. The process of Study I is displayed in Figure 2.

Figure 2

The process of Study I.



Qualitative part: A semi-structured interview to investigate the dimensional factors of job crafting behaviors in the Thai healthcare contexts

To investigate and extend the dimension from the existing job crafting models by semi-structured interviews in Thai healthcare contexts.

Setting

Public hospital

Sample population (semi structure interview)

As noted by Creswell (1998), a sample size of 20 people for an interview would provide adequate information about certain features and a better understanding of the studied core factor (themes) (J. Creswell, 1998).

Inclusion criteria:

1) Male or female
2) Participants were the healthcare professionals including doctors, dentists, nurses, and pharmacists, or some allied health professions (e.g. physical therapists).
3) Participants have been working at least 6 months prior to the study period, and holding full-time employment position.

Exclusion criteria:

Participants hold the administrative or supportive staff workers positions.

The participant was from the proportion of the all professionals' position in each hospital. Example as in Hospital "A", there are different numbers of each professional (e.g, 500 doctors, 1000 nurses, and 200 pharmacists), then it would be appropriate to choose numbers of the sample from each professional proportionally for interviews (e.g, 5 from doctors, 10 nurses and 2 from pharmacists).

Recruitment

Following ethical approval, the purposive sampling technique was used to identify the hospitals and study participants. The researcher, as the interviewer, asked for permission from the directors of the hospitals to collect the data, and explained the purposes of the study. The interviewer approached each participant individually with their voluntary participation, and explained the study's objectives and participation procedure.

The interview part was held at a single point of time in the meeting room. The cover letter and research consent form were provided for those who were willing to participate. The cover letter included information about the nature of the

study, assurances of anonymity, and the confidential nature of the responses. Participants were informed that they could withdraw at any time without any expenses or consequences.

After receiving the written consent forms, the participating healthcare professionals were approached for the interview session. With participants' approval, for a complete transcript, the interview was audio-recorded. During each interview, the researcher took a typed note in order to capture important details about their work for use in subsequent interviews and data analysis.

Instrument (semi structure interview)

The interviewer provided with a guideline instrument that included open-ended questions designed to gather information about participants' work aspects and necessary information for further analysis. For the demographic profiles, participants were asked about their demographic data, job position, and their job tenures. Participants were asked to describe their job and work experiences (e.g., their job working hours). Then, participants were asked about their job crafting behaviors relating to each dimension of job crafting (e.g., questions regarding one dimension of job crafting: relational crafting – the words such as "Have you actively changed the ways you interact with others at work?" These interview questionnaires and protocol were derived based on the existing job crafting study from Tims, et al. (2012) and Wrzesniewski and Dutton (2001). The interview questions and protocol were validated by two experts in this field, for appropriateness in terms of the construct of job crafting behaviors. The questions were relatively standardized across interviews. The details of the questionnaire are given in Appendix A.

Data analysis (semi structure interview)

The content analysis of the transcribed interview was undertaken. Each participant answered the same questions. The open-ended responses were recorded following the example of behaviors in each dimension model, (example as shown in Table 4). The quotations were included in the text to exemplify typical responses.

Table 4

Example as open-ended responses record in each dimension.

Job crafting Dimensions	Example of Behaviors
■ Physical crafting	Ask for being assigned to different tasks at work. Ask for allocating more time, energy or attention, and redesigning tasks.
■ Relational crafting	Ask for cooperating with colleagues, proactive, and negotiated at work.
■ Cognitive crafting	Ask for thinking of a boring job as one that is important for the organization to sustain profitability.

Note. Additional dimensions obtained from the interview results: Humor

According to Spencer (2003), qualitative data was coded and categorized as the most important tool in conducting qualitative analysis (Spencer, Ritchie, & O'Connor, 2003). From the participants' opinion in this part, the results revealed the same construct of job crafting based on the existing literature from Wrzesniewski and Dutton (2001) and added the new dimensions of job crafting, 'humor'. For all dimensions in this study, they were named as "Thai JCB".

The development of Thai JCB scale

Due to the qualitative part, the results revealed the same construct of existing job crafting literature with added dimension of 'humor'. Thus, the 13 items of the Thai JCB in this study were generated. There were from 9 items of Niessen's job crafting scale (which was updated and validated scale based on the concept of job crafting by Wrzesniewski and Dutton's (2001)), and 4 items of humor dimension (Niessen, Weseler, & Kostova, 2016).

Translate part

The scales in English language were translated into the Thai language. The back translation technique was used to translate the English language version into Thai and then back into English, as recommended by Sperber (2004). This segment was verified by a language expert to ensure that the scale was suitable (Sperber, 2004).

Prior to testing the structure model of Thai JCB, and outcome variables among Thai healthcare staff, the content validity and validity of the measurement model were required.

Content validity

After generating items for each job crafting dimension obtained from the interview with Thai JCB, the content validity using expert panels was conducted in order to verify the content of each job crafting dimension. The items were assessed for appropriateness and applicability by three subject matter experts in the job crafting research field and related practitioners. The appropriateness was assessed by the subject matter experts. The Content Validity Index (CVI) was used to determine for validity (Lawshe, 1975). With the result of CVI that less than.80 were noted for further review. The CVI calculation is given in an appendix D.

Quantitative part: Validating Thai JCB Scale

As recommended by Hinkin (1998), the construct validity of new scales was assessed beyond the factor analysis (Hinkin, 1998). Concurrent validity was also conducted to assess that the Thai JCB was related to the existing job crafting scales. Together with the convergent validity, the Thai JCB was assessed with the related scales (self-efficacy and proactive personality scale) for the correlation measurement.

Setting

Public hospitals

Sample population (for scale validation)

Sample size of 150 health care professionals (calculated by the item ratio ranged from 5:1 were for the Thai JCB measurement model validation (construct validity, concurrent validity, and convergent validity) (Anthoine, Moret, Regnault, Sébille, & Hardouin, 2014) (Turker & Selcuk, 2009). Sample size of 260 health care professionals (calculated by computing power sample size for RMSEA) were for testing the structural model for the linkage among Thai JCB, motivation, engagement, and job performance (causal model validation).

Inclusion criteria:

1) Participants were a male or female working in the hospital including doctors, dentists, nurses, and pharmacists, or some allied health professions (e.g., physical therapists).
2) Participants have been working at least 6 months prior to the study period, and holding full-time employment position.

Exclusion criteria:

Participants hold administrative or supportive staff workers positions.

Recruitment

After getting the ethical permission, the purposive sampling technique was adopted for the hospital. The researcher asked for permission to circulate the invitation letter and questionnaire via an online link (QR code or URL website) on the hospital website. The link was included with the cover letter that explained the nature of the study, the assurance of the anonymous voluntary and confidential nature of the response. After receiving the online link, participants were asked to mark "agree" or "disagree" in the consent form before filling out the online questions. The questionnaire was terminated after the completion of the data.

Instrument for the Thai JCB measurement model validation (construct, concurrent and convergent validation)

The self-report online questionnaires comprised of four sections including:

Section 1: The demographic profiles were designed to obtain information regarding: age; gender, the job tenure and organization tenure.

Section 2: Thai JCB scale (13 items)

Section 3: The existing well-established job crafting scales (21 items by Tims (2012))

Section 4: The questionnaire scale of self-efficacy and proactive personality

From the result of dimensions found in qualitative part, the scale of Thai JCB was entailed with physical crafting, relational crafting, cognitive crafting and humor.

Thus, the 13 items of Thai JCB scale was developed and translated from the 3-factor of job crafting scale (physical crafting, relational crafting, cognitive crafting) by Niessen (2016) (9 items) and added another developing dimension scale of "humor" (4 items).

Thai JCB scale validation was conducted in three steps. Firstly, the measurement of the scale was examined using Confirmatory factor analysis (CFA). Secondly, concurrent validity was performed by correlating the Thai JCB scale with the existing well-established job crafting scales of Tims et al. (2012) (21 items). Thirdly, convergent validity was examined to investigate the correlations of Thai JCB scale with other related variables (e.g., self-efficacy and proactive personality).

Data analysis (measurement model validation)

Construct validity of measurement model (Thai JCB)

To assess the construct validity of Thai JCB, the measurement model was analyzed by IBM SPSS 22 and MPlus software (Muthén & Muthén, 2012).

The confirmatory factor analysis was for reviewing how well measured variables represent certain constructs. This was necessary because the job crafting scale had not been explored among healthcare professionals in Thailand before. Internal consistency reliabilities for each dimension of job crafting were computed.

The model was configured with the empirical data using the Chi-square goodness-of-fit statistic, degree of freedom, two absolute fit indices (GFI, RMSEA), one incremental fit index (CFI), and one parsimony fit index (AGFI) (Brown, 2015; Hair et al., 2006).

The concurrent validity of measurement model (Thai JCB)

To provide an evidence for concurrent validity, Thai JCB was assessed whether it was positive correlated with the 21-item scales of existing well-established jobs crafting scales from Tim (2012). For validity result, Thai JCB scale had a good reliability with Cronbach's alpha coefficients of .80.

The convergent validity of measurement model (Thai JCB)

To assess convergent validity, Thai JCB scale was correlated with proactive personality and self-efficacy (Berg et al., 2010).

Based on research by Erdogan and Bauer (2005), proactive personality was said to be a predictor of active actions. The degree to which people have an active role was described as proactive personality. Job crafting was linked to this feature of a proactive personality (Erdogan & Bauer, 2005). When an employee did the job, he or she adjusted or demonstrated the active role for the job's boundaries to fit it with personal desires and needs (Berg et al., 2010). This meant that employees with a proactive personality were more proactive in adapting to changes or crafting their jobs. As a result, the Thai JCB scale was associated with proactive personality in order to determine convergent validity by using a shorter version of the scale to assess proactive personality by Crant (1993). The short version was scored on a five-point Likert scale ranging from one (completely disagree) to five (completely agree) (totally agree) (Bateman & Crant, 1993). The validating result for the current study was verified at.80 based on the correlation coefficients between the Thai JCB scale and proactive personality.

Self-efficacy is described as the ability to carry out a specific activity in one's actions. Behaviors were affected by self-efficacy because people with higher levels of self-efficacy put in more effort and continued longer, showed greater concentration, less distractions, and preferred more difficult goals and committed with them than people with lower levels of self-efficacy (Bandura, 1977). Employees' self-efficacy was defined as their belief that they should be more proactive or that they will be able to do more than the job description requires (Parker, 1998). The study of Tims et al. (2014) discovered that self-efficacy and job crafting behaviors have a positive relationship. Employees who are more self-efficacious are more likely to seek out more diversity in their work and to develop new skills. Thus, the correlation analysis was used to validate the correlation between self-efficacy and Thai JCB scale. Self-efficacy was assessed using items from Parker's (1998) scale, which was scored on a five-point Likert scale ranging from one (not at all confident) to five (very confident) (very confident) (Parker, 1998). The validating result for the current study was .90 based on the correlation coefficients between the Thai JCB scale and self-efficacy.

Instrument for testing the structural model - the linkage among Thai JCB, motivation, engagement, and job performance (causal model validation)

The sub-scales of each job crafting and its related variables are shown in Table 5.

Table 5

Job crafting model and other related study variables.

Model and scales for study variables		
Thai JCB	Niessen (2016)	▪ Physical crafting ▪ Relational crafting ▪ Cognitive crafting ▪ Humor
Motivation at Work	(Amabile, 1994)	▪ Intrinsic motivation work, Preference Inventory (WPI)
Work engagement	(Schaufeli, 2006)	▪ Vigor ▪ Dedication ▪ Absorption
Job Performance	Williams & Anderson (1991)	▪ Job performance

The 13-item of Thai JCB scale was refined from the measure of job crafting of Niessen (2016) and the added humor dimension. This scale was a 5-point rating scale ranging, from 1 (Not at all) to 5 (Absolutely). Thai JCB scale was consisted of four

factors which included task, relational, cognitive crafting and humor (Niessen et al., 2016). Cronbach's alpha coefficient verified in this study was above .80.

The 21-item job crafting scale (JCS) of Tims and Bakker (2012) was assessed. This scale was a 5-point rating scale ranging from 1 (Never) to 5 (Often). The JCS was contained with four factors including increasing structural job resources (as the physical crafting), increasingly challenging job demands (as the physical crafting), decreasing hindering job demands (as the physical crafting) and increasing social job resources (as the relational crafting)(Tims et al., 2012). Cronbach's alpha coefficients for all four factors were above .70.

Work Preference Inventory scale (WPI) developed by Amabile (1994) was used to measure intrinsic motivation at work (15 items), with a 5-point rating scale ranging, from 1 (fully disagree) to 5 (fully agree)(Amabile, 1994). Cronbach's alpha coefficient was above .70.

Work engagement was assessed from the Utrecht Work Engagement Scale (9 items), with a 5-point scale ranging from 0 (never) to 5 (always)(Schaufeli, 2006). Cronbach's alpha coefficients score were .82 for vigor, .83 for dedication, and .88 for absorption.

Job performance was assessed from Williams and Anderson (1991) (7 items), with 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree)(Williams & Anderson, 1991). Cronbach's alpha coefficient was above .80.

For the structural model of Thai JCB and its outcome variables (motivation, engagement, and job performance), the self-report online questionnaires comprised of four sections including:

Section 1: The demographic profiles include participants' age, gender, the job tenure and organization tenure.

Section 2: Thai JCB

Section 3: Motivation scale

Section 4: Work engagement scale

Section 5: Job performance scale

Data analysis (causal model validation)

Structural Equation Modeling (SEM) was conducted using Mplus version 7 to investigate how well the hypothesized model of job crafting with its variance/covariance matrix fits the variance/covariance matrix of the empirical data in the study.

To test the hypotheses for Study I, SEM was employed to examine how well Thai JCB related to motivation, work engagement, and performance. To determine the fit of the model, well-known fit indices ($\chi 2$) (shown in Table 6) were used to calculate the model's fit, including the chi-square value (and degree of freedom ratio, root mean square error of approximation value (RMSEA), comparative fit index (CFI), and Standardized Root Mean Square Residual (SRMR) (Hooper, Coughlan, & Mullen, 2008).

The Chi-Square ($\chi 2$) and degree of freedom ratio is an index to assess the model fit that can minimize the impact of minimum sample size. Cut-off scores for this index are suggested to be *p-value* > .05.

Root Mean Square Error of Approximation (RMSEA) is a measure that tries to fix the tendency of Chi-Square ($\chi 2$) statistic to reject the model with a large sample size. If the score is less than 0.08, it is indicate a good fit and if the score is less than or equal to 0.08, it indicates the model is fit enough.

The comparative fit index (CFI) is a measure for examination of the difference between the data and the proposed model when correcting for sample size issues inherent in the Chi-Square ($\chi 2$) test, as well as the fit index. It is really good for equal to greater than 0.80.

The square root of the difference between the residual of the observed covariance matrix and the hypothesized covariance model is the SRMR. When an instrument, such as a questionnaire, includes objects of different ranges, SRMR is useful. SRMR values of less than 0.08 are considered suitable.

Table 6

Fit indices (Hooper et al., 2008).

Goodness of Fit Criteria	**Value**
χ^2	*p-value* > .05
RMSEA	≤ 0.08
CFI	≥ 0.8
SRMR	≤ 0.08

CHAPTER IV

RESULTS OF STUDY I

This chapter comprises the analysis and interpretation of the results from study I. The study presents the result from scale development; construct clarification and SEM analyses among Thai JCB, motivation, engagement, and job performance.

Study I Scale development and construct clarification of job crafting behaviors among Thai healthcare professionals

Qualitative part: A semi-structured interview to investigate the dimensional factors of job crafting behaviors in the Thai healthcare contexts

Demographic data

With 20 participants, 70% of the participants were female, and 30% were male. Most of the participants were nurses (40%), followed by doctors (25 %), pharmacists (20%) and other professionals (less than 5%). The participants' average job tenure was 5.20 years. The average organization tenure was 5.40 years. The demographic profiles of participants are shown in Table 7.

Table 7

Demographic profiles from a semi-structured interview (N = 20).

Interview number	Gender	Role	Age (years)	Job tenure (years)	Organization tenure (years)
1.	Male	Doctor	43	6	10
2.	Female	Doctor	37	4	4
3.	Female	Doctor	36	3	3
4.	Male	Doctor	44	4	4
5.	Male	Doctor	44	6	2

6.	Female	Nurse	32	2	6
7.	Female	Nurse	42	9	9
8.	Male	Nurse	32	4	4
9.	Female	Nurse	36	6	6
10.	Female	Nurse	45	10	10
11.	Female	Nurse	34	4	4
12.	Female	Nurse	33	4	4
13.	Female	Nurse	35	5	5
14.	Female	Pharmacist	36	6	6
15.	Male	Pharmacist	32	3	3
16.	Female	Pharmacist	50	12	12
17.	Female	Pharmacist	35	3	3
18.	Female	Medical technician	32	4	4
19.	Female	Nurse assistance	34	5	5
20.	Male	Physical therapist	33	4	4

The core factor (themes)

The core factors of job crafting behavior were extracted from participants' responses. The responses from all participants revealed three dimensional factors of job crafting, including physical crafting, relational crafting, and cognitive crafting, which was consistent with the existing concept of job crafting. Furthermore, some participants stated that they used 'humor' to craft their job. This resulted in additional dimensions' which were found by Thai health care professionals.

Physical crafting was the first aspect of job crafting, and it entailed any actions taken by employees to change or modify the task boundaries, such as altering the number, scope, or form of tasks (Tims, Bakker, & Derks, 2013).

To extract the theme of job crafting from the interview, it entailed focused codes such as adding more tasks, emphasizing tasks by allocating more time, energy or attention, and redesigning tasks. The relevant examples of statements by participants were,

"Patients are divided equally or almost equally into morning/afternoon appointment rounds. It sometimes depends on the patients themselves. That

is, I try to schedule appointments for those who live far away from the hospital early in the morning so that they can get home before it gets dark. From time to time, I discuss the appointment-related matters with the nurses in charge."

"I change the treatment plan. For instance, the treatment in the wintertime, when there are more patients, differs from that in the summertime."

"I seek new techniques from medical device companies or from my senior colleagues' experiences so that I acquire new knowledge to be adapted for my job."

The second element of job crafting was relational crafting, which involved any employee actions that modified the relational boundaries or the interpersonal relationships while performing the job. This was altering the nature of quality or quantity of social contact (Wrzesniewski & Dutton, 2001).

To extract the theme of job crafting from the interview, it entailed structured codes such as developing relationships, reframing relationships, and adjusting relationships. The relevant examples of statements by participants were,

"I try to find colleagues with whom I can get along well. When I have something else on hand, I ask them to cover for me. Sometimes, being with friendly and joyful colleagues makes me feel at ease. That results in the patients feeling more relaxed as well."

"We work as a team. If we are close, it is easier to work together. The longer we stay at our job, the better we know each other and understand our working styles."

"After a period of time on the job, knowing colleagues from other sectors helps me with the intersectional coordination."

The third factor of job crafting was cognitive crafting, which involved on changing the ways employees perceive their tasks and the perception within their work sphere (Wrzesniewski & Dutton, 2001).

To extract the theme of job crafting from the interview, it entailed structured codes as to encouraging workers to reframe their thoughts about their jobs, and to have positive perception on their task. The relevant examples of statements by participants were,

"I learn that the meaning of my job is to save lives. At times, it feels like saving the entire family as some patients are the family's tower of strength. If the patients survive critical condition, it means they have a good chance of recovery before going back to look after their own family."

"I feel delighted. Sometimes, patients come back for surgical follow-ups or for expressing gratitude. As a healthcare professional, I am glad to have served them."

"I learn that the meaning of my job is to treat my patients in order to help them better their quality of life."

The new added to job crafting was humor (a new dimension), which was used to create a comfortable environment, less tension and lighten the work atmosphere between employees. The relevant examples of statements by participants were,

"Sometimes, when there are many patients, stress is inevitable. Creating an atmosphere interspersed with cracking jokes makes me work better."

"Having an exchange of humorous stories with friendly officials from other divisions helps my job go more smoothly.

"When I am under too much stress, I give myself a break by thinking about past funny stories. It makes me feel relaxed before getting back to work."

After the interview session, the newly developed job crafting model (called Thai JCB) was validated.

Content validity

The findings revealed the structure of existing job crafting (Physical, Relational, and Cognitive) with added dimensions 'humor.' Following the creation of the items, three experts reviewed the scales for relevance to the study's definition and rated the score. The result, according to the Content Validity Index (CVI), was shown to be affective, scoring more than 0.8. The result is given in an appendix D.

Quantitative part: Validating Thai JCB Scale

Analysis for the Thai JCB measurement model validation (construct, concurrent and convergent validation)

Demographic data

With 150 participants, 78.67% were female, and 21.33% were male. Most of the participants were pharmacists (34%), followed by nurses (32.66%), doctors (19.33%), dentists (5.33%) and other professionals (less than 5%). The participants' average job tenure was 8.15 years. The average organizational tenure was 7.37 years.

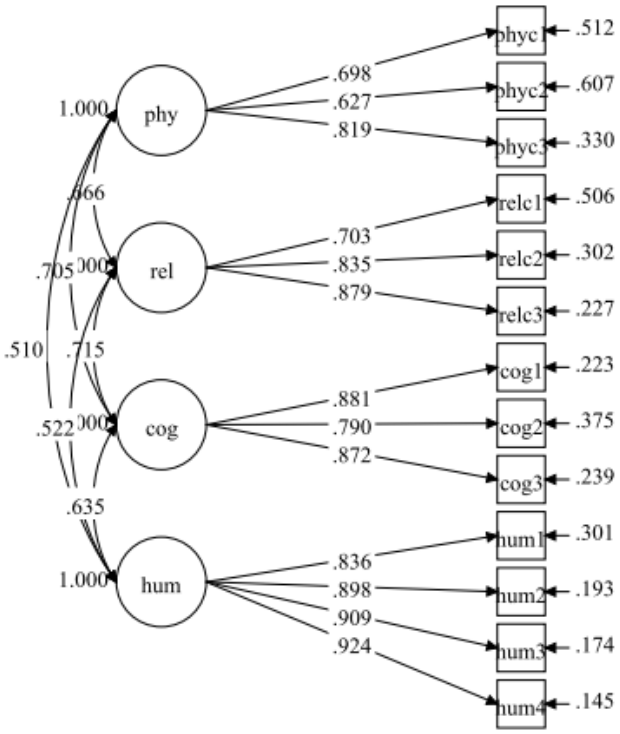
Construct validity

Construct validity was statistically examined using the Confirmatory Factor Analysis (CFA) to determine whether the factor structure was statistically model.

For 4 extracted factors, the empirical data with the model was validated as indicators as χ^2= 90.22, *df* = 59, CFI = 0.98, SRMR = 0.04, and RMSEA = 0.03, which assumed that the four factors can be clarified to a broader dimension of job crafting. The result was confirmed and consisted of 4 factors, which included physical crafting (phyc), relational crafting (relc), cognitive crafting (cog), and humor (hum). Figure 3 show that all of the items have a strong relationship with their respective factors. Regression coefficients for the factor of physical crafting range from 0.63 to 0.82 ($p <$ 01); for the factor of relational crafting, regression coefficients range from 0.70 to 0.88 ($p <$ 01); for the factor of cognitive crafting, regression coefficients range from 0.79 to 0.87 ($p <$ 01); and for the factor of humor, regression coefficients range from 0.84 to 0.92 ($p <$ 01).

Figure 3

The confirmatory factor analysis model.



Note. phy (phyc)= physical crafting, rel (relc)= relational crafting, cog= cognition crafting, hum= humor.

Moreover, the CFAs were used to assess whether the 4-factor model of Thai JCB fits the data better than the 3-factor model of the existing job crafting model by Niessen (2016).

The Akaike information criterion (AIC) and the Bayesian information criterion (BIC) were determined to address for the issue of fitting. By comparing with 2 model, The lower values of AIC and BIC criteria indicate a better fit of the model (Werner & Schermelleh-Engel, 2010).

Regarding parsimony fit measures, by comparing the Model Thai JCB, the AIC was 4049.92 and the BIC was 4185.39. The model from Niessen (2016), the AIC was 4197.85, the BIC was 4306.23. The 4-factor model of Thai JCB yielded lowers AIC and

BIC values compare to the 3- factor model. Thus, the Thai JCB indicate a preference for Model.

Concurrent validity

The concurrent validity result was validated, and significant correlation coefficients were performed between the Thai JCB scale and the existing well-established job crafting scales (r =.67; p<.01).

Convergent validity

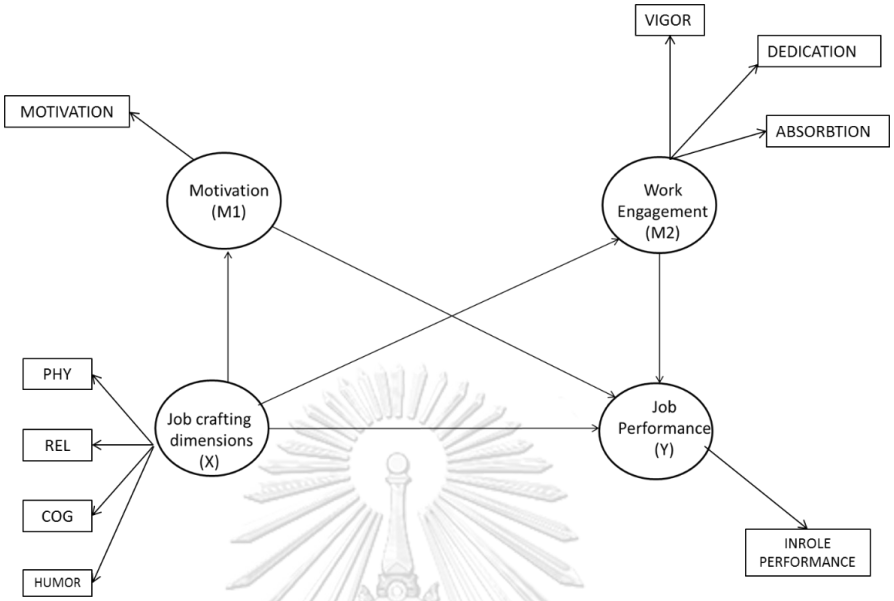
The result of convergent validity was validated, as significant correlations between the Thai JCB scale and self-efficacy (r =.31; p < .01) and between the newly developed job crafting scale and proactive personality (r =.45; p < .01).

Analysis for testing the structural model - the linkage among Thai JCB, motivation, engagement, and job performance (causal model validation)

The causal model of Thai JCB and its outcomes (Shown in Figure 4) were using Structural Equation Modeling (SEM) to test research hypothesis among Thai healthcare professionals (N = 260)

Figure 4

The causal model validity.



Note. PHY= physical crafting, REL= relational crafting, COG= cognition crafting

The causal model validity (Shown in Figure 4) answered the hypothesis as,

Hypothesis 1 Job crafting (physical, relational, and cognitive crafting) will positively predict intrinsic motivation.

Hypothesis 2 Job crafting will positively predict levels of work engagement.

Hypothesis 3 Job crafting will positively predict levels of job performance.

Hypothesis 4 Motivation will mediate the relationship between job crafting and job performance.

Hypothesis 5 Work engagement will mediate the relationship between job crafting and job performance.

Demographic data

From a total of 260 participants, 78.67% were female, and 21.33% were male. Most of the participants were nurses (40.23%), followed by pharmacists (23.37%), doctors (15.71%), dentists (10.34%) and other professionals (less than 10%). The participants' average job tenure was 7.49 years. And the average organizational tenure was 7.06 years.

The mean score of variables in the studies indicated that job crafting dimensions were 4.42 (*SD* =0.72) in physical crafting, followed by 3.64 (*SD* = 0.75) in cognitive crafting, 3.67 (*SD* = 0.75) in relational crafting, and 3.64 (*SD* = 0.69) in humor (as shown in Table 8).

Table 8

The mean score of variable in job crafting dimension and other variables (N = 260).

Variable	*M*	*(SD)*
Physical crafting	3.64	0.72
Cognitive crafting	4.03	0.75
Relational crafting	3.67	0.75
Humor	3.64	0.69
Motivation	4.22	0.54
Work engagement vigor	3.62	0.82
Work engagement dedication	3.63	0.73
Work engagement absorbtion	3.52	0.82
Performance	4.42	0.56

The causal model validation of job crafting

The Structural Equation Modeling (SEM) was used to examine research hypothesis. The results showed that the model fit well with the data. Model indices demonstrated adequate fit with $\chi 2$=55.39, *df* = 21, CFI = 0.93, SRMR = 0.04, RMSEA = 0.02. The model was composed of 4 latent variables from 9 observed variables. The latent variables were classified into 1 result variable (job performance) and 1 causal variable (job crafting) and 2 mediators (motivation and work engagement).

In addition, the study of structural model was confirmed by the variables correlation. The high correlation result between variables was implied as the same construct. For the low correlation, it was implied as different constructs.

In the current study, the correlation of the variables (shown in Table 9), demonstrates low correlations (less than 0.5). Thus, the construct of the structural model of 4 factor model of Thai JCB, motivation, engagement and job performance was confirmed.

Table 9

The correlation of latent variable.

	Physical crafting	Relational crafting	Cognitive crafting	Humor	motivation	Engagement vigor	Engagement dedication	Engagement absorption	performance
Physical crafting	1.000								
Relational crafting	**0.506**	1.000							
Cognitive crafting	**0.425**	**0.422**	1.000						
Humor	**0.301**	**0.137**	**0.364**	1.000					
Motivation	**0.031**	**0.050**	**0.239**	**0.190**	1.000				
Engagement vigor	**0.210**	**0.147**	**0.223**	**0.044**	**0.111**	1.000			
Engagement dedication	**0.295**	**0.162**	**0.236**	**0.063**	**0.097**	**0.628**	1.000		
Engagement absorption	**0.337**	**0.235**	**0.208**	**0.240**	**0.026**	**0.333**	**0.588**	1.000	
performance	**0.007**	**0.052**	**0.160**	**0.089**	**0.224**	**0.240**	**0.182**	**0.111**	1.000

Note. Bold values significant at P < .05 level

From the Structural Equation Modeling, all causal variables in the model had positive effects on job performance. Considering the important sequence of the causal variable from the total effect value, it was found that job crafting had a higher significant positive effect on work engagement ($\boldsymbol{\beta}$ =.43, p < .05) than the effect on motivation ($\boldsymbol{\beta}$ = .16, p < .05).

Work engagement and motivation, had a significant positive effect on job performance ($\boldsymbol{\beta}$ =.16, p < .05 and $\boldsymbol{\beta}$ =.25, p <.05 respectively). Thus, the pre-condition for mediation was met for the job crafting–motivation-job performance link and the job crafting– work engagement – job performance link.

In order to present the full mediation, the results indicated a significant indirect effect of Thai JCB to the job performance via the motivation ($\boldsymbol{\beta}$ = .40, p < .05). Similarly, there was also a significant indirect effect of Thai JCB to the performance via the engagement ($\boldsymbol{\beta}$ =.07, p < .05). The results indicated the positive direct effect of Thai JCB to performance was not statistically significant ($\boldsymbol{\beta}$ = .03, ns.) when the mediators were added. This implied that the motivation and engagement variables in the study were full mediation. The results of the structure models are shown in Table 10 and Figure 5.

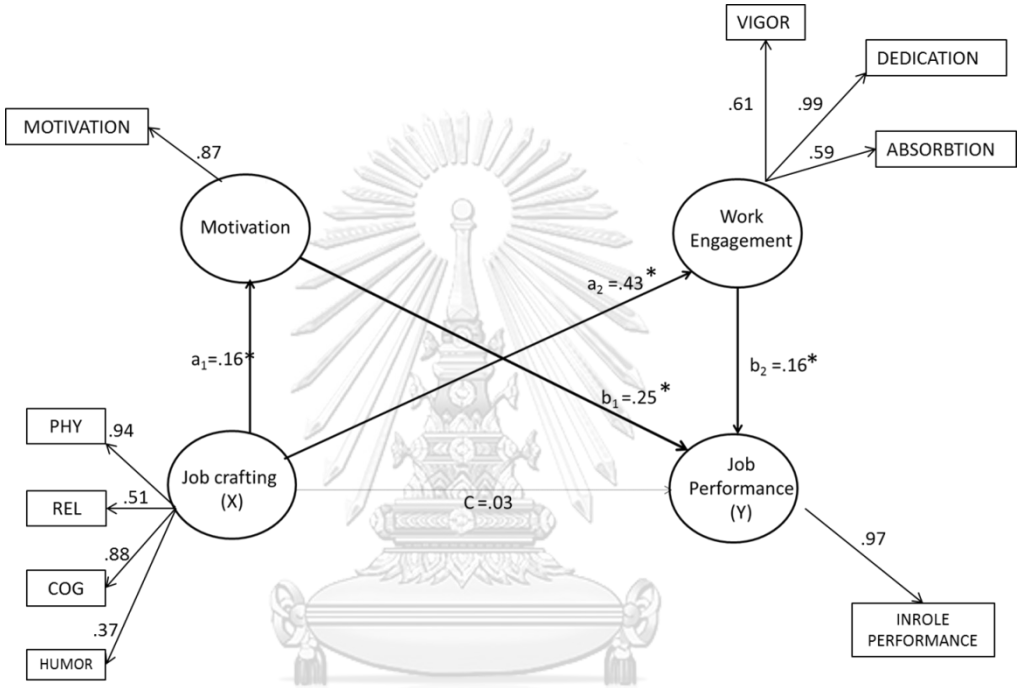
Table 10

The Standard coefficients of the model.

Effect Estimate	$\boldsymbol{\beta}$	Standard Error	*P* value
Thai JCB⟶Motivation	.16	.07	.018
Thai JCB⟶Work engagement	.43	.09	.000
Thai JCB⟶ Job performance	.03	.06	.632
motivation⟶ Job performance	.25	.07	.000
engagement⟶ Job performance	.16	.07	.021
Thai JCB⟶Motivation⟶Job performance	.04	.02	.044
Thai JCB⟶Work engagement⟶Job performance	.07	.03	.034

Figure 5

Results of the structure models.



Note. PHY = physical crafting, REL= relational crafting, COG= cognition crafting

Total effect (c') = ab+c, c_1'= 0.07 , c_2'= 0.098

According to Table 16, the factor loading in job crafting sub-variables shows that physical crafting has a higher loading factor than the other sub-variables, followed by cognitive crafting, relational crafting, and humor. When considering the coefficient of determination, the model presents an appropriate predictive power for dependent variables.

Tables 11 with the values of variance (R^2), the predictors of Thai JCB explain with positive of variance in for all variables. The highest variance (R^2) is explained by

engagement for the engagement (19%) and followed by performance (9%) and motivation (3%).

Table 11

The values of estimate and variance (R2) of variables.

Variables	β	Standardized error	*P*- value	variance (R^2)
Job performance				0.09
In role performance	.97	.00	.000	
Motivation				0.03
Motivation	.87	.01	.000	
Thai JCB				
Physical crafting	.94	.09	.000	
Relational crafting	.51	.06	.000	
Cognitive crafitng	.88	.09	.000	
Humor	.37	.06	.000	
Work engagement				0.19
Vigor	.61	.05	.000	
Dedication	.99	.09	.000	
Absorbtion	.59	.05	.000	

Based on the values of the estimate of the causal model of job crafting, all of the proposed research hypotheses were supported. The proposed model's predictive ability was positively since all R-square values are greater than 0.03 (Falk & Miller, 1992; Ritchey, 2000).

Summary of Major Findings in study I

The study I presented the results of the scale development and construct clarification with structural equation model among Thai healthcare professionals. Overall, the hypothesized model was well-fitted with the observed model data. Based on these results, the null hypothesis was retained.

The results from Study I provided an empirical support for the validity of the newly developed job crafting scale (Thai JCB) in the Thai health care context. It was further used for developing the intervention program and used as a questionnaire for assessing job crafting behaviors, and relating variables of work engagement and job performance within the job context in Study II.

CHAPTER V
METHOD OF STUDY II

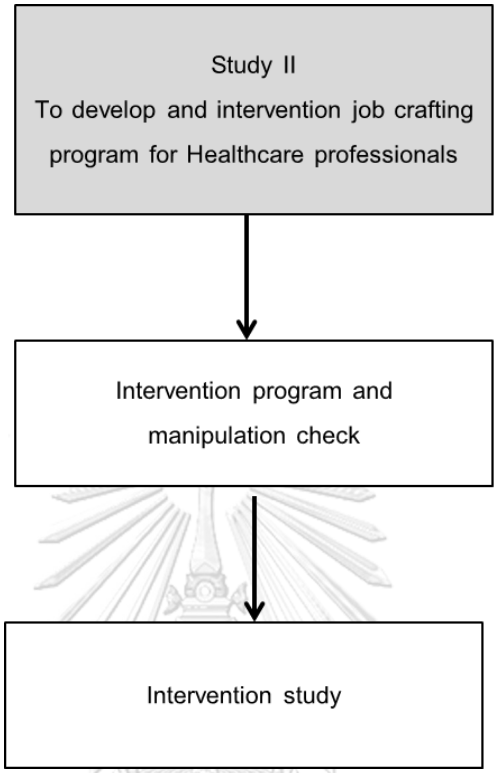
The main purpose of this chapter is to develop the job crafting interventions to enhance employees' work motivation, engagement and performance among Thai healthcare professionals. The methodology and research procedures used in both studies are presented in this chapter.

Study II The job crafting intervention for healthcare professionals to increase levels of work engagement and job performance

In Study II, job crafting intervention was employed to examine its effectiveness on motivation, work engagement and job performance using pretest (T1), posttest (T2) and follow up (T3) designs. The process of Study II is displayed in Figure 6.

Figure 6

The process of Study II.



Intervention program and manipulation check

There were the studies provided empirical support that job crafting action was the alternative method for job redesign (Gordon, 2018). Evidence of the positive outcomes from job crafting activities was a promising method for increasing work engagement and job performance(Vogt, Hakanen, Brauchli, Jenny, & Bauer, 2016).

The intervention in this study was developed based on the existing job crafting concept and guidelines of the Michigan Job Crafting Exercise (JCE) from Wrzesniewski and Dutton (2001) and Tims et al. (2012).

Due to the spreading of the COVID-19 disease in Thailand since January 22, 2020, and its influencing factors from governmental for all enforcement, the social distancing has been regulated with the collaboration of all sectors. Thus, the intervention program in this study was launched with the support of the online platforms (such as google meet, zoom program) through the whole participants.

The intervention program

The program and assessment were carried out through individual online networks (e.g. database or capturing 'live' data) by the researcher as the facilitator of the intervention programs.

The intervention program consisted of 3 sessions (2-3-hour for each session) for both the intervention group and control group, Session1: Introduction (to provide the job crafting concept), Session 2: Reflection (to reflect the outcomes obtained from the intervention in real practices), and Session3: Follow up (to reflect the outcomes in a long-term period). The online intervention program (for intervention group and control group) was planned as seen in Table 12.

Table 12

Planning	Activities for intervention group	Activities for control group
1) Session1	**introduction** **treatment :** – The information of job crafting concept with humor – formulation with their own current job with the dimensions of job crafting to log book **Questionnaire:** Thai JCB (pretest) Job crafting concept (pre and post-test)	**introduction** **treatment :** – The general information of working diary note **Questionnaire:** Thai JCB (pretest)
2) Two weeks Real practice	**treatment :** following the log book	**treatment :** diary note
3) Session 2	**Reflection by the researcher** **Questionnaire:** Thai JCB (post-test)	**Reflection by the researcher** **Questionnaire:** Thai JCB (post-test)
4) Two weeks Real practice	**treatment :** following the log book	**treatment :** diary note
5) Session 3	**Follow up** Questionnaire: Thai JCB (post-test) **and** Qualitative interview	**Follow up** Questionnaire: Thai JCB (post-test)

***The summary of online intervention program (for intervention group and control* group).**

The online intervention program for intervention group

Session 1: Introduction to job crafting concept

Prior the intervention session, participants were asked to complete the Thai JCB test (to rate how often they engaged in job crafting behaviors, the levels of their

motivation, engagement and job performance). The pretest was conducted to determine the initial level of study variables before the intervention program.

Then, the intervention program started with participants' discussion on how they craft their current job. After that, the general information about job crafting and humor (with VDO presentation as seen in figure7) was provided to the participants for integration and formulation with their own current job as the following steps:

- Diagnosing tasks based on Berg et al. (2013): Participants were asked to make an enumeration of their current tasks. A key element of this step was the requirement to make a list of all current tasks and then rank them in order of importance for completing them (Berg, Dutton, Wrzesniewski, & Baker, 2013).
- Asking participants to craft their job: Participants considered their tasks that indicate what or how they would like to craft. This indication was for reframing their tasks on their purpose.
- Formulating the action plan for crafting their job: Participants were asked to formulate the job crafting action plan, consisting of the changes in the work situation during the week as the real practice, example as seen in Table 13.

Figure 7

VDO presentation for intervention group (session 1).

Table 13

Example of job crafting action plan.

Job crafting	Example of job crafting action plan
Physical crafting	– I am going to start the new treatment project with colleagues. – I will send the patient report within a day. – I will try to schedule the meeting in the afternoon to avoid being interrupted the busy tasks in the morning.
Relational crafting	– I will discuss with my team to divide patient care and treatment. – I will go to have lunch with another team to increase the social cohesion.

Cognitive crafting	– I will remind myself by perceive the value of the tasks.
Humor crafting	– I will think or let the humorous or comedian things to reduce the feelings of stress and anxiety at work.

For session 1, participants with individual agreements were reached with researchers via online platforms. At the end of this session, the Thai JCB, motivation, engagement and job performance scale were distributed to the participants as the post-test. In addition, the new job crafting action plan was concluded (to real practice) in this session.

Two weeks real practice with crafting logbook

During the two weeks, participants put the job crafting action plan from Session 1 into real practice. Participants needed to keep up an action plan *with the 'crafting logbook'* (as seen in Table 14). They were asked to follow the plan's instructions and report on their crafting activities in detail. Every day, the actions in the logbook were updated and sent online, such as via social media application 'line' or email to the researcher.

Table 14

Example of job crafting 'crafting logbook'.

Crafting log book									
แผนกิจกรรมของฉัน DAILY ACTIVITY			**ใส่เครื่องหมาย √ เมื่อทำกิจกรรมนั้นแล้ว**						
เวลา (Time)	**กิจกรรมที่วางแผน (Plan to do – log book)**	**(Note)**							
สัปดาห์ที่ 1	แบ่งเป็นช่วงเวลา ที่มีความเป็นไปได้ที่จะทำ		วันที่1	วันที่2	วันที่3	วันที่4	วันที่5	วันที่6	วันที่7
9.00	ปรับเช็กลำดับอุปกรณ์ ยา		√	√	√	√	√	√	√
10.00	ดีลกับหมอประจำวอร์ด ผ่านเอกสารมากกว่าการโทรศัพท์			√	√	√			
11.00									
12.00	พักกลางวันผ่านการทำความรู้จักกับแพทย์อาศัยช่วงการจัด conference				√	√			
13.00									
14.00	ได้ช่วยดูแลชีวิตหนึ่งที่กำลังจะลืมตามาดูโลก		√	√	√	√	√	√	√
15.00	ดีลกับรุ่นน้องถึงข้อผิดพลาดหรือข้อที่ดีในช่วงส่งเวร ไม่ลืมว่าไม่ควรตึงเครียดมากนักให้มีการใช้อารมณ์ขันด้วย				√	√	√	√	√
สัปดาห์ที่ 2									
9.00	ปรับเช็กลำดับอุปกรณ์ ยา		√	√	√	√	√	√	√
10.00	ดีลกับหมอประจำวอร์ด ผ่านเอกสารมากกว่าการโทรศัพท์		√	√	√	√	√	√	√
11.00									
12.00	พักกลางวันผ่านการทำความรู้จักกับแพทย์อาศัยช่วงการจัด conference		√	√		√		√	√
13.00									
14.00	รู้สึกดีที่ได้ดูแลชีวิตหนึ่งที่กำลังจะลืมตามาดูโลก		√	√		√	√	√	√
15.00	ดีลกับรุ่นน้องถึงข้อผิดพลาดหรือข้อที่ดีในช่วงส่งเวร ไม่ลืมว่าไม่ควรตึงเครียดมากนักให้มีการใช้อารมณ์ขันด้วย		√	√	√	√	√	√	
.....									

Session 2: Reflection

Participants were asked to meet up with a researcher again via an online platform, to exchange their experiences from the intervention program. Participants were then asked to complete the post-test questionnaires to measure their levels of Thai JCB, motivation, engagement and job performance (as the post-test, T2).

Two weeks real practice without crafting logbook

During the two weeks, participants put the job crafting action plan from Session 1 into real-world practice, just as they did the previous two weeks.

Session 3: Follow up

Participants were asked to meet up with a researcher again via an online platform. Participants received the questionnaire of a new job crafting intervention to measure their levels of Thai JCB, motivation, engagement and job performance (as the follow up, T3). Some participants (who gained the highest, mean and lowest score from the questionnaire) were asked for the interview for their experiences and feedback, in order to provide a deliberating part and further development of the intervention program.

The online intervention program for control group

The control group was conducted in another hospital (the same department and level type of hospital as the intervention group)

Session 1: Completing pre-test questionnaires and discussing about working lives

This session was met up via individual online platform, with distributing the pre-test questionnaires (Time 1) including Thai JCB, motivation, engagement and job performance. Then, the intervention program started with the introduction of concept and procedure of working diary note plan (by VDO presentation as seen in figure 8).

Two weeks: A diary note

During the two weeks, participants wrote their working diary. They received a diary logbook, which involved to reporting their usual working activities. The actions with diary notes were sent online, such as social media application ‘line’ or email to the researcher every day.

Session 2: Reflection

Participants were asked to meet up again with a researcher via online platform to exchange their experiences from the intervention program. Participants were then asked to complete the post-test questionnaires to measure their levels of Thai JCB, motivation, engagement and job performance (as the post-test, T2).

Two weeks: Doing their regular duties without working diary

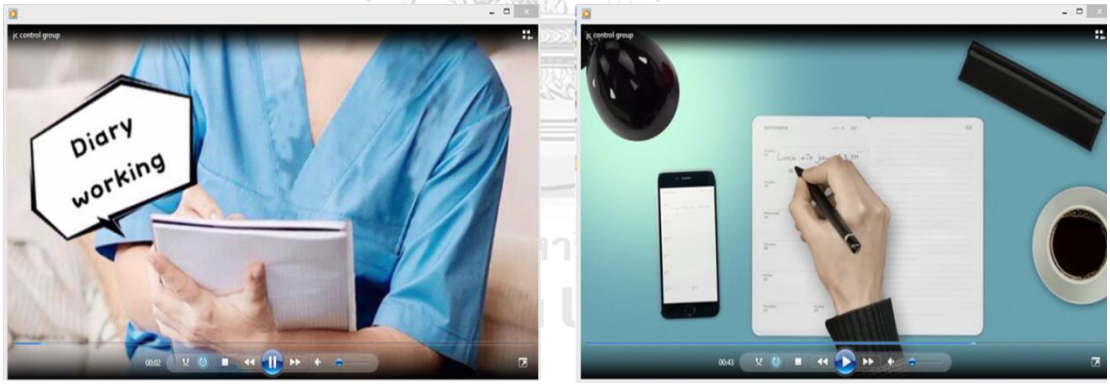
During the two weeks, participants wrote their working diary as same as 2 weeks before.

Session 3: Follow-up

Participants were asked to meet up with a researcher again via online platforms to receive the follow-up questionnaire (Time 3) of Thai JCB, motivation, engagement and job performance.

Figure 8

VDO presentation for control group (session 1).



Job crafting program manipulation check

The program manipulation check was conducted as the pilot study to settle the concept of the online intervention program before running the program in this study.

The manipulation check was explored in a small group of healthcare professionals (as a training group), who were as similar as possible to the target population. The researcher asked for permission from the director of hospitals. For

the manipulation check, participants took part in the program as the first session of the intervention program. And the job crafting concept questionnaires were distributed to the participants at the beginning and at the end of the program (pre and posttest). The paired samples *t*-test in SPSS statistics was used for data analyses to ensure the concept of job crafting intervention program among health care professionals.

The program manipulation check (pilot study) was carried out with 20 participants (almost female nurses), with the mean ages of 30.24 years old and with the 5-10 years of job tenures. Participants were on pretest and posttest to Thai JCB intervention program concept – how to craft their job. The result found the effectiveness of job crafting program. The posttest had (*M=96.25, SD=9.158*) higher score than the pretest (*M=20.75, SD=4.543*), with the statistically significant level of .05 (*t =15.069, df =19*).

Intervention study

The intervention study used an embedded experimental design in 2 groups (for the intervention group and control group). Collecting the data for each group was conducted in the two hospitals. Both groups consisted of pre- and post-measurements of Thai JCB, motivation, engagement and job performance (the scales were developed and validated in Study I).

Setting

The online intervention was conducted in 2 public hospitals (control and intervention group), Thailand.

Sample population

The estimated sample size was 50 participants (25 participants for each group, control and intervention). Using the G*Power 3 program, the sample size was estimated using an impact size (Cohen's d) of 0.35, an alpha error rate of 0.05 (two-tailed), and a beta error rate of 0.20, based on a previous analysis by Sakuraya (2016)

(Sakuraya, Shimazu, Imamura, Namba, & Kawakami, 2016). Participants were recruited from healthcare professionals. Inclusion criteria were the full-time working staffs, who have been working for at least 6 months prior to the study period. Administrative and supportive staff workers in Thai healthcare were excluded.

Recruitment

After getting the ethical permission, the purposive sampling technique was used to obtain the healthcare professionals from 2 hospitals. Researcher asked for the permissions from the hospitals' director to conduct the individual online job crafting intervention workshop with specific dates and time. With a total of 50 participants, 25 in the intervention group and 25 in the control group were selected from the people who were interested in the intervention program. The purpose of the study was explained and informed consent was provided for all participants

Instrument

This study used the self–report questionnaires including

Section 1: The demographic data questionnaire included; age, gender, working units, job tenure and organization tenure.

Section 2: The questionnaire was the Thai JCB, motivation, engagement and job performance from Study I.

Data analysis

The demographic data was analyzed with SPSS. The data was controlled for intervention effect.

The outcome variables were analyzed with: 1) Repeated measures ANOVA analyses, 2) applying the structural equation modeling, latent growth curve modeling (LGCM) and 3) *Content analysis from the feedback and recommendation interviews*

1) Repeated measure ANOVA

To assess the impact of intervention, Repeated measure ANOVA was used to test the variable multiple times. Within the study, the objective was to investigate the impact of intervention on motivation, work engagement, and job performance over time from the pretest (T1), each of the biweekly posttests (T2), and the follow up (T3). The Statistical Package for Social Sciences (SPSS) version 22.0 was used to analyze. An alpha value (α) of .05 (level of significance) was used for statistical analysis.

2) The latent growth curve modeling (LGCM) with Bayesian estimation

LGCM (latent growth curve modeling) is a structural equation modeling technique for analyzing inter- and intrapersonal variable changes. It was used to investigate the change in outcome variable (with mediator variables) over time. In the sense of study, the problem of sample size is one of the important limitations in LGCMs. Larger sample sizes are required (Depaoli, Rus, Clifton, van de Schoot, & Tiemensma, 2017).

With the employment of LGCMs, the high sample numbers were not possible in current study due to the Covid-19 situation and the experimental design using three-wave longitudinal study. Thus, the study was to apply the LGCM (latent growth curve modeling) with Bayesian estimation as the alternative methods which use as the estimation for increasing the power to detect effects with Mplus program (Kaplan, 2014).

The typical Bayesian estimation consists of three main concept 1) capturing available knowledge about a given parameter in a statistical model, which is typically determined before data collection; 2) determining the likelihood function using the information about the parameters available in the observed data; and 3) combining both the prior distribution and the likelihood function using Bayes' theorem in the form of *the posterior distribution*. The posterior distribution reflects one's updated knowledge, balancing prior knowledge with observed data, and is used to conduct inferences. (Depaoli et al., 2017; Van de Schoot et al., 2014)

Before using the Bayesian estimation, all variable matrices should be considered for the criteria. For example as 1) a sequence data from *the posterior distribution* will be generated for criteria via the Gibbs sampler. The Gibbs sampler is a Markov Chain Monte Carlo (MCMC) methods technique that generates a sequence of random observations from the conditional of posterior distribution parameters. The researcher can create and implement the algorithm by using WINBUGS. 2) The *convergence test* of the model parameters, which is engendered by Brooks Gelman-Rubin (BGR) convergence statistics. In addition, 3) the accuracy of the posterior

estimates are also inspected (S.-Y. Lee, 2007; Spiegelhalter, Thomas, Best, & Lunn, 2003).

In order to identify effects with the Mplus software, Table 15 shows an example of LGCM with Bayesian estimator syntax. The syntax is included all required code to estimate a Bayesian LGCM as 'ESTIMATOR = BAYES', follow by the 'Model' of LGCM and the main addition 'MODEL PRIORS'.

in the 'MODEL' syntax was for to investigate the mediator (motivation and work engagement) and the outcome variable (job performance) change over three time points (pre-test (T1), post-test (T2), and follow-up (T3), in the 'MODEL' The intercept (estimated starting point) and the slope (estimated growth curve) of LGCM were also indicated to the model. The factor loadings for the intercept growth factor is set to 1, while the factor loadings for the slopes is set to 0, 1, and 2 through time points, respectively (as seen in table 15 and Figure 9).

The study by Kaplan and Depaoli (2012) were recommended that the 'MODEL PRIORS' demonstrated as the prior knowledge with observed data, and for to conduct inferences to the study. MODEL PRIORS' should be defined with same study construct and include from the prior multiple sources, including (1) using previous accuracy research findings (2) data-splitting techniques, (3) data-driven priors, and (4) expert elicitation. Thus, the 'MODEL PRIORS' can be substantively or theoretically justified (Kaplan & Depaoli, 2013).

In the current study, the example of 'MODEL PRIORS' was defined the estimating data from the prior studies of job crafting intervention by Sakuraya (2020) and Van Wingerden (2017)(Sakuraya, Shimazu, Imamura, & Kawakami, 2020; Van Wingerden, Bakker, & Derks, 2017). The defined example of the 'MODEL PRIORS' parameter in the current study is shown in Table 16.

Table 15

The example syntax of LGCM with Bayesian estimator.

Code in Mplus for the LGCM
M plus VERSION 7
MUTHEN & MUTHEN
xx/xx/20xx 1x:00 AM
INPUT INSTRUCTIONS
TITLE: lgcm;
DATA:
FILE IS 'C:.....dat';
VARIABLE:
NAMES ARE JC mopre mopos mofol enpre enpos enfol pepre pepos pefol;
USEVARIABLES ARE JC mopre mopos mofol enpre enpos enfol pepre pepos pefol;
ANALYSIS:
ESTIMATOR = BAYES;
fbiterations=10000;
MODEL:
mi ms | mopre@0 mopos@1 mofol@2;
mopre (1);
mopos (1);
mofol (1);
ei es | enpre@0 enpos@1 enfol@2;
enpre (1);
enpos (1);
enfol (1);
pi ps | pepre@0 pepos@1 pefol@2;
pepre (1);
pepos (1);
pefol (1);
ms on JC;
es on JC ;
ps on JC es ms ei mi;
mi on JC;

ei on JC;

pi on JC;

ps on jc;

mi*;ms*;

[mi*](a1);

[ms*](b1);

ei*;es*;

[ei*](a2);

[es*](b2);

pi*;ps*;

[pi*](a3);

[ps*](b3);

MODEL PRIORS:

a1∼N(4.76,0.81);

b1∼N(4.82,0.77);

a2∼ N(3.01,1.12);

b2∼ N(2.81,1.21);

a3∼N(4.25, 0.30);

b3∼N(4.74,0.49);

MODEL CONSTRAINT:

NEW (indirect);

indirect = a*b;

PLOT:

type=plot2;

OUTPUT:

STANDARDIZED TECH1 TECH8;

Note. 'a1' to represent the estimating intercept which is coded as '[mi*](a1)' in Mplus. 'a2' to represent the estimating slope which is coded as '[mi*](b1)' for motivation

In the model priors command, that identification name is used to specify the prior, in this case a1∼ N (3.01,0.16); – indicating a1 (i.e., the intercept) is distributed (∼) as a normal distribution (N) that is means at 3.01 with a variance of 0.16. This is the main addition to converting the base code to be Bayesian.

Table 16

The defined example of the 'MODEL PRIORS' parameter.

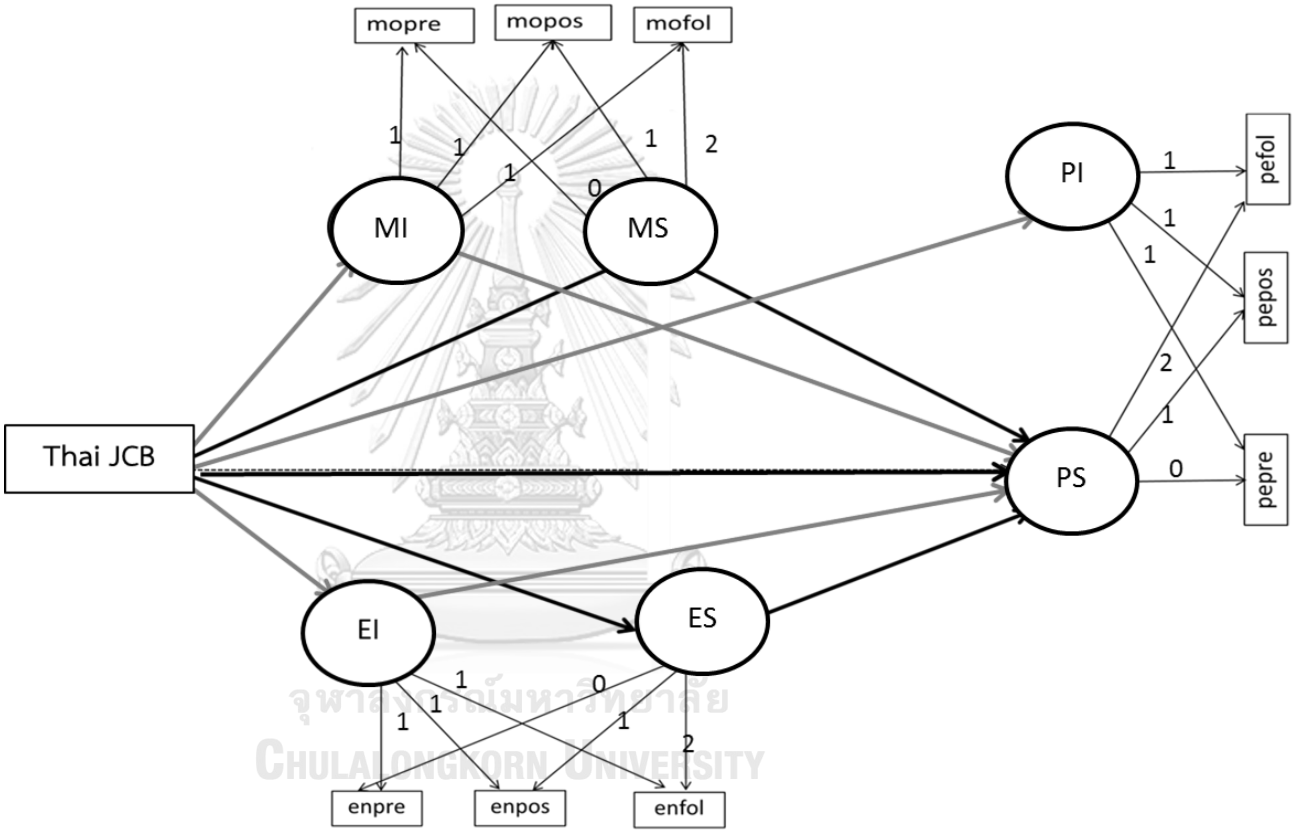
Parameter	values of 'MODEL PRIORS'	Source of 'MODEL PRIORS'
'a1' to represent the intercept;	With / without Normal Distribution Mean = 4.76, Variance = 0.81, Prior: *N* (4.76, 0.81)	Recommended by the study of Tuckey (2012), mean and variance of motivation was derived from the study by Van Wingerden (2017) '*The longitudinal impact of a job crafting intervention*' that
'b1' to represent the slope;	With / without Normal Distribution Mean = 4.82 Variance = 0.77 Prior: *N* (4.82,0.77)	Recommended by the study of Tuckey (2012), mean and variance of motivation was derived from the study by Van Wingerden (2017) '*The longitudinal impact of a job crafting intervention*'
'a2' to represent the intercept;	With / without Normal Distribution Mean = 3.01, Variance = 1.12 Prior: *N* (3.01,1.12)	Mean and variance of motivation was derived from the study by Sakuraya (2020) '*Effects of a Job Crafting Intervention Program on Work Engagement Among Japanese Employees: A Randomized Controlled Trial*'
'b2' to represent the slope;	With / without Normal Distribution Mean = 2.81, Variance = 1.21 Prior: *N* (2.81,1.21)	Mean and variance of motivation was derived from the study by Sakuraya (2020) '*Effects of a Job Crafting Intervention Program on Work Engagement Among Japanese Employees: A Randomized Controlled Trial*'
'a3' to represent the intercept;	With / without Normal Distribution Mean = 4.25, Variance = 0.30, Prior: *N* (4.25, 0.30)	Mean and variance of motivation was derived from the study by Van Wingerden (2017) '*The longitudinal impact of a job crafting intervention*'
'b3' to represent the slope;	With / without Normal Distribution Mean = 4.74 Variance = 0.49	Mean and variance of motivation was derived from the study by Van Wingerden (2017) '*The longitudinal impact of a job*

	Prior: *N* (4.74,0.49)	*crafting intervention'*

Note. For a1 and b1: Referred to the study of (Tuckey, Bakker, & Dollard, 2012), the study indicated that the mean and variance of motivation as evolved to the level of work engagement in the study by Van Wingerden (2017)

Figure 9

Latent growth curve model of the group effect on the work engagement. (WE) and job performance (JP).



Note. MI= latent intercept of motivation, MS = latent slope of motivation, mopre= Pre-test of motivation, mopos= Post-test of motivation, mofol = Follow-up of motivation, EI= latent intercept of engagement, ES = latent slope of engagement, enpre= Pre-test of engagement, enpos= Post-test of engagement, enfol = Follow-up of engagement, PI= latent intercept of performance, PS = latent slope of performance, pepre= Pre-test of performance, pepos= Post-test of performance, pefol = Follow-up of performance

To quantifying model fit By LGCM with Bayesian estimator, is to compute Bayesian posterior predictive *p* values (*ppp* value). The *ppp* value represents the

location of an observed statistic relative to the posterior predicted distribution. In order to indicate the model-data fit, the prior study refer that the *ppp* values around 0.05 and 0.20 could be considered approximately fit model (Asparouhov & Muthén, 2010, 2021; Van de Schoot et al., 2014).

3) Content analysis from the feedback and recommendation interviews

In addition, in the final session (follow up, T3), 5 participants were invited to provide feedback and recommendations to the intervention program. Purposive sampling was used by participants who received the highest, median, and lowest scores in motivation engagement and performance in the posttest (when compared to the pretest).As noted by Creswell (1999), the interview part was held at a single point of time via online and was recorded for later transcription used for analysis. The cover letter and research consent form were provided for the participants for assurances of the anonymity, and confidential nature of the responses (J. W. Creswell, 1999). The interviewer provided the guideline instrument that includes open-ended questions about the intervention experiences. The interview questions and protocol were validated by professionals in this field.

Data analysis (the feedback and recommendation interviews)

The content analysis was undertaken. Each respondent essentially answered the same questions. The open-ended responses to each question were recorded. The quotations were included in the text to exemplify typical responses.

CHAPTER VI
RESULT OF STUDY II

This chapter comprises the analysis and interpretation of the results from study II. The study is based on the result of job crafting interventions program among Thai healthcare professionals.

The longitudinal data was used to investigate the role of job crafting intervention programs in improving healthcare professionals' motivation, work engagement and job performances (pre-test, post-test, and follow-up time).

The analysis is enclosed in 3 parts: 1) Repeated measures ANOVA was conducted to investigate the change over time comparing within group (3 times) and between groups (intervention and control group). 2) LGCM was used to evaluate the model with mediating variables and the impact of the intervention on job performance. 3) Content analysis was used to analyse the recommendations from the participants in follow-up time.

For the job crafting intervention, the results in accordance with the research hypothesis as,

Hypothesis 6 Those healthcare professional participants in the job crafting intervention group will have higher levels of motivation, work engagement and job performance after the intervention than those in the control group.

Hypothesis 7 After participating in job crafting intervention programs, the levels of motivation, work engagement and job performance will increase over time.

Hypothesis 8 Motivation will mediate the relationship between job crafting and job performance over time.

Hypothesis 9 Work engagement will mediate the relationship between job crafting and job performance over time.

Demographic data

In the intervention group, the number of participants was 25. The average ages of participants were 31- 40 years and most of them were female nurses. The participants' average job tenure was 5-10 years. The average organization tenure was 5-10 years.

In the control group, the number of participants was 25. The average ages of participants were 31- 40 years and most of them were female nurses. The participants' average job tenure was 5-10 years. The average organization tenure was 5-10 years

1) Repeated measures ANOVA

Pearson Chi-Square tests and Independent t-tests were used to analyze the baseline demographic between the intervention and control groups. On demographic characteristics, there were no significant differences between the intervention and control groups (As shown in Table 15).

Table 17

The characteristics of the intervention and the control groups (N = 50).

Characteristics	Intervention group (*n* =25)		Control Group (*n* = 25)		χ^2	*p* -value
	n	%	*n*	%		
Gender						
Female	25	100	25	100	.00	.98
ages of participants						
21-30	11	44	4	16.00		
31-40	14	56	20	80.00		
41-50			1	4.00		
work experience (years)						
< 5	10	40	1	4.00	.80	.84

5-10	12	48	21	84.00		
10-15	3	12	2	8.00		
15			1	4.00		
worked in the organization						
< 5	10	40	1	4.00	.80	.84
5-10	12	48	21	84.00		
10-15	3	12	2	8.00		
15			1	4.00		

Assumptions for Repeated measures ANOVA

Repeated measures ANOVA was performed with a 2 x 3 design (group x time). The between-subjects factor was the intervention and control group. The within-subjects factor was time with three levels: pre-test (T1), post-tests (T2), and the follow up (T3). Two-way Repeated measures ANOVA was used to examine the differences in each outcome variable (motivation, engagement and performance) between groups and across three time periods.

The assumptions for Repeated measures ANOVA were tested prior to conducting the analysis, as detailed below:

To obtain normality of variances, the skewness, kurtosis, Shapiro-Wilk and Man Whitney U tests were used (Moser & Stevens, 1992).

To obtain homogeneity of variances and co-variances the sphericity assumption using Mauchly's test referred to use in this study. If there was a breach of sphericity (p<.05), the Greenhouse-Geisser model will be used, which has been modified for the assumption violation (Haverkamp & Beauducel, 2017).

The result in the current study was found to have both in obtaining normal distribution and homogeneity of variances.

To test the hypotheses, the Repeated measures ANOVA was performed separately with three dependent variables (motivation, work engagement and job performance). The result included one within-subjects factor, that indicated the level of dependent variables regarding job crafting intervention across time (T1, T2, and T3) and one between-subjects factor (intervention and control group).

The mean score results (as shown in Table 18) at T1, T2 and T3 of job crafting dimension in the intervention group were 2.76 (*SD* = 0.34), 3.40 (*SD* = 0.67) and 3.90 (*SD* = 0.66) respectively. Physical crafting had the highest mean score of 3.73 (*SD* = 0.76) at T2, followed by cognitive crafting 3.56 (*SD* = 0.35), relational crafting 3.50 (*SD* = 0.80), and humor 3.02 (*SD* = 0.27).When comparing at T3, the physical crafting also gained the highest mean score of 4.28 (SD =0.59), followed by cognitive crafting 4.11 (*SD* = 0.62), relational crafting 4.06 (*SD* = 0.71) and humor 3.73 (*SD* = 1.03).

With the three outcome variables (motivation, work engagement and job performance) in the intervention group, the mean score results of motivation were higher respectively from 2.57 (*SD* = 0.44) at T1 2.82 (*SD* = 0.80) at T2 4.54 (*SD* = 0.50) at T3. The mean score results of engagement were higher respectively from 2.82 (*SD* = 0.76) at T1 3.95 (*SD* = 0.64) at T2 4.69 (*SD* = 0.44) at T3. And the mean score results of performance were higher respectively from 2.46 (*SD* = 0.09) at T1 4.42 (*SD* = 0.54) at T2 4.79 (*SD* = 0.80) at T3. Compare to control group, the group did not receive specific information regarding job crafting program. The mean score results of outcome variables were seemed to decrease overtime, for motivation from T1 2.66 (*SD* = 0.35) to T3 2.65 (*SD* = 0.82); for engagement from T1 2.58 (*SD* = 0.18) to T3 2.89 (*SD* = 0.71) and performance from T1 2.62 (*SD* = 0.25) to T3 2.39 (*SD* = 0.60).

Table 18

The mean score of intervention group and control group (N = 50).

Variable	Group	T1		T2		T3	
		M	*(SD)*	*M*	*(SD)*	*M*	*(SD)*
Job crafting	Intervention (*n* = 25)	2.76	0.34	3.40	0.67	3.90	0.66
	Control (*n* = 25)	2.70	0.16	2.90	0.50	2.71	0.24
Physical	Intervention (*n* = 25)	2.9	0.31	3.73	0.76	4.28	0..59
	Control (*n* = 25)	2.94	0.21	2.95	0.57	2.43	0.34
Relational	Intervention (*n* = 25)	2.6	0.48	3.50	0.80	4.06	0.71
	Control (*n* = 25)	2.49	0.22	2.29	0.12	2.27	0.45
Cognitive	Intervention (*n* = 25)	2.8	0.31	3.56	0.35	4.11	0.62
	Control (*n* = 25)	2.81	0.12	3.00	0.78	2.87	0.33
Humor	Intervention (*n* = 25)	2.3	0.26	3.02	0.27	3.73	1.03
	Control (*n* = 25)	2.38	0.13	2.01	0.45	1.99	0.48
Motivation	Intervention (*n* = 25)	2.57	0.44	2.82	0.80	4.54	0.50
	Control (*n* = 25)	2.66	0.35	2.77	0.56	2.65	0.82
Engagement	Intervention (*n* = 25)	2.82	0.76	3.95	0.64	4.69	0.44
	Control (*n* = 25)	2.58	0.18	2.87	0.45	2.89	0.71
performance	Intervention (*n* = 25)	2.46	0.09	4.42	0.54	4.79	0.40
	Control (*n* = 25)	2.62	0.25	2.65	0.43	2.39	0.60

The Repeated measures ANOVA of three dependent variables (motivation, work engagement and job performance)

Motivation

Two-way repeated measures ANOVA was used to examine the difference in motivation score between groups and three time periods. The main effect of motivation mean score was statistically significant between groups, F (1, 48) = 87.01, $p < .01$. There were significant differences in motivation mean score in at least one pair of the three time points, F (2, 48) = 139.59, $p < .01$. The significant interaction effect of group by time was revealed, F (2, 48) = 108.74, $p < .01$, partial Eta square = .69, indicating the motivation mean score between the intervention and control group was different over time (see Table 17).

Pairwise comparisons were used to identify the differences in motivation mean score in three time points. The mean motivation score at T1 was significantly different from those at T2 and T3, (d) = 0.25, $p < .01$; (d) = 1.97, $p < .001$, respectively. In addition, there was significant difference in T2 and T3 mean scores of motivation (d) = 1.72, $p < .01$ (see Table 18).

Engagement

Two-way repeated measures ANOVA was used to examine the difference in engagement mean score between groups and three time periods. The main effect of engagement mean score was statistically significant between groups, F (1, 48) = 333.88, $p < .01$. There were significant differences in Engagement mean score in at least one pair of the three time points, F (2, 48) = 109.49, $p < .01$. The significant interaction effect of group by time was revealed, F (2, 48) = 69.36, $p < .01$, partial Eta square = 0.59, indicating the engagement mean score between the intervention and control group was different over time (see Table 17).

Pairwise comparisons were used to identify the differences in engagement mean score in three time points. The mean engagement score at T1 was significantly different from those at T2 and T3, (d) = 1.13, $p < .01$; (d) = 1.87, $p < .01$, respectively.

In addition, there was significant difference in T2 and T3 mean scores of engagement (*d*) = 0.74, $p < .01$ (see Table 18).

Performance

Two-way repeated measures ANOVA was used to examine the difference in performance mean score between groups and three time periods. The main effect of performance mean score was statistically significant between groups, F (1, 48) = 436.76, $p < .01$. There were significant differences in performance mean score in at least one pair of the three time points, F (2, 48) = 406.33, $p < .01$. The significant interaction effect of group by time was revealed, F (2, 48) = 472.65, $p < .01$, partial Eta square = 0.90, indicating the performance mean score between the intervention and control group was different over time (see Table 17).

Pairwise comparisons were used to identify the differences in performance mean score in three time points. The mean performance score at T1 was significantly different from those at T2 and T3, *(d)* = 1.96, $p < .01$; *(d)* = 2.33, $p < .01$, respectively. In addition, there was significant difference in T2 and T3 mean scores of performance *(d)* = 0.37, $p < .01$ (see Table 18).

As illustrated in the interaction plot, the mean score of motivation engagement and performance in the intervention group increased over time but that in the control group tended to remain unchanged. The mean score of motivation engagement and performance in the intervention group were higher than that in the control group at T2 and T3 (illustrated in figure 10).

Figure 10

Comparison of the mean levels of motivation engagement and performance over time.

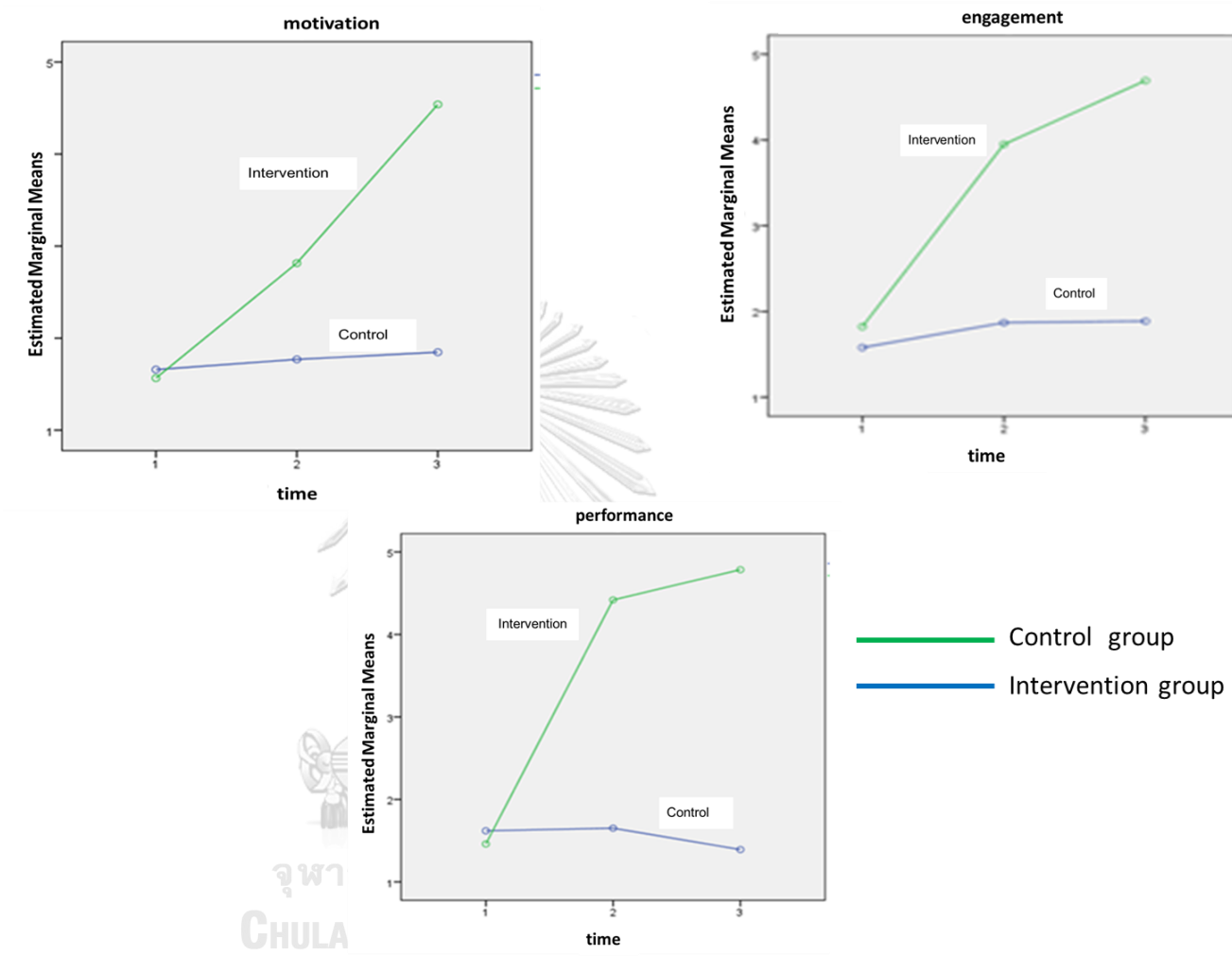


Table 19

Repeated measures ANOVA of motivation engagement and performance (N = 50).

sources	Sum of Squares	*df*	Mean Squares	*F*	*P*	Partial Eta Squared
Job crafting						
Between subjects						
▪ Group intervention and control	59.12	1	59.12	257.54	.00	.84
▪ Within group (error)	11.01	48	0.23			
Within subjects						
▪ Time	33.87	2	16.94	77.02	.00	.62
▪ Group x Time	29.70	2	14.85	67.57	.00	.59
▪ Time x within group (error)	21.11	96	0.22			
Motivation						
Between subjects						
▪ Group intervention and control	55.41	1	55.41	87.01	.00	.64
▪ Within group (error)	30.57	48	0.64			
Within subjects						
▪ Time	62.94	2	31.47	139.59	.00	.74
▪ Group x Time	49.03	2	24.51	108.74	.00	.69
▪ Time x within group (error)	21.64	96	0.23			
Work engagement						
Between subjects						
▪ Group intervention and control	109.63	1	109.63	333.88	.00	.87
▪ Within group (error)	15.76	48	0.33			
Within subjects						
▪ Time	68.81	2	34.41	109.49	.00	.70
▪ Group x Time	43.59	2	21.80	69.36	.00	.59
▪ Time x within group (error)	30.17	96	0.31			
Performance						
Between subjects						
▪ Group intervention and control	150.05	1	150.05	436.76	.00	.90
▪ Within group (error)	16.49	48	0.34			
Within subjects						
▪ Time	77.32	2	38.66	406.33	.000	.89
▪ Group x Time	89.94	2	44.97	472.65	.000	.90
▪ Time x within group (error)	9.13	96	0.09			

Table 20

Pairwise comparison of mean motivation engagement and performance over 3 time point (N = 50).

Time	Time	Mean Difference	Std. Error	Sig.
Job crafting				
T2	T1	0.96	0.18	.00
T3	T1	1.68	0.14	.00
T2	T3	0.72	0.17	.02
Motivation				
T2	T1	0.25	0.17	.00
T3	T1	1.97	0.15	.00
T2	T3	1.72	0.19	.00
Engagement				
T2	T1	1.13	0.21	.00
T3	T1	1.87	0.21	.00
T2	T3	0.74	0.13	.00
Performance				
T2	T1	1.96	0.11	.00
T3	T1	2.33	0.08	.00
T2	T3	0.37	0.12	.01

2) The latent growth curve modeling (LGCM) with Bayesian estimation

The first stage in determining the mediating variables and intervention effects was to evaluate the sensitivity of the Bayesian model. In the current study, the researchers gathered statistical expertise for examining the sensitivity required criteria of the model (i.e., the Brooks Gelman-Rubin (BGR) and convergence statistics test) (Depaoli et al., 2017; Spiegelhalter et al., 2003; Van de Schoot et al., 2014).

The result found that Bayesian for the model can be applied in this study. The test of convergence statistics for all parameters of interest indicated that the vaue of 'R' were close to one. Plots of sequences of observations corresponding to some parameters generated by two different initial values were also indicated converge. With, the test of accuracy for the posterior estimates proved that Monte Carlo error for all parameters was less than 5% of the sample standard deviation.

Based on all tests, the data in latent growth curve modeling (LGCM) with Bayesian estimation are in the acceptable values. Thus, in order to examine the mediator of the model, the result indicated with the acceptable model fit (*ppp* = 0.05) and with the significant relationships between the variables over time (as seen in Figure 11).

For the intercept of variable, job crafting had a significant positive effect on intercept of motivation (β =0.07; 95% CI 0.02 to 0.08), intercept of engagement (β = 0.14; 95% CI 0.29 to 0.89) and intercept of job performance (β = 0.15; 95% CI 0.29 to 0.89). For the slope of variable, job crafting had a significant positive effect on slope of motivation (β = 0.98; 95% CI 0.91 to 1.00) and on slope of work engagement (β = 0.92; 95% CI 0.83 to 0.98). And the slope of motivation indicated a significant positive effect on job performance (β = 0.11; 95% CI 0.00 to 0.22). Work engagement indicated a significant positive effect on job performance (β = 0.12; 95% CI 0.00 to 0.23).

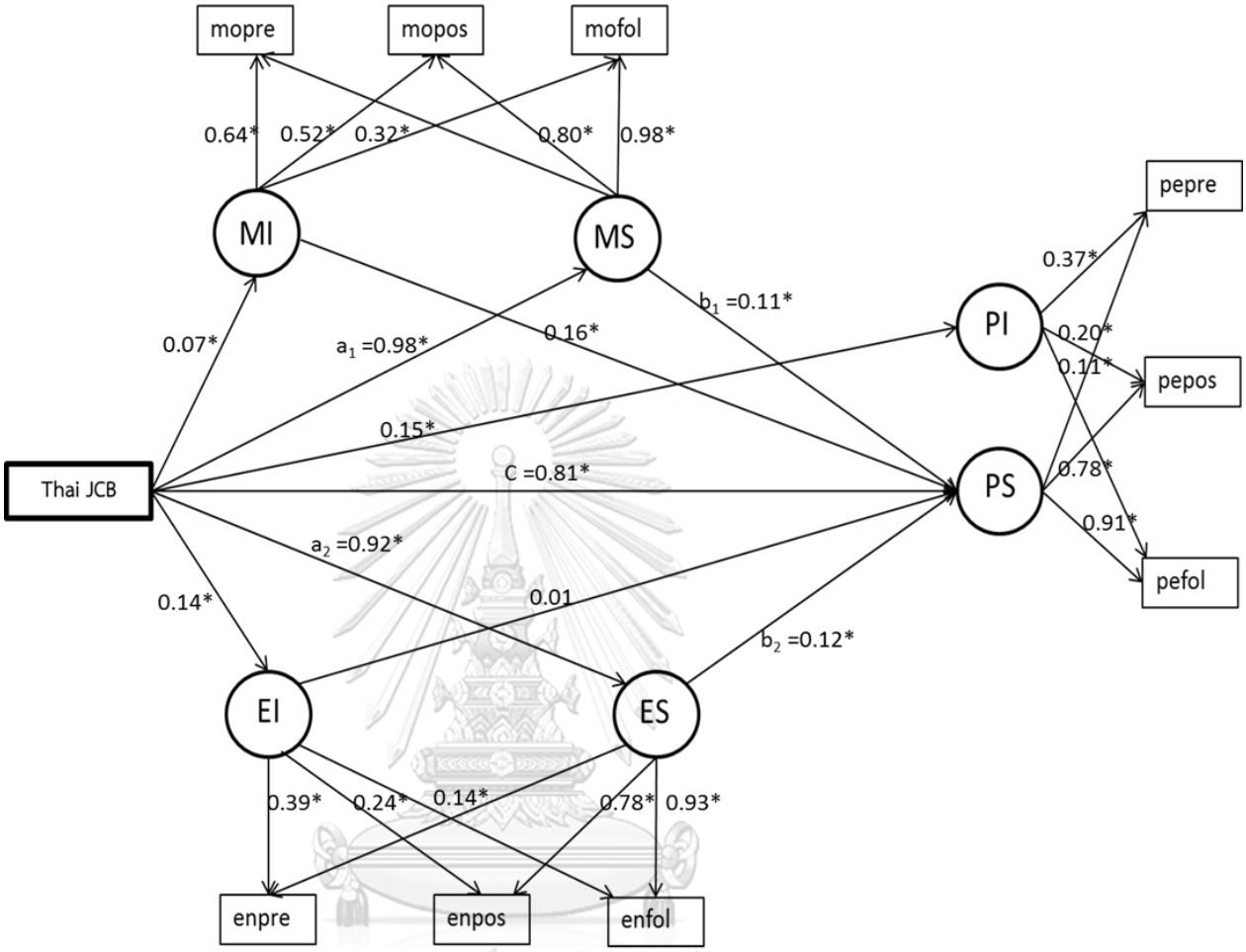
For specifically in mediation, the results indicated positive direct effect of the job crafting intervention on performance was still statistically significant (β = 0.81; 95% CI 0.51 to 1.08) when the mediators were added. This indicated that the study's

motivation and engagement variables served as partial mediators. As a result, the intervention's effects on improving participants' job performance can be explained by the intervention's direct and indirect effects on increasing motivation and engagement over time.

After having the intervention, the estimated coefficient of each observed variables at post-test and follow up time was significantly increased over time when compared to the pre-test . The result of motivation was significantly increased with the estimated coefficient of the slope at post-test (β = 0.80; 95% CI 0.67 to 0.92) and follow - up (β = 0.98; 95% CI 0.88 to 1.08). The result of work engagement was significantly increased with the estimated coefficient of the slope at post-test (β = 0.78; 95% CI 0.65 to 0.92) and follow - up (β = 0.93; 95% CI 0.82 to 1.03). The result of work performance test (β = 0.78; 95% CI 0.66 to 0.89) and follow - up (β = 0.91; 95% CI 0.82 to 0.98).

Figure 11

The latent growth curve modeling (LGCM) with Bayesian estimation.



*= statistically significant, PHY = physical crafting, REL= relational crafting, COG= cognition crafting

Total effect (c') = ab+c, c_1'= 0.917 , c_2'= 0.920

Note. MI= latent intercept of motivation, MS = latent slope of motivation, mopre= Pre-test of motivation, mopos= Post-test of motivation, mofol = Follow-up of motivation, EI= latent intercept of engagement, ES = latent slope of engagement, enpre= Pre-test of engagement, enpos= Post-test of engagement, enfol = Follow-up of engagement, PI= latent intercept of performance, PS = latent slope of performance, pepre= Pre-test of performance, pepos= Post-test of performance, pefol = Follow-up of performance

3) Content analysis from the feedback and recommendation interviews

Content analysis was used to analysis the feedback and recommendation from the participants in follow-up time. Participants in this study reported in positive effect of the intervention program. The core factors of analysis were extracted from participants as follows,

1) Work process

Participants in the intervention group reported that the program was successful in that it established a manageable working procedure. The relevant examples of statements by participants were,

- “The program was beneficial and effective. I feel more in control of my work ... I've taken the intervention and I'm more aware of what I have to do.”
- “I worked with patients very closely .I define work in clinical terms and then I had them meet to accomplish the plan.”
- “There are two or three different forms of work weeks. The intervention helps me to have weekly meetings where we review the project's status, how far we've come, and what steps we need to take next.”

2) Cognition

Participants in the intervention group reported that they felt more comfortable and happy, and that they had a more optimistic view of their tasks. The relevant examples of statements by participants were,

- " I used to work under a lot of stress just to make a living, but cognitive crafting has turned it into a valuable or constructive obligation"
- " As a nurse, I am responsible for saving lives, and I enjoy this career even more.."
- “The program encouraged me to work more optimism”

3) Communication / interrelationship

The opportunity to establish new relationships was deemed advantageous by participants in the intervention group. The relevant examples of statements by participants were,

- In the past I didn’t want to voice my opinion. I don’t want to step on anybody’s toes, but the program lets me do more communication. I have more friends at work. …. We are the team.
- “If you lack communication skills and don't know how to console your team, crafting the job with the doctor-nurse partnership would be really useful. Working with relational crafting, in my view, is needed.”

4) limitation of the intervention program

Participants in the intervention group reported limitation such as their time to participating in the intervention program and the hospital policy for the intervention program. The relevant examples of statements by participants were,

- “Because I’m not working with the same patients or the same department, I sometimes worry that I do not always follow the updated job crafting plan. I don’t have time to do so.”
- "I'd like to point out that communicating with the clinicians' team can be difficult. Most professionals are focused on their jobs, which makes it difficult for me to keep developing relationships (relational crafting) as outlined in the logbook plan. As a result, it would be better if all professional did the job crafting. Job crafting should be done on a regular basis.”
- “I think… I don't have the time or opportunity for job crafting, but if it's consistent, reliable and really promotes or supports practice, I'll consider it. It would be preferable if job crafting was the new policy; there would be a lot more benefits for hospital settings.”

CHAPTER VII
DISCUSSION

This chapter will present the discussion of the studies that have been carried out. Research objectives, research design, theoretical significance and the major findings of the studies are discussed in the following sections. The limitations in this study and implications for future research are also described and suggested.

Study I, Scale development and construct clarification of job crafting behaviors among Thai healthcare professionals

The aim of the study was to develop and validate the newly job crafting scale that expanded from existing measures, called Thai JCB. This study was conducted with specific working groups, occupations in Thai healthcare professionals. In order to gain more in-depth insight into the causal attributions of job crafting, the research was conducted with two methods as qualitative and quantitative method.

From the interview, the result replicated and extended the existing dimensions of job crafting (physical crafting, relational crafting and cognitive crafting), with the additional dimensions of job crafting from the interview result as, 'the humor dimension'. This implied that professionals found humor as the tool for increase in productivity, creativity and relieving their tensions at work.

According to one study, humor serves as one of the personal resources. With positive psychology, personal resources are the tactics that people use to express themselves emotionally, socially, and physically for dealing with situations. In the workplace, the study found that personal resources described employees' abilities such as self-efficacy and self-esteem, which have been linked to job performance. Likewise, the former study related humor as personal resources in order to redesign jobs, deal with intense work situations and improve job challenges (Van den Broeck, Vander Elst, Dikkers, De Lange, & De Witte, 2012). In this current study, professionals indicated that they felt more comfortable managing their tasks when the atmosphere possessed certain degrees of humor. Humor appeared to encourage professionals to

change their working styles on their own, which is similar to the concept of job crafting (as bottom-up approaches).As mentioned, prior studies also indicated that employees who used humor deliberately and frequently might improve their performance and problem solving skills (E. E. Smith & Goodchilds, 1963).

Furthermore, Humor in work place is regarded differently in various cultures. According to Hofstede (1984), there are two main cultural dimensions between individualism and collectivism. Humor appears to be more acceptable in collectivistic culture (comfortable and enjoyable person). It has been shown that compared to individualists, collectivists always express emotions less intensely within the group. The prior study found that workers can set the example of effective humor utilization for better performance at work. The prior study also mentioned that with the prevalent trend of globalization, humor will also be a significant component of emotional crafting tools in training programs for individualism employees for higher performance in the future (R. Wang et al., 2018). In other word, humor is an appropriate technique for expressing emotions in the social. That was related to the dimension of affect in psychological processes, The ABC of Attitudes in Social Psychology (Diefendorff & Richard, 2003).

For current interview study, humor in Thai healthcare professionals also contributed. For example, professionals feel tension and stress when they are working in long hours. Work-related tension can have an impact on the effective management to their patients. Thus, Professionals use the humorous things or interactions with humor to cope better during tasks in the hospital. There was also evidence that humor was a more constructive way for professionals to improve their performance. Prior study found that humor allowed nurses to notice the amusing aspects of dealing with their daily tension tasks and provided a creative outlet for coping with professionals' emotions in difficult situations to manage their effective work (C. M. Smith & Powell, 1988). Therefore, the findings of new dimension as humor appeared to support the new construct of the full model in Thai healthcare professionals.

After obtaining the interview results, the new Thai JCB model was validated using quantitative method. The Thai JCB was supported with demonstrating the new

measure with initial evidence of construct model and structure model validity. The findings support for the use of four dimensions model of Thai JCB. Additional humor dimension is sought.

For content validity, the final scale of 13 items filled the acceptable scale with the CVR score of 0.8. The validity in CFA revealed to load on four dimensions of Thai JCB (task crafting, relational crafting, cognitive crafting, and humor) with the acceptance criteria for the underlying structure of this scale.

With the CFA, the model was also applied to determine the validity of Thai JCB. The result was run with fit index values (χ^2= 90.22, *df* = 59, CFI = 0.98, SRMR = 0.04, RMSEA = 0.03) that were at an acceptable level. Moreover, CFA were used to determine whether the Thai JCB model (the 4-factor model) fit the data better than the existing job crafting model (3-factor model) developed by Niessen (2016). By using the Akaike information criterion (AIC) and the Bayesian information criterion (BIC), the result found lower values of AIC and BIC criteria in Thai JCB that was indicate a better fit. Thus, it was concluded that the items of the Thai JCB were in accordance with the related 4 dimensions of physical crafting, relational crafting and cognitive crafting and humor.

Together with the Thai JCB, there was also positively correlated with existing job crafting scale (Wrzesniewski & Dutton, 2001), proactive personality and self-efficacy. All correlations support the measure's concurrence and convergent validity as same as the previous study (Bakker et al., 2012). For concurrence validity, the result found well correlation (r = .67; p < .01). For the convergent validity in this study, the Thai JCB was moderate correlated with self-efficacy (r = 31; p < .01) and proactive personality (r =.45; p < .01). Therefore, it was anticipated that the Thai scale could be used to further job-crafting research in Thai healthcare context.

For the structural equation model in this study, there was applied to investigate whether the Thai JCB scale would be related to motivation, work engagement and job performance among Thai healthcare professionals. Start with confirming the structural model by using the correlation, the correlation result between each dimension of Thai JCB was not highly related (less than 0.25)

relationships. The former study indicated that weak relationship could be implied as a difference construct in the model (Kowalski, 1972).

With the SEM results, this study revealed a positive relationship of job crafting with motivation, work engagement and performance. All predictors were able to account for the percentage of variance that were enlightened from the motivation, work engagement to job performance as same as previous studies.

However, prior studies also explored the job crafting in different contexts, such as mathematics and engineering professionals. The results found the variables as work environment, were able to relate the level of job crafting behavior and to account for percentage of the variance in employees' engagement and motivation. According to previous research, job crafting and all predictors may be explained again by occupational factors, such as environment at work or complexity of the work activities (Dubbelt, Demerouti, & Rispens, 2019). In healthcare professional, the variables such as highly stressful or life-saving actions' environment might be related to the lower or higher percentage of variance in motivation and work engagement variables (Begat, Ellefsen, & Severinsson, 2005). As a suggestion, other variables related to job crafting, motivation, work engagement, and performance will need to be investigated in the future.

Moreover, the result indicated that motivation and work engagement was shown to be a significant mediator of the relationship between job crafting and job performance. This was in line with the findings from Berg, Dutton and Wrzesniewski (2010) who studied job crafting in many organizations, with a differentiation in all occupations. The study indicated that in most of the time when employees try to craft their job, this leads to higher levels of their motivation, increase in their engagement, and increase in the achievement of their performance (Berg et al., 2010).

By considering factor loading of each facet of job crafting from the SEM results, physical crafting had higher loading factor compared to other dimensions. This implied that physical crafting seems to have impact in healthcare professionals' motivation, engagement and performance in order to manage their excessive

workloads and long working hours than other forms of job crafting. Similar to previous research, the result of physical crafting study found that almost all healthcare professionals were looking for working with the best performance to the patients by having the autonomy at work, decreasing control over the work environment (Shanafelt et al., 2016). Following that, healthcare professionals are involved in cognitive crafting, which includes modifying the way they view tasks and attempting to make the meaning of their work. The findings were consistent with earlier research about negative experiences in employees' role that can be counterbalanced by rethinking to make their job more meaningful (Edwards & Rothbard, 2000).

For relational crafting and humor appear to have less effect size on motivation, work engagement and job performance comparing to other dimensions. The finding might be explained by professionals' personality. There was the study found that five-factor model of personality including openness, conscientiousness, extraversion, agreeableness, and neuroticism, provides a meaningful theoretical framework that certain traits lead a high sense of humor and the development of interpersonal relationships at work (Barrick, Mount, & Judge, 2001). For example, employees with extraversion scales can contain statements to tell jokes and funny stories in their environment. According to Kalish and Robins (2006), professionals who are extraverted seem to enjoy socializing and developing relationships more than professionals who are neurotic (Kalish & Robins, 2006). Thus, the effect of relational crafting and humor on the level of motivation, work engagement and job performance might depend on healthcare professionals' personality. As mentioned, to assess whether and how a professionals' personality related to job crafting is needed for further study.

Being more expected of professionals' role and workforce situations might have an impact on their time to build aside for new relationships and humor. Many studies also discussed how healthcare professionals emphasized the difficulty in forming relationships due to a lack of time or a heavy workload with patients. (Tolson, McIntosh, Loftus, & Cormie, 2007).

As a result, many studies referred to job crafting training programs or intervention programs that were designed to increase motivation and work engagement, leading to improved performance (Bakker et al., 2014). With relate to the specific healthcare contexts, In the Study II aimed to investigate the intervention effect to increase levels of motivation work engagement and job performance in healthcare professionals. The results of study II found significant and positive effect for outcome variables that were discussed in the following section.

Study II, the job crafting intervention for healthcare professionals to increase levels of work engagement and job performance

Due to the current COVID-19 pandemic situation, employees have been exposed to the dramatically altered work structures and work methods. Those healthcare professionals who provided treatments for patients also encountered difficulties in their work operating process in this situation. Related to the point above, the main objective of the study was to examine the intervention effect on professionals' motivation, engagement and job performance over time via quantitative and qualitative methods during the COVID-19 pandemic.

According to the hypotheses of the study, that was to investigate the effect of job crafting intervention. From the result of Repeated measures ANOVA, the main findings found significant enhancement of positive motivation, work engagement and job performance compared to baseline.

When comparing between the intervention group and control group, the result indicated more increased level of motivation, work engagement and job performance in the intervention group than in the control group.

Moreover the result in the control group seemed to decrease the level of motivation, work engagement and job performance over time. That is clearly to imply the the potential effect of job crafting program with 'log book' over time This finding emphasized the critical role of job crafting intervention in improving the variable in this study, as it has in many other studies (Bakker et al., 2014; Nielsen & Hunter, 2013; Niessen et al., 2016; Petrou et al., 2012).

In addition, the study was indicated the mediator properties of motivation and work engagement on the relationship between job crafting intervention and the job performance. By the measures of three time points, the study was utilized the latent growth curve modeling (LGCM) with Bayesian estimation to characterize initial status and change over time. The key advantages of the Bayesian estimator, according to a previous study, are not just the small sample size but also the capacity to examine the model's possible accuracy by including prior information ('prior model'). To determine what is known about the parameters and processes, the Bayesian technique forces the analyst to look at past data sets or update expert

knowledge(Punt & Hilborn, 1997). Thus, the majority of updated previous data should be for the Bayesian estimator analysis in the future.

As a result from the latent growth curve modeling (LGCM) with Bayesian estimation, when comparing between the standard coefficients of intercept and slope of variable, the current study found significantly improving in each level of motivation, work engagement and job performance. The standard coefficients from job crafting (Thai JCB) to the slope of work engagement (β = 0.92; 95% CI 0.83 to 0.98) was higher than from job crafting (Thai JCB) to the intercept of work engagement (β = 0.14; 95% CI 0.29 to 0.89). The standard coefficients from job crafting (Thai JCB) to the slope of job performance (β = 0.81; 95% CI 0.51 to 1.08) was higher than from job crafting (Thai JCB) to the intercept of job performance (β = 0.15; 95% CI 0.29 to 0.89). Also, the result found greater level of standard coefficients effect from job crafting to the slope of motivation (β = 0.98; 95% CI 0.91 to 01.00) than from job crafting (Thai JCB) to the intercept of motivation (β = 0.07, 95% CI 0.02 to 0.08). The finding might be implied that, certain professionals exhibited low levels of motivation, work engagement and job performance on their roles prior getting the intervention. Then, after taking incremental with the basis of job crafting intervention, professionals were notably to address in improving the level of motivation, work engagement and performance. Hence, the result might be precise that the job crafting intervention intended to be the effective tool at work in order to increase overall level of professionals' motivation work engagement and job performance.

Moreover, the study was also found particular interest when comparing study I (professional without intervention) with study II (professional with intervention). From the modeling, the Standard coefficients effect of job crafting to motivation, was found higher significant effect in study II (β =.0.98) than in study I (β = 0.16). The Standard coefficients effect of job crafting to work engagement, was found higher

significant effect in study II (β = 0.92) than in study I (β = 0.43). And The Standard coefficients effect of job crafting to job performance, the result was found higher significant effect in study II (β = 0.81) than in study I (β = 0.03). The findings were confirmed and supported as direct impact measures when using the job creating intervention across outcomes variables (motivation, work engagement, and job performance).

In addition with specific in means score of Thai JCB dimensions in study II, physical crafting was highest follow by the cognitive crafting, relational crafting and humor at T2 and T3. This implied that Thai healthcare professionals crafted their tasks by more using the physical crafting than other dimensions.

To describe the efficacy of the job crafting intervention, each dimension was specified in this brief discussion as,

Physical crafting, professionals scored high in this dimension because they were able to manage their tasks more easily, resulting in better performance in this study. For example, professionals used physical crafting to decide and manage their task effectively, when to exclude or include some tasks in a pandemic situations. Professionals reported their physical crafting in this study by using a plan or self-scheduling (log book) of their tasks during the week. That was related to choosing the day and shift of their own work. Professionals who craft their task in line with their interests and their own demands and autonomy show the significant affects to motivation and work engagement. There was a study also found to support this method that working as physical crafting could increase motivation and engagement for better performance (Bluett, 2008).

For cognitive crafting, The professionals in this study registered higher levels of motivation, work engagement, and job performance. Professionals changed their cognition as job perception and reminded the important of their role in this crisis time (pandemic situation). Professionals felt more committed to work because they had the resources to perform job roles from their mind. In a previous study, it was discovered that professionals who received more recognition to satisfy for their work, were more effective in enhancing motivation and work engagement to increase the

level of their job performance (Nelson & Simmons, 2003). Moreover, the study of cognition or full appreciation of work done was ranked the first of the motivated factors for the best performance in organization (Kutney-Lee, Brennan, Meterko, & Ersek, 2015).

Relational crafting, Professionals, who perceived their relationship, increased their motivation and work engagement over time. Professionals used this craft to perceive more communication or gain with suitable feedback from their team and others effectively. The result of relational crafting found consistent with other studies that professionals, when doing relational crafting, feel like a part of a group , indicated a higher level of motivation, work engagement and performance in their tasks (Wrzesniewski & Dutton, 2001). Previous research found that professionals who developed relationships with their coworkers were more supportive, accepting, and trusting than those who did not. They are more likely to engage and motivate in work with greater motivation, dedication, adsorption, and vigor (as a component of engagement) for improved performance. (Okello, Van Dyk, & Vorster, 2015).

For humor dimension, professionals in this study reported humor as a tool for enhancing motivation and engagement in work places. Nurses who used humor reported that positive emotions had a significant impact on their tasks and performance. Previous studies found that employees could deal with complex problems in the workplace by reducing distracting negative emotional states and supplementing more positive states with humor. Positive emotions, such as humor, are suggested as one of the powerful methods for pulling positive motivation, relating to engage at work, and improving performance in the workplace (Strick, Holland, Van Baaren, & Van Knippenberg, 2009).

After having the intervention, there was a qualitative study in a detailed description of how professionals experience their work as job crafting takes place in practice, and how these practices contribute to fostering the experienced meaningfulness of work in the follow-up session. From the interviews, the study concluded that professionals already experienced their work to a certain extent as meaningful and that they were already able to make certain beneficial changes in

their work. This was also confirmed by a job crafting intervention in many studies, in which participants preferred and benefited from the intervention's attention (Demerouti, Peeters, & van der Heijden, 2012; Petrou et al., 2012).

Professionals, who participated with the job crafting intervention, explained that they got both the benefit and the difficulties of job crafting implementing in their daily work. The main difficulties mentioned were limited opportunities to achieve crafting program, due to the policy of the hospital and the many tasks in real setting or the existence of practical method. Prior study discussed that employees might be more successful in the intervention program when the organization provided them with opportunities and supportive policy to do the program (Casper & Buffardi, 2004).

Limitation

In the first place, the current study was specific conducted in public tertiary hospital. This let the results limited to generalize for private hospital or other contexts.

Secondly, the result of the current study found that most of the participants were professionals who have 5-8 years' tenure experience, which may influence the mean levels of motivation, work engagement and job performance. Because, Meta-analysis study found that employees with longer tenure were likely to become more bored and less motivated and engaged at work (Thomas, Mor, Tyler, & Hyer, 2013). Due to this limitation, the replication of the job crafting research by an applicable variety of tenure experiences should be required for further study.

Thirdly, limitation was related to issues with time period of the program. The program in this study took place over 4 weeks. In terms of the healthcare context working routine, there was a time constraint for completing the program. The study found that professionals may not have been enough time for following the intervention program into everyday practice. Prior study also discussed that in some contexts a longer-term observation is needed to clarified the intervention effect (Imamura et al., 2015). Because it may take time to transfer the learned skills

(especially relational crafting) to a real working life. Thus, a longer period of intervention program might be needed to detect the effect of the program.

Fourth, the intervention study took place at the pandemic situation time. It was possible that the participants were more motivated to change their working habits right before. Thus, the study of this intervention in regular routine time with longer term period of intervention should be included for further studies.

Another limitation, considering that the intervention program study was carried out online, the training efficacy may have been limited. For further study to counteract this tendency, it would have been advisable to use an additional face to face training program.

However, this current study still highlights on integrated and interpreted all of the qualitative and quantitative methods to answer the research questions. The validated measurement scale of Thai JCB and the effectiveness of online job crafting intervention were obtained from this study.

In study I, the new dimension as humor in Thai JCB was obtained from qualitative interview method. Then quantitative method was used for validation the construct of Thai JCB.

Then in study II, the online intervention study of job crafting program was developed and explored by quantitative methods. The program was developed from supporting details and clear guidelines of the Michigan Job Crafting Exercise (JCE) with the result of significant effect from job crafting intervention by using the Thai JCB measurement scale. Together with the qualitative method of intervention feedback that was conducted after the intervention program in healthcare professionals.

Therefore, based on the current study, the result of Thai JCB validation and the online job crafting intervention design, it is possible to manage, apply and integrate overall Thai JCB measurement and the online intervention (as the new normal intervention program) to develop performance in other organization contexts in the future.

CHAPTER VIII
CONCLUSION

In this concluding chapter has briefly set out the rationale and basis result which underpins the thesis.

Study I, Scale development and construct clarification of job crafting behaviors among Thai healthcare professionals

In addressing the objective posed in Study I was related to obtain a new job crafting measurement for Thai healthcare professionals. The main findings were to develop and validate the job crafting scale from existing concept by using the qualitative and quantitative method. In order to explore the job crafting behaviors and the new crafting dimension in Thai, the study indicated the results from interviews and found "humor" as the new added dimension towards professional's perspective on job crafting. The study then tested and found with the fit criteria of content validity to assure the construct of job crafting in Thai health care professionals, then using quantitative methods to validate 13 item scales for four dimension-aspects of job crafting behavior (Thai JCB as, Physical crafting, relational crafting, cognitive crafting, and humor) by using CFA, and convergent validity. In all quantitative validity methods, the results were obvious with the goodness of fit criterion.

Moreover in this Study I, there was investigated the structure equation model with the relationships of Thai JCB, motivation, work engagement and job performance among healthcare professionals. The results were confirmed with the acceptable criteria for model fit. This revealed that Thai JCB had a positive direct impact on motivation, work engagement and job performance as the direct effect. In order to explore the mediation effect, it was found that motivation and work engagement had a strong and positive impact as the full mediator between Thai JCB and job performance in the model.

Within the result in this Study I, there was further used as the measurement scales to evaluate the effectiveness of the job crafting intervention to increase levels of motivation, work engagement and job performance in Study II.

Study II, the job crafting intervention for healthcare professionals to increase levels of work engagement and job performance

The main finding was the result of the online job crafting intervention program to promote motivation, work engagement and job performance among Thai healthcare professionals during the pandemic situation. The result from the Repeated measurement ANOVA found that intervention impacted on increasing professionals' motivation, work engagement and job performance. The outcomes were significant in 2 conditions, from the baseline to 4 weeks after the interventions, and compared with the control group. For using the LGCM, the study investigated the longitudinal mediation effect of motivation and work engagement between job crafting and job performance. The finding of mediation effect indicated significant and supported the good fit criteria. This indicated that the intervention program is effective in increasing motivation, work engagement, which was related to increasing job performance over time.

In addition, suggested by the follow up interview session, the result found that professionals perceived the intervention as the beneficial tool and support for their tasks. Together with the recommendation, professionals rated better when using job crafting intervention as accountability policies in the organization.

In conclusion, the findings demonstrated the validity of the Thai JCB, the newly developed job crafting measurement scale in Thai professionals, and the effectiveness of the job crafting intervention program in promoting motivation, work engagement, and performance over time. Therefore, relating to all results in both studies, the job crafting intervention program and Thai JCB measurement scale could

be applicable as a tool for companies that need to improve motivation, work engagement and job performance of their employees.

REFERENCES

VITA

NAME	Pichaya Rochanadumrongkul
DATE OF BIRTH	24 December 1988
PLACE OF BIRTH	Bangkok, Thailand

APPENDICES

APPENDIX A

QUESTIONNAIRE SET OF STUDY I

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 1

Qualitative part: A semi-structured interview to investigate the dimensional factors of job crafting behaviors in the Thai healthcare contexts

แบบสัมภาษณ์เพื่อการวิจัย

เรื่อง การทดสอบการวัดตัวแปรและการแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย

โดยแบบสัมภาษณ์เพื่อการวิจัยดังกล่าว มีจุดประสงค์เพื่อพัฒนามาตรวัดการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย

เลขรหัสผู้ให้สัมภาษณ์ .....

วันเดือนปี ที่สัมภาษณ์ .....

เริ่มการสัมภาษณ์เวลา .....น. จบการสัมภาษณ์ เวลา.....น

แนวประเด็นคำถาม

- ข้อมูลเกี่ยวกับผู้ให้สัมภาษณ์
  - โปรดบรรยายเกี่ยวกับงานของท่านในปัจจุบัน เช่น ในแต่ละวันทำอะไรบ้าง หน้าที่ที่ต้องรับผิดชอบ และลักษณะของงานเป็นอย่างไร
  - ท่านทำงานในองค์กรปัจจุบันมานานเท่าไร/ ท่านทำงานในงานปัจจุบันมานานเท่าไร?
- ข้อมูลเกี่ยวกับลักษณะการปรับงาน
  - ท่านมีการปรับ หรือเปลี่ยนแปลงการทำงานของท่านอย่างไร (ทำไม) (อธิบาย)?
  - ท่านมีวิธีจัดการงานของท่านในหนึ่งวัน อย่างไร (อธิบาย)?
  - การจัดการงานของท่านมันแตกต่างจากครั้งแรกที่ท่านเริ่มทำงานอย่างไร (อธิบาย)?
  - ท่านสร้างความสัมพันธ์ของท่านกับเพื่อนร่วมงานอย่างไร (อธิบาย)?
  - ความสัมพันธ์ของท่านกับเพื่อนร่วมงานเปลี่ยนแปลงไปอย่างไรตั้งแต่ท่านเริ่มทำงาน (อธิบาย)?
  - ท่านทราบวัตถุประสงค์หรือความหมายของงานของท่านหรือไม่
  - ท่านคิดว่างานทำให้ชีวิตของท่านมีความหมายอย่างไร (อธิบาย)?

ขอขอบพระคุณอย่างสูงที่ท่านให้ความร่วมมือเป็นอย่างดียิ่ง

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 1

Quantitative part: for the Thai JCB measurement model validation (construct, concurrent and convergent validation)

การทดสอบการวัดตัวแปรและการแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน
ในกลุ่มบุคลากรทางการแพทย์ไทย

แบบสอบถามชุดนี้เป็นการสำรวจความคิดเห็นของท่านเกี่ยวกับการทำงาน มีวัตถุประสงค์เพื่อใช้ประโยชน์ทางการศึกษาวิจัยของคณะจิตวิทยา จุฬาลงกรณ์มหาวิทยาลัย **เพื่อทดสอบคุณภาพของมาตรวัดตัวแปรการปรับงานแบบใหม่ ในกลุ่มบุคลากรทางการแพทย์ไทย** จึงขอความร่วมมือจากทุกท่านในฐานะบุคลากรทางการแพทย์ไทย ให้ความอนุเคราะห์ในการตอบแบบสอบถาม

ผู้วิจัยใคร่ขอความกรุณาท่านอ่านคำชี้แจงการตอบโดยละเอียดก่อนลงมือทำ โดยมีข้อคำถามทั้งหมด 4 ส่วน ใช้เวลาในการตอบประมาณ 30 นาที โปรดตอบแบบสอบถามทุกข้อ และตอบตามความรู้สึกที่ตรงกับตัวท่านมากที่สุด คำตอบของท่านจะถูกเก็บเป็นความลับและจะไม่ส่งผลใด ๆ ต่อตัวท่านและองค์การของท่านทั้งสิ้น ทั้งนี้การนำเสนอผลการศึกษาจะเป็นในลักษณะของการวิเคราะห์ในภาพรวมและจะไม่มีการแสดงข้อมูลรายบุคคล

ขอขอบคุณในความร่วมมือเป็นอย่างสูง

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง กรุณาเขียนเครื่องหมาย✓ ในช่อง ☐ หรือเติมข้อความลงในช่องว่างที่เว้นไว้ให้ตรงตามความเป็นจริงของท่าน

เพศ ☐ ชาย ☐ หญิง

อายุ ..... ปี

ตำแหน่งงาน ☐ แพทย์ ☐ ทันตแพทย์ ☐ เภสัชกร ☐ พยาบาลวิชาชีพ

☐ บุคลากรสุขภาพอื่นๆ ระบุ เช่น นักกายภาพบำบัด

อายุในตำแหน่งงานของตน ..... ปี ..... เดือน

อายุงานในองค์การของตน ..... ปี ..... เดือน

ส่วนที่ 2 ข้อมูลด้านการปรับงานแบบใหม่ (Thai JCB)

คำชี้แจง โปรดคลิกตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

1 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อยที่สุด

2 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อย

3 หมายถึง ท่านมีระดับการทำพฤติกรรม ปานกลาง

4 หมายถึง ท่านมีระดับการทำพฤติกรรม มาก

5 หมายถึง ท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อกระทง Thai JCB พัฒนามาจากมาตรวัดของ Niessen และคณะ (2016)

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันมุ่งมั้นตั้งใจทำงานเสมอ	1	2	3	4	5
2) ฉันมักทำงานนอกเหนือจากงานที่ทำประจำ	1	2	3	4	5
3) เมื่อฉันรู้สึกสนุกในงานฉันมักทำงานได้มากขึ้น	1	2	3	4	5
4) กับเพื่อนร่วมงานที่เข้ากันไม่ได้ ฉันจะติดต่อในเรื่องที่จำเป็นเท่านั้น	1	2	3	4	5
5)					

ข้อกระทงพัฒนามาจากมาตรวัดของ Tims et al. (2012)

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันพยายามพัฒนาขีดความสามารถของตน	1	2	3	4	5
2) ฉันพยายามพัฒนาตนให้เป็นมืออาชีพ	1	2	3	4	5
3) ฉันพยายามพัฒนาเรียนรู้งานใหม่ๆ	1	2	3	4	5
4) ฉันจัดระเบียบงานเพื่อลดการติดต่อกับคนที่ไม่เป็นไปตามที่ฉันคาดหวัง	1	2	3	4	5
5)					

ส่วนที่ 3 ข้อมูลด้านลักษณะบุคลิกภาพเชิงรุก ข้อกระทงพัฒนามาจากมาตรวัดของ Crant (1993)

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมีระดับการทำพฤติกรรม น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมีระดับการทำพฤติกรรม น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมีระดับการทำพฤติกรรม ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมีระดับการทำพฤติกรรม มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันกำลังมองหาวิธีใหม่ ๆ ในการปรับปรุงชีวิตของฉันอย่างสม่ำเสมอ	1	2	3	4	5
2) ไม่ว่าฉันจะอยู่ที่ไหนฉันมีพลังที่แข็งแกร่งสำหรับการเปลี่ยนแปลงเชิงสร้างสรรค์	1	2	3	4	5
3) ไม่มีอะไรน่าตื่นเต้นไปกว่าการได้เห็นความคิดของฉันกลายเป็นความจริง	1	2	3	4	5
4) ถ้าฉันเห็นบางสิ่งที่ฉันไม่ชอบฉันจะแก้ไข	1	2	3	4	5
5)					

ส่วนที่ 4 ข้อมูลด้านการรับรู้ความสามารถของตนเอง ข้อกระทงพัฒนามาจากมาตรวัดของ Parker (1998**)**

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมี ระดับความรู้สึกรับรู้น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมี ระดับความรู้สึกรับรู้น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมี ระดับความรู้สึกรับรู้ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมี ระดับความรู้สึกรับรู้มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมี ระดับความรู้สึกรับรู้มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันสามารถวิเคราะห์ปัญหาเพื่อหาทางแก้ไข	1	2	3	4	5
2) ฉันสามารถเป็นตัวแทนของหน่วยงานในการประชุมร่วมกับผู้บริหาร	1	2	3	4	5
3) ฉันสามารถออกแบบขั้นตอนการทำงานใหม่ๆ	1	2	3	4	5
4) ฉันสามารถในคำแนะนำวิธีปรับปรุงการทำงานของบุคคลอื่นในหน่วยงานของฉัน	1	2	3	4	5
5)					

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 1

Quantitative part: for the causal model validation (testing the structural model for the linkage among Thai JCB, motivation, engagement, and job performance)

การทดสอบการวัดตัวแปรและการแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน
ในกลุ่มบุคลากรทางการแพทย์ไทย

แบบสอบถามชุดนี้เป็นการสำรวจความคิดเห็นของท่านเกี่ยวกับการทำงาน มีวัตถุประสงค์เพื่อใช้ประโยชน์ทางการศึกษาวิจัยของคณะจิตวิทยา จุฬาลงกรณ์มหาวิทยาลัย **เพื่อทดสอบคุณภาพของมาตรวัดตัวแปรการปรับงานแบบใหม่ เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย** จึงขอความร่วมมือจากทุกท่านในฐานะบุคลากรทางการแพทย์ไทย ให้ความอนุเคราะห์ในการตอบแบบสอบถาม
ผู้วิจัยใคร่ขอความกรุณาท่านอ่านคำชี้แจงการตอบโดยละเอียดก่อนลงมือทำ โดยมีข้อคำถามทั้งหมด 5 ส่วน ใช้เวลาในการตอบประมาณ 30 นาที โปรดตอบแบบสอบถามทุกข้อ และตอบตามความรู้สึกที่ตรงกับตัวท่านมากที่สุด คำตอบของท่านจะถูกเก็บเป็นความลับและจะไม่ส่งผลใด ๆ ต่อตัวท่านและองค์การของท่านทั้งสิ้น ทั้งนี้การนำเสนอผลการศึกษาจะเป็นในลักษณะของการวิเคราะห์ในภาพรวมและจะไม่มีการแสดงข้อมูลรายบุคคล

ขอขอบคุณในความร่วมมือเป็นอย่างสูง

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง กรุณาเขียนเครื่องหมาย✓ ในช่อง ☐ หรือเติมข้อความลงในช่องว่างที่เว้นไว้ให้ตรงตามความเป็นจริงของท่าน

เพศ ☐ ชาย ☐ หญิง

อายุ ..... ปี

ตำแหน่งงาน ☐ แพทย์ ☐ ทันตแพทย์ ☐ เภสัชกร ☐ พยาบาลวิชาชีพ

☐ บุคลากรสุขภาพอื่นๆ ระบุ เช่น นักกายภาพบำบัด

อายุในตำแหน่งงานของตน ..... ปี ..... เดือน

อายุงานในองค์การของตน ..... ปี ..... เดือน

ส่วนที่ 2 ข้อมูลด้านการปรับงานแบบใหม่ (Thai JCB)

คำชี้แจง โปรดคลิกตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

1 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อยที่สุด

2 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อย

3 หมายถึง ท่านมีระดับการทำพฤติกรรม ปานกลาง

4 หมายถึง ท่านมีระดับการทำพฤติกรรม มาก

5 หมายถึง ท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อกระทง Thai JCB พัฒนามาจากมาตรวัดของ Niessen และคณะ (2016)

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันมุ่งมั้นตั้งใจทำงานเสมอ	1	2	3	4	5
2) ฉันมักทำงานนอกเหนือจากงานที่ทำประจำ	1	2	3	4	5
3) เมื่อฉันรู้สึกสนุกในงานฉันมักทำงานได้มากขึ้น	1	2	3	4	5
4) กับเพื่อนร่วมงานที่เข้ากันไม่ได้ ฉันจะติดต่อในเรื่องที่จำเป็นเท่านั้น	1	2	3	4	5
5)					

ส่วนที่ 3 ข้อมูลด้านแรงจูงใจในการทำงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Amabile (1994)

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมี ระดับความรู้สึกรับรู้น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมี ระดับความรู้สึกรับรู้น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมี ระดับความรู้สึกรับรู้ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมี ระดับความรู้สึกรับรู้มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมี ระดับความรู้สึกรับรู้มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) เมื่อฉันพบปัญหาที่ยากฉันจะพยายามแก้ปัญหานั้น	1	2	3	4	5
2) ฉันต้องการให้งานของฉันเปิดโอกาสให้ฉันเพิ่มพูนความรู้และทักษะ	1	2	3	4	5
3) ฉันชอบคิดสิ่งต่างๆด้วยตัวเอง	1	2	3	4	5
4) ไม่ว่าผลลัพธ์จะเป็นอะไรฉันก็พอใจที่จะได้รับประสบการณ์ใหม่	1	2	3	4	5
5)					

ส่วนที่ 4 ข้อมูลด้านความผูกใจมั่นในงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Schaufeli et al. (2006)

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมี ระดับความรู้สึกรับรู้น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมี ระดับความรู้สึกรับรู้น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมี ระดับความรู้สึกรับรู้ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมี ระดับความรู้สึกรับรู้มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมี ระดับความรู้สึกรับรู้มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ขณะทำงาน ฉันรู้สึกมีพลังในการทำงานอย่างเต็มที่	1	2	3	4	5

2) ฉันตื่นมาในตอนเช้ารู้สึกอยากทำงาน	1	2	3	4	5
3) ขณะทำงาน ฉันรู้สึกมีพละกำลัง และกระฉับกระเฉง	1	2	3	4	5
4) ฉันมีความกระตือรือร้นที่จะได้ทำงานของฉัน	1	2	3	4	5
5)					

ส่วนที่ 5 ข้อมูลด้านผลการปฏิบัติงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Williams and Anderson (1991)

ชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมีระดับการทำพฤติกรรม น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมีระดับการทำพฤติกรรม น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมีระดับการทำพฤติกรรม ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมีระดับการทำพฤติกรรม มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันทำงานตามหน้าที่อย่างครบถ้วน	1	2	3	4	5
2) ฉันรับผิดชอบงานตามรายละเอียดของงาน	1	2	3	4	5
3) ฉันทำงานตามที่ได้รับมอบหมาย	1	2	3	4	5
4) ฉันทำงานผ่านเกณฑ์การประเมินผลการปฏิบัติงาน	1	2	3	4	5
5)					

APPENDIX B

QUESTIONNAIRE SET OF STUDY II

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 2

การแทรกแซงการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน

ในกลุ่มบุคลากรทางการแพทย์ไทย

แบบสอบถามชุดนี้เป็นการสำรวจความรู้ความเข้าใจด้านการปรับงาน (มีวัตถุประสงค์เพื่อใช้ประโยชน์ทางการศึกษาวิจัยของคณะจิตวิทยา จุฬาลงกรณ์มหาวิทยาลัย (Pilot/ manipulation check)

ผู้วิจัยใคร่ขอความร่วมมือจากทุกท่านในฐานะบุคลากรทางการแพทย์ไทย ให้ความอนุเคราะห์ในการตอบแบบสอบถาม โปรดตอบแบบสอบถามทุกข้อ คำตอบของท่านจะไม่ส่งผลใด ๆ ต่อตัวท่านและองค์การของท่านทั้งสิ้น ทั้งนี้การนำเสนอผลการศึกษาจะเป็นในลักษณะของการวิเคราะห์ในภาพรวมและจะไม่มีการแสดงข้อมูลรายบุคคล

ขอขอบคุณในความร่วมมือเป็นอย่างสูง

คำชี้แจง โปรดเลือกคำตอบที่ถูกที่สุดเพียงคำตอบเดียว

1. Job crafting เป็นการปรับประเภทใด?

ก. ปรับการทำงาน

ข. ปรับการเรียน

ค. ปรับการใช้ชีวิตคู่

ง. ปรับการใช้ความรุนแรงในสังคม

2. การปรับจำนวนงาน จัดเป็นdimensions ใด ในJob crafting?

ก. Physical crafting

ข. Relational crafting

ค. Cognitive crafting

ง. Humor crafting

3. การเพิ่มปฏิสัมพันธ์ในการทำงานจัดเป็นdimensions ใด ในJob crafting?

ก. Physical crafting

ข. Relational crafting

ค. Cognitive crafting

ง. Humor crafting

4. การมองว่าสิ่งที่ทำว่ามีความหมาย จัดเป็น dimensions ใด ในJob crafting?

ก. Physical crafting

ข. Relational crafting

ค. Cognitive crafting

ง. Humor crafting

5. การมีโปรเจคใหม่ๆในงานอยู่ใน จัดเป็นdimensions ใด ในJob crafting?

ก. Physical crafting

ข. Relational crafting

ค. Cognitive crafting

ง. Humor crafting

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 2

ผลของโปรแกรมการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน

ในกลุ่มบุคลากรทางการแพทย์ไทย

แบบสอบถามชุดนี้เป็นการสำรวจความคิดเห็นของท่านเกี่ยวกับการทำงานของท่าน มีวัตถุประสงค์เพื่อใช้ประโยชน์ทางการศึกษาวิจัยของคณะจิตวิทยา จุฬาลงกรณ์มหาวิทยาลัย

ผู้วิจัยใคร่ขอความร่วมมือจากทุกท่านในฐานะบุคลากรทางการแพทย์ไทย ให้ความอนุเคราะห์ในการตอบแบบสอบถาม โดยมีข้อคำถามทั้งหมด 5 ส่วน โปรดตอบแบบสอบถามทุกข้อ และตอบตามความรู้สึกที่ตรงกับตัวท่านมากที่สุด คำตอบของท่านจะถูกเก็บเป็นความลับและจะไม่ส่งผลใด ๆ ต่อตัวท่านและองค์การของท่านทั้งสิ้น ทั้งนี้การนำเสนอผลการศึกษาจะเป็นในลักษณะของการวิเคราะห์ในภาพรวมและจะไม่มีการแสดงข้อมูลรายบุคคล

ขอขอบคุณในความร่วมมือเป็นอย่างสูง

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง กรุณาเขียนเครื่องหมาย✓ ในช่อง ☐ หรือเติมข้อความลงในช่องว่างที่เว้นไว้ให้ตรงตามความเป็นจริงของท่าน

เพศ ☐ ชาย ☐ หญิง

อายุ ..... ปี

ตำแหน่งงาน ☐ แพทย์ ☐ ทันตแพทย์ ☐ เภสัชกร ☐ พยาบาลวิชาชีพ

☐ บุคลากรสุขภาพอื่นๆ ระบุ เช่น นักกายภาพบำบัด

อายุในตำแหน่งงานของตน ..... ปี ..... เดือน

อายุงานในองค์การของตน ..... ปี ..... เดือน

ส่วนที่ 2 ข้อมูลด้านการปรับงานแบบใหม่ (Thai JCB)

คำชี้แจง โปรดคลิกตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

1 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อยที่สุด

2 หมายถึง ท่านมีระดับการทำพฤติกรรม น้อย

3 หมายถึง ท่านมีระดับการทำพฤติกรรม ปานกลาง

4 หมายถึง ท่านมีระดับการทำพฤติกรรม มาก

5 หมายถึง ท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อกระทง Thai JCB พัฒนามาจากมาตรวัดของ Niessen และคณะ (2016)

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันมุ่งมั้นตั้งใจทำงานเสมอ	1	2	3	4	5
2) ฉันมักทำงานนอกเหนือจากงานที่ทำประจำ	1	2	3	4	5
3) เมื่อฉันรู้สึกสนุกในงานฉันมักทำงานได้มากขึ้น	1	2	3	4	5
4) กับเพื่อนร่วมงานที่เข้ากันไม่ได้ ฉันจะติดต่อในเรื่องที่จำเป็นเท่านั้น	1	2	3	4	5
5)					

ส่วนที่ 3 ข้อมูลด้านแรงจูงใจในการทำงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Amabile (1994)

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมี ระดับความรู้สึกรับรู้น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมี ระดับความรู้สึกรับรู้น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมี ระดับความรู้สึกรับรู้ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมี ระดับความรู้สึกรับรู้มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมี ระดับความรู้สึกรับรู้มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) เมื่อฉันพบปัญหาที่ยากฉันจะพยายามแก้ปัญหานั้น	1	2	3	4	5
2) ฉันต้องการให้งานของฉันเปิดโอกาสให้ฉันเพิ่มพูนความรู้และทักษะ	1	2	3	4	5
3) ฉันชอบคิดสิ่งต่างๆด้วยตัวเอง	1	2	3	4	5
4) ไม่ว่าผลลัพธ์จะเป็นอะไรฉันก็พอใจที่จะได้รับประสบการณ์ใหม่	1	2	3	4	5
5)					

ส่วนที่ 4 ข้อมูลด้านความผูกใจมั่นในงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Schaufeli et al. (2006)

คำชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมี ระดับความรู้สึกรับรู้น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมี ระดับความรู้สึกรับรู้น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมี ระดับความรู้สึกรับรู้ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมี ระดับความรู้สึกรับรู้มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมี ระดับความรู้สึกรับรู้มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ขณะทำงาน ฉันรู้สึกมีพลังในการทำงานอย่างเต็มที่	1	2	3	4	5

2) ฉันตื่นมาในตอนเช้ารู้สึกอยากทำงาน	1	2	3	4	5
3) ขณะทำงาน ฉันรู้สึกมีพละกำลัง และกระฉับกระเฉง	1	2	3	4	5
4) ฉันมีความกระตือรือร้นที่จะได้ทำงานของฉัน	1	2	3	4	5
5)					

ส่วนที่ 5 ข้อมูลด้านผลการปฏิบัติงาน ข้อกระทงพัฒนามาจากมาตรวัดของ Williams and Anderson (1991)

ชี้แจง โปรดเขียนวงกลมรอบตัวเลขเพียงตัวเลขเดียวในช่องระดับที่ตรงกับความเป็นจริงของท่าน (โปรดตอบให้ครบทุกข้อ)

ให้วงกลมล้อมรอบตัวเลข 1 หากท่านมีระดับการทำพฤติกรรม น้อยที่สุด

ให้วงกลมล้อมรอบตัวเลข 2 หากท่านมีระดับการทำพฤติกรรม น้อย

ให้วงกลมล้อมรอบตัวเลข 3 หากท่านมีระดับการทำพฤติกรรม ปานกลาง

ให้วงกลมล้อมรอบตัวเลข 4 หากท่านมีระดับการทำพฤติกรรม มาก

ให้วงกลมล้อมรอบตัวเลข 5 หากท่านมีระดับการทำพฤติกรรม มากที่สุด

ข้อคำถาม	ระดับ				
	น้อยที่สุด	น้อย	ปานกลาง	มาก	มากที่สุด
1) ฉันทำงานตามหน้าที่อย่างครบถ้วน	1	2	3	4	5
2) ฉันรับผิดชอบงานตามรายละเอียดของงาน	1	2	3	4	5
3) ฉันทำงานตามที่ได้รับมอบหมาย	1	2	3	4	5
4) ฉันทำงานผ่านเกณฑ์การประเมินผลการปฏิบัติงาน	1	2	3	4	5
5)					

ตัวอย่างข้อคำถามที่ใช้ในการศึกษาที่ 2
แบบสัมภาษณ์เพื่อการวิจัยการศึกษาที่ 2

โดยแบบสัมภาษณ์เพื่อการวิจัยดังกล่าว มีจุดประสงค์เพื่อทราบความเห็นหลังการแทรกแซงโปรแกรมการปรับงานแบบใหม่เพื่อเพิ่มความผูกใจมั่นในงานและผลการปฏิบัติงาน ในกลุ่มบุคลากรทางการแพทย์ไทย

เลขรหัสผู้ให้สัมภาษณ์ .....
วันเดือนปี ที่สัมภาษณ์ .....
เริ่มการสัมภาษณ์เวลา .....น. จบการสัมภาษณ์ เวลา.....น

แนวประเด็นคำถาม

ข้อมูลเกี่ยวกับผู้ให้สัมภาษณ์

- โปรดบรรยายเกี่ยวกับงานของท่านในปัจจุบันก่อนเข้าร่วมโปรแกรม โปรดบรรยายในแต่ละวันทำอะไรบ้าง หน้าที่ที่ต้องรับผิดชอบ และลักษณะของงานเป็นอย่างไร

ข้อมูลเกี่ยวกับความเห็นและประสบการณ์หลังจากเข้าร่วมโปรแกรมการปรับงานแบบใหม่

- ท่านมีโอกาสได้นำการปรับงานมาใช้บ้างหรือไม่อย่างไร ถ้าไม่เพราะอะไร
- โปรดบรรยายในแต่ละวันทำงานอะไรบ้างโดยมีการปรับงานตามโปรแกรมอย่างไร
- โปรดบรรยายถึงผล หรือ การเปลี่ยนแปลงในทำงานหลังจากเข้าร่วมโปรแกรม
- ความเห็นของท่านหลังจากได้เข้าร่วมโปรแกรม

ขอขอบพระคุณอย่างสูงที่ท่านให้ความร่วมมือเป็นอย่างดียิ่ง

APPENDIX C

TRANSLATION AND BACK-TRANSLATED QUESTIONNAIRES OF THAI JCB

Example of Comparability/Interpretability

To Comparability/Interpretability Rating Sheet, Please circle the response which most closely represents how you would rate the following pairs of items in terms of: (A) Comparability of language (how comparable is the formal wording?) and (B) Similarity of interpretation (would the paired items be interpreted similarly or comparable, even if the wording is different?). Please circle only one response for (A) and one response for (B) for each pair of items.

Original English version	Back-translated English version	(A) Comparability of language				
		Extremely Comparable	Most of texts are Comparable	Not sure	less Comparable	Not at all Comparable
		1	2	3	4	5
		(B) Similarity of interpretation				
		Extremely Comparable	Most of texts are Comparable	Not sure	less Comparable	Not at all Comparable
		1	2	3	4	5

Example of translation and back-translated English version of questionnaires,

Original English version	Thai version	Back-translated English version
Task crafting 1) I concentrate on specific work tasks. 2) I undertake or seek for additional tasks. 3) I work more intensively on tasks I enjoy.	1) ฉันมุ่งมั้นตั้งใจทำงานเสมอ 2) ฉันมักทำงานนอกเหนือจากงานที่ทำประจำ 3) เมื่อฉันรู้สึกสนุกในงานฉันมักทำงานได้มากขึ้น	1) I focus on specific job 2) I accept or seek for additional tasks. 3) I work more on tasks I enjoy.
Relational crafting 1) I usually limit the amount of time I spend with people I do not get along well with, and only contact them for things that are absolutely necessary. 2) I invest in the relationships with people whom I get along with the best. 3) I look for opportunities to work together with people whom I get along well with at work.	1)กับเพื่อนร่วมงานที่เข้ากันไม่ได้ ฉันจะติดต่อในเรื่องที่จำเป็นเท่านั้น 2)ฉันจะให้เวลากับเพื่อนร่วมงานที่เข้ากันได้ดี 3)ฉันหาโอกาสในการทำงานร่วมกับเพื่อนร่วมงานที่ทำงานเข้ากันได้ดี	1) I try to spend as little time as possible with people with whom I don't get along, and only contact them when absolutely necessary. 2) I invest in into relationships with people with whom I get along the best. 3) I look for ways to collaborate with coworkers with whom I get along well.

Cognitive crafting 1) I try to look upon the tasks and responsibilities I have at work as having a deeper meaning than is readily apparent. 2) I find personal meaning in my tasks and responsibilities at work. 3) I view my tasks and responsibilities as being more than just part of my job.	1) ฉันพยายามรับผิดชอบงานและมองว่างานที่ทำมีความหมายชัดเจน 2) ฉันพบความหมายในงานที่ทำ 3) ฉันเห็นว่างานและความรับผิดชอบในงานของฉันมีความหมาย	1) At work, I try to see my tasks and responsibilities as having a deeper meaning 2) My job tasks and responsibilities have personal significance for me. 3) I consider my responsibilities and activities to be more than just a part of my work.
HUMOR (applied from MARTIN, 2003) 1) If I am feeling depressed, I can usually cheer myself up with humor. 2) If I am feeling upset or unhappy I usually try to think of something funny about the situation to make myself feel better. 3) It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems. 4) If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.	1) เมื่อฉันหดหู่ใจในงาน ฉันมักให้กำลังใจตัวเองด้วยอารมณ์ขัน 2) ถ้าฉันรู้สึกไม่พอใจในงานของฉัน ฉันมักจะลองนึกถึงสิ่งที่ตลกเกี่ยวกับสถานการณ์เพื่อทำให้ตัวเองรู้สึกดีขึ้น 3) ฉันใช้ประสบการณ์ด้านอารมณ์ขันมาช่วยการจัดการกับปัญหาในการทำงาน 4) เมื่อฉันไม่มีความสุขในงานฉันจะพยายามคิดเรื่องตลก ๆ ให้ตัวเองเกิดความสุข	1) I can typically cheer myself up with laughter or humor when I'm sad. 2) When I'm angry or sad, I try to come up with a humorous response to the situation. 3) In my experience, thinking about a funny aspect of a situation is a very powerful way of dealing with problems. 4) If I'm alone and feeling down, I try to come up with something humorous to cheer myself up.