Cross-cultural adaptation and psychometric properties of the Thai version of the University of Washington - Pain Related Self-Efficacy Scale 6 (UW-PRSE6)

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A Thesis Submitted in Partial Fulfillment of the Requirements
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การปรับข้ามวัฒนธรรมและการทดสอบคุณสมบัติการวัดทางจิตวิทยาของ University of Washington - Pain Related Self-Efficacy Scale 6 (UW-PRSE6) ฉบับภาษาไทย

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Thesis Title	Cross-cultural adaptation and psychometric properties of the Thai version of the University of Washington - Pain Related Self-Efficacy Scale 6 (UW-PRSE6)
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วัตถุประสงค์ : เพื่อปรับข้ามวัฒนธรรมของแบบสอบถาม University of Washington Pain related Self-Efficacy Scale (UW-PRSE6) เป็นฉบับภาษาไทย และทดสอบคุณสมบัติการวัดทางจิตวิทยาของแบบสอบถามดังกล่าว

วิธีการ : UW- PRSE6 ต้นฉบับภาษาอังกฤษ ได้รับการปรับข้ามวัฒนธรรมโดยใช้แนวทางของ Functional Assessment of Chronic Illness Therapy จากนั้น ผู้ที่มีอาการปวดหลังเรื้อรัง จำนวน 241 คน ตอบแบบสอบถาม UW- PRSE6 ฉบับภาษาไทย (T-UWPRSE6) แบบสอบถาม SF-36 ฉบับภาษาไทย (T-SF-36) และแบบสอบถาม FABQ ฉบับภาษาไทย (T-FABQ) โดยทั้ง 241คน ตอบแบบสอบถาม T-UW-PRSE6 อีกครั้งหลังจากผ่านไป 7 วัน ซึ่งมี 152 คน ที่ระบุว่ามีการเปลี่ยนแปลงของอาการเล็กน้อยถึงไม่มีเปลี่ยนแปลงของอาการเลยในการประเมินครั้งที่สอง ค่า Cronbach's alpha และ intraclass correlation coefficients ถูกคำนวณเพื่อประเมินความสอดคล้องภายใน (internal consistency) และความน่าเชื่อถือของการทดสอบซ้ำ (test-retest reliability) ตามลำดับ รวมทั้งมีการทดสอบความตรงตามโครงสร้างด้วย

ผลการศึกษา : T-UW-PRSE6 มีความสอดคล้องภายในอยู่ในระดับดี (Cronbach's alpha = 0.85) และมีความน่าเชื่อถือของการทดสอบซ้ำอยู่ในระดับปานกลาง (ICC [2,1] = 0.72) ค่าจากแบบสอบถาม T-UW-PRSE6 มีความสัมพันธ์เชิงบวกกับค่า General Health, Physical Functioning, Role Physical, Role Emotional, Social Functioning, Bodily Pain, Vitality และ Mental Health scales ของแบบสอบถาม T-SF-36 (rs = 0.38, 0.42, 0.54, 0.51, 0.47, 0.54, 0.41 และ 0.40, ตามลำดับ) และมีความสัมพันธ์เชิงลบกับค่าของแบบสอบถาม T-FABQ หัวข้อย่อย Work และ Physical Activity (rs = -0.34 และ -0.34, ตามลำดับ)

สรุป : T-UW-PRSE6 ได้รับการปรับข้ามวัฒนธรรมเป็นฉบับภาษาไทยและมีคุณสมบัติการวัดทางจิตวิทยาที่ยอมรับได้สำหรับการประเมินการรับรู้ความสามารถของตนเองเกี่ยวกับอาการปวดในผู้ที่มีอาการปวดหลังเรื้อรัง

สาขาวิชา กายภาพบำบัด
ปีการศึกษา 2561

ลายมือชื่อนิสิต .....
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5976676037 : MAJOR PHYSICAL THERAPY
KEYWORD: self-efficacy, chronic low back pain, musculoskeletal disorder, reliability, validity

Angkana Khampanthip : Cross-cultural adaptation and psychometric properties of the Thai version of the University of Washington - Pain Related Self-Efficacy Scale 6 (UW-PRSE6). Advisor: Prof. Prawit Janwantanakul, Ph.D. Co-advisor: Asst. Prof. Rotsalai Kanlayanaphotporn, Ph.D.,Prof. Mark P. Jensen, Ph.D.

Abstract

Objective: To cross-culturally adapt the University of Washington Pain related Self-Efficacy Scale (UW-PRSE6) into Thai and evaluate its psychometric properties.

Methods: The original UW- PRSE6 was cross-culturally adapted using the Functional Assessment of Chronic Illness Therapy translation methodology. 241 individuals with chronic low back pain completed the Thai version of UW-PRSE6 (T-UW-PRSE6), Thai Fear Avoidance Beliefs Questionnaire (T-FABQ), and Thai Medical Outcome Study Short-Form 36 (T-SF-36). 241 participants completed the T-UW-PRSE6 and again after 7-days interval. 152 participants rated their overall condition as having little to no change at the second assessment. Cronbach's alpha and intraclass correlation coefficients were calculated to estimate internal consistency and test-retest reliability, respectively. Construct validity of the T-UW-PRSE6 were also evaluated.

Results: The T-UW-PRSE6 had good internal consistency (Cronbach's a = 0.85) and moderate test-retest reliability (ICC [2,1] = 0.72). The T-UW-PRSE6 was positively correlated with the General Health, Physical Functioning, Role Physical, Role Emotional, Social Functioning, Bodily Pain, Vitality, and Mental Health scales of the T-SF-36 (rs = 0.38, 0.42, 0.54, 0.51, 0.47, 0.54, 0.41 and 0.40, respectively) and negatively correlated with the T-FABQ Work and Physical Activity Subscales (rs = -0.34 and -0.34, respectively)

Conclusions: The T-UW-PRSE6 was cross-culturally adapted to Thai and acceptable psychometric properties for assessing pain-related self-efficacy in individuals with chronic low back pain.

Field of Study:	Physical Therapy	Student's Signature .....
Academic Year:	2018	Advisor's Signature .....
		Co-advisor's Signature .....
		Co-advisor's Signature .....

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Angkana Khampanthip

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CHAPTER 1

INTRODUCTION

1.1 Background and Rationale

Chronic pain is recognized as a major public health problem (1). Review of the literature studies revealed that the annual prevalence of chronic pain in general population ranged from 1.4% to 51.3% (2-4). Additionally, another important health problem in the modern world is low back pain (LBP) (5). Depending on the population studied and the definition of LBP used, 11%–84% of the adult population experience LBP at some point in their lifetime, and the 1-year prevalence ranges from 20% to 65% in the general population (6-11). LBP is increasingly understood as a long-lasting condition with a variable course, rather a condition with unrelated occurrences (12). In the working population, between 24% and 61% of patients with a recent onset of LBP develop chronicity (13, 14). A systematic review reported that the prevalence of chronic LBP with individuals aged 18 and above between 3.9% and 20.3% (15). Chronic LBP is affecting an estimated annual cost of hundreds of millions of dollars, including direct medical expenditures and loss of work productivity (1). Moreover, the experience of pain interferes with different aspects of the patient's life, negatively affecting their daily activities, disability, physical and mental health, family and social relationships (16).

In recent decades, the biopsychosocial model of chronic pain has been proposed as a framework for understanding the complexity of pain and disability. One of key psychosocial factors shown to influence adjustment to chronic pain is pain-related self-efficacy, defined as an individual's confidence in his or her ability to

tolerate pain and to participate in daily activities despite pain (17-19). Measures of pain-related self-efficacy have been shown to evidence stronger associations with chronic pain intensity and disability than indications or measures of physical damage to bodily structures (18, 20, 21). Evidence also indicates that self-efficacy is a strong predictor of response to pain treatment (22, 23). Higher confidence in one's ability to tolerate pain is associated with pain tolerance (24) and may serve a protective function against the development of depressive symptoms in individuals with chronic pain (25).

Given the importance of self-efficacy to adjustment in individuals with chronic pain or other medical conditions, a number of measures of this construct have been developed, including the Arthritis Self-Efficacy Scale (ASES) (26), the Chronic Disease Self-Efficacy Scale (CDSES) (27), the Chronic Pain Self-Efficacy Scale (CPSS) (28), the Pain Self-Efficacy Questionnaire (PSEQ) (17), and the Self-Efficacy Scale (SES) (29). However, each of these has a number of disadvantages that limit their utility. Primary among these limitations is that they were developed using classic measure development theory (30), which requires that the measure be administered in full, thus limiting the options for tailored item selection or computer-assisted testing. The unavailability of an item bank (instead of static measures) also makes it challenging to score responses to the items or different combinations of the items into a common metric (usually T-scores, with a mean of 50 and SD of 10 in the normative population), allowing for ease of scale score interpretation and comparisons between different samples, even when or if the specific items from the item bank that were administered from the group differ (31).

To make available a measure of pain self-efficacy whose items were developed based on more modern scale development approaches (e.g., item response theory) (32), an item bank to assess an individual's confidence in their ability to engage in valued activities despite pain was developed, called the University of Washington Pain-Related Self-Efficacy Scale (UW-PRSE) (32). The UW-PRSE items were developed to be easily understood (with a reading level of 4.3th grade) and applicable to individuals with a variety of chronic pain problems, including chronic LBP. A 6-item brief version of the UW-PRSE has also been developed, which allows for the assessment of pain-related self-efficacy with minimal assessment burden.

In order for measures of domains that are important to adjustment to chronic pain to be useful in cross-cultural research, it is important that they be translated and culturally adapted to different languages. To date, however, the original English versions of the UW-PRSE items, including the UW-PRSE6 items, have not yet been translated into Thai. The aims of this study were to translate the UW-PRSE6 into Thai using the Functional Assessment of Chronic Illness Therapy translation methodology (FACIT) method of cross-cultural adaptation, and then evaluate the internal consistency, test-retest reliability, and construct validity of the Thai version of the UW-PRSE6 (T-UW-PRSE6) in individuals with chronic LBP. The hypothesis was that the T-UW-PRSE6 score would be positively associated with measures of adaptive function (i.e., Medical Outcome Study Short-Form 36 [SF-36]) and negatively associated with measures of dysfunction (i.e., Fear Avoidance Beliefs Questionnaire [FABQ]).

1.2 Research Questions

This study consists of two research questions:

1. Could the UW-PRSE6 be culturally adapted into Thai version?
2. Did the T-UW-PRSE6 has the reliability, both internal consistency and test-retest reliability?
3. Did the T-UW-PRSE6 has the construct validity?

1.3 Objectives of the study

This study consists of three objectives:

1. This study aimed to culturally adapt the UW-PRSE6 into Thai version.
2. This study aimed to investigate the reliability of the T-UW-PRSE6, which consists of internal consistency and test-retest reliability.
3. This study aimed to investigate the construct validity of the T-UW-PRSE6.

1.4 Hypothesis of the study

This study consists of two hypotheses:

1. The UW-PRSE6 could be culturally adapted into Thai version.
2. The T-UW-PRSE6 would be an acceptable internal consistency, test-retest reliability of the T-UW-PRSE6 in individuals with chronic LBP.
3. The T-UW-PRSE6 would have the construct validity.

1.5 Conceptual framework

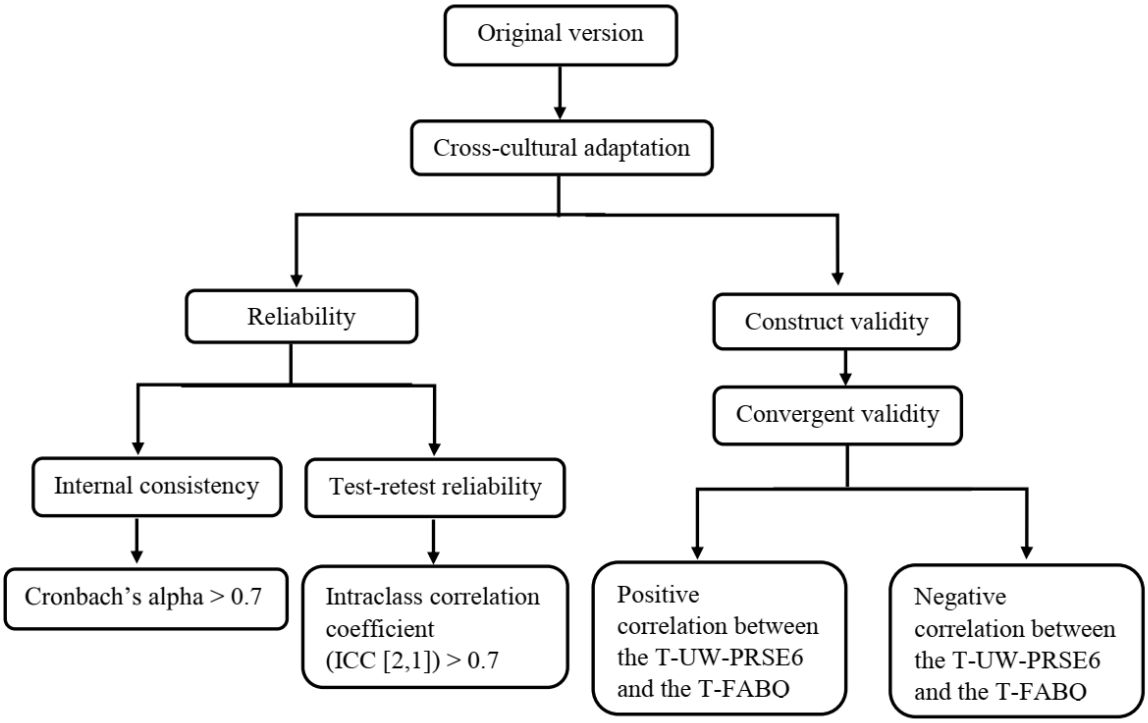

Figure 1 Conceptual framework of the T-UW-PRSE6.

1.6 Scope of study

This study was conducted in 241 participants with chronic LBP. This study consisted of two sub-studies.

Study A was the development of the Thai version of UW-PRSE6 using the Functional Assessment of Chronic Illness Therapy (FACIT) translation methodology.

Study B examined the reliability (i.e. internal consistency and test-retest reliability), and construct validity (convergent validity) of the T-UW-PRSE6 in individuals with chronic LBP.

1.7 Expected benefit and application

This study would provide information regarding the Thai version of UW-PRSE6 for standard tool in Thai community to use in the assessment of pain related self-efficacy on chronic musculoskeletal disorder, particularly chronic LBP. This information might help the clinicians for patient management and researchers for conducting research into self-efficacy in individuals with chronic musculoskeletal disorders.

CHAPTER 2

LITERATURE REVIEW

2.1 Self-efficacy definition

Self-efficacy was defined by Albert Bandura in 1977 as confidence that one can successfully execute a course of action to produce a desired outcome in a given situation and contended that self-efficacy determines how much effort and persistence people exhibit in the face of obstacles or aversive experiences (19). The significance of self-efficacy to one's ability to manage pain has been demonstrated in acute, chronic, and experimentally induced pain (33, 34). A previous study found that self-efficacy has powerful effects on learning, motivation, and performance because people try to learn and perform those tasks that they believe they will be able to perform successfully (35).

High self-efficacy to perform normal activities despite the pain is a significant predictor of recovery, whereas low self-efficacy predicts long-term disability in patients with pain (36). A previous study in patients with chronic pain found that those with high self-efficacy for controlling pain had higher pain thresholds and tolerance for experimentally induced thermal pain than those with low self-efficacy (24).

2.2 Relationship between self-efficacy and chronic pain

Self-efficacy is a particularly important concept in the management of chronic musculoskeletal pain. Self-efficacy suggests that pain coping behavior is, in part, mediated by expectancies of ability to manage and control pain (37). Self-efficacy was found to influence adjustment to a pain condition (33), pain intensity, disability (38, 39), depression (40, 41), and pain behavior and avoidance (42) in chronic pain patients, which can be explained by the fear-avoidance model **(Figure 2).**

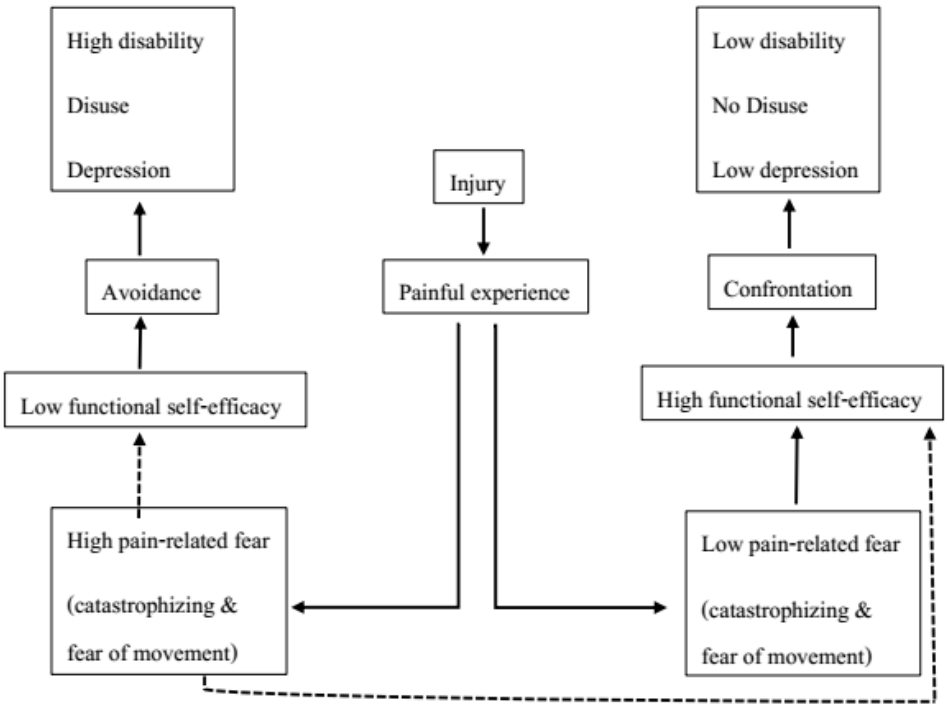

Figure 2 Modified fear-avoidance model incorporating the mediational role of self-efficacy of chronic pain (43).

The fear-avoidance model is commonly used to explain how psychological factors affect the experience of pain and the development of chronic musculoskeletal pain (44). The fear-avoidance model (45) suggest that the relation between pain-related fear and disability is contingent upon a patient's level of functional self-efficacy. This model asserts that when pain-related fear leads to a reduction in functional self-efficacy then avoidance behavior is likely to occur, which ultimately leads to greater disability, depression, and disuse. In contrast, when pain-related fear does not lead to a reduction in functional self-efficacy then avoidance behavior is less likely to occur, which in turn means that disability, disuse and depression is also less likely. On this model, it would seem imperative to assess both pain-related fear and functional self-efficacy when treating chronic LBP patients (43).

2.3 Self-efficacy associated with disability

Chronic musculoskeletal pain is a major cause of disability (46). Disability in people with chronic pain has also been linked to 'pain behaviors' (42), i.e. any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation), and interact with the world around them (participation restrictions) (47). Disability affects performances at work and general well-being (48). Self-efficacy appears to contribute to the levels of disability reported by chronic pain patients (49, 50).

Self-efficacy is a consistent psychological factor related to both the onset and development of spinal pain and disability (51). Self-efficacy is an important variable contributing to disability of chronic pain patients (40). A number of research support that the level of self-efficacy is a significant contributor to the extent that a person is

disabled by their chronic pain (38, 40, 41, 52). Previous studies on the impact of self-efficacy show that individuals who have high levels of self-efficacy were more likely to persevere in the face of failure and work harder on difficult tasks. Also, they exhibited fewer symptoms of anxiety than do individuals with lower levels of self-efficacy (53, 54). The presence of low levels of self-efficacy has been shown to be associated with high levels of disability in different samples of patients with chronic musculoskeletal pain (42, 55, 56). Therefore, evaluating and bolstering the patient's self-efficacy in their own abilities may be an important component of treatments.

2.4 Self-efficacy theory

The history of self-efficacy begins within Bandura's (1977) social learning theory that was renamed to the social cognitive theory in 1986. One of Bandura's major concepts in his theory is self-efficacy. Bandura outlines the role of self-efficacy in the paradigm of a person engaging in a behavior that will have a consequent outcome **(Figure 2)** (19). Self-efficacy theory is based on the principal assumption that behavioral change operates through the alteration of the individual's sense of self-efficacy (57, 58).

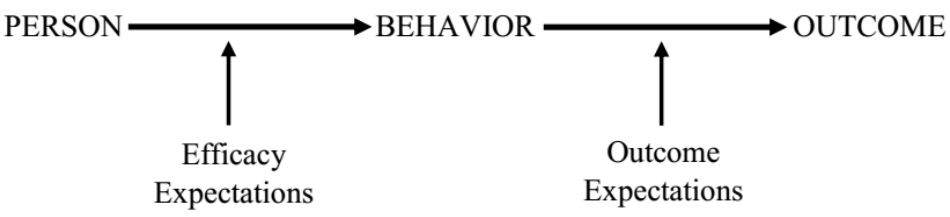

Figure 3 Modified diagrammatic representation of the difference between efficacy expectations and outcome expectations (19).

An efficacy expectations is the conviction that one can successfully execute the behavior required to produce the outcomes (19). An outcome expectations is defined as a person's own judgment of capabilities to perform a certain activity in order to attain a certain outcome. It should be noted that both efficacy and outcome expectations reflect a person's beliefs about capabilities and behavior-outcome links (59).

In this conceptual system, expectations of self-efficacy affect both initiation and persistence of coping behaviors (19). The strength of people's convictions in their own effectiveness is likely to affect whether they will even try to cope with given situations. At this initial level, self-efficacy also affects people's s choices of behavioral settings, the amount of effort they will expend on a task, and the length of time they will persist in the face of obstacles (60). People fear and tend to avoid threatening situations that they believe exceed their coping skills, whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating (19).

2.5 Dimensions of self-efficacy

Self-efficacy is viewed as varying along three dimensions: magnitude, strength, and generality (19, 61, 62). Each of these three dimensions has important implications for performance and each implies slightly different measurement procedures (59). Most previous studies on the measures of self-efficacy are mainly concerned with individual's hopes for favorable outcomes, rather than their sense of self-efficacy (19).

The first dimension, “Magnitude”, refers to the level of task difficulty a person believes that they can attain (35). Individuals with low-magnitude of self-efficacy feel capable of performing only the simpler of a graded series of tasks, while those with high-magnitude of self-efficacy feel capable of performing even the most difficult tasks in the series (59).

The second dimension, “Strength”, refers to a probabilistic judgement of how certain a person is of their ability to perform a disconfirming experiences (53). Strength of self-efficacy has been related repeatedly to persistence in the face of frustration, pain, and other barriers to performance (57). A two-step measurement procedure assures that, where appropriate, magnitude and strength will be tapped. First, individuals are presented with a list of performance activities reflecting various difficulty levels and are asked to designate those tasks they believe they can accomplish at that time. Then, for each designated task, they rate the strength of their belief on a 10 unit interval scale ranging from 10-100 (59). Weak self-efficacy are easily extinguishable by disconfirming experiences, whereas individuals who possess strong of self-efficacy will persevere in their coping efforts despite disconfirming experiences.

The third dimension, “Generality”, refers to the extent to which success or failure experiences influence self-efficacy in a limited, behaviorally specific manner, or whether changes in self-efficacy extend to other similar behaviors and contexts (63). Some experiences create self-efficacy specific to a particular task and other experiences may influence more generalized self-efficacy, such as being able to get things organized across tasks and situations.

2.6 Sources of self-efficacy

Self-efficacy is a learned, cognitive belief that is based on four major sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states when performing the behavior **(Figure 4)**.

2.6.1 Performance accomplishments

The first source of self-efficacy, termed performance accomplishments, refers to learning through personal mastery experience where one achieves mastery over a difficult or previously feared task and thereby enjoys an increase in self-efficacy (60). Performance accomplishments are the most powerful sources of self-efficacy (64). The effects of failure on personal efficacy partly depend on the timing and the total pattern of experiences in which the failures occur (19). Indeed, occasional failures that are later overcome by determined effort can strengthen self-motivated persistence if one finds through experience that even the most difficult obstacles can be mastered by sustained effort. Self-efficacy increases when a person is repeatedly successful at a task. However, if failure happens, the sense of self-efficacy declines. Once a person continues to be successful, a robust feeling of self-efficacy develops and is less troubled by minor setbacks. Any failures for this person are viewed as lack of effort and another attempt is made to become successful (65).

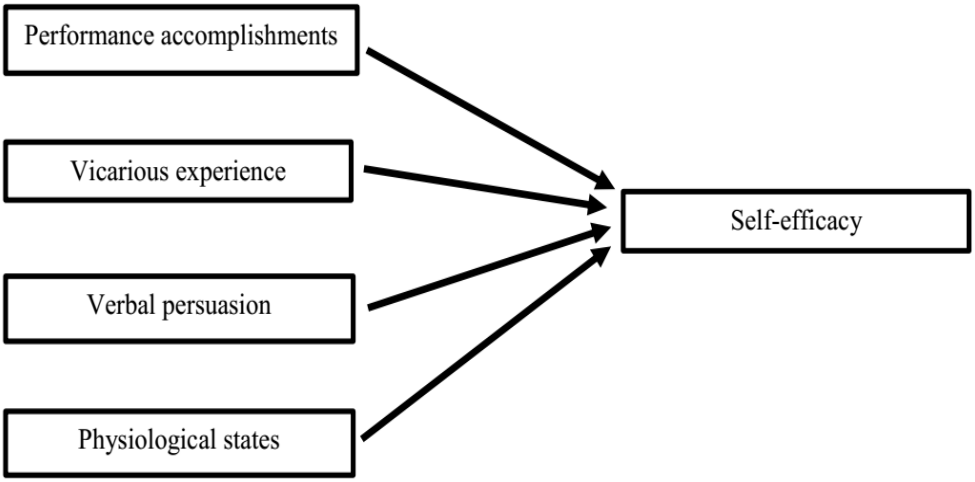

Figure 4 Major sources of self-efficacy information (19)

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2.6.2 Vicarious experiences

The second source of self-efficacy is vicarious experience, which includes learning that occurs through observation of events and/or other people (59, 66). The effects of vicarious experiences depend on such factors as the observer's perception of the similarity between himself and the social models, the number and variety of models, the perceived power of the social models, and the similarity between the problems faced by the observer and the model (67, 68). For example, people observe the behavior of others (69). Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they will improve if they intensify and persist in their efforts (19). If people of widely differing characteristics can succeed, then observers have a reasonable basis for increasing their own sense of self-efficacy (19).

2.6.3 Verbal persuasion

The third source of self-efficacy is verbal persuasion. People are led, through suggestion, into believing they can cope successfully with what has overwhelmed them in the past (19). The potency of verbal persuasion as a source of self-efficacy expectancies should be influenced by such factors as the expertness, trustworthiness, and attractiveness of the source (57). For example, people are persuaded verbally that they can achieve or master a task, they are more likely to do the task. Having others verbally support attainment or mastery of a task goes a long way in supporting a person's belief in himself or herself.

2.6.4 Physiological states

The fourth source of self-efficacy is physiological states. Physiological states influence self-efficacy when people associate aversive physiological arousal with poor behavioral performance, perceived incompetence, and perceived failure (57). Physiological states associated with an action, such as anxiety, stress, fatigue, or other emotions, can also have an effect on individuals' self-efficacy (70). Therefore, physiological state is another constituent source of information that can affect self-efficacy in coping with threatening situations. People are more likely to have self-efficacy beliefs about performance when their affect is positive than when it is negative (19). For example, the student struggling to master engineering problem-solving ("The things holding me back are that I have troubles with some of the problems, and get frustrated, I am worried that if I am having troubles from the start that I won't make it to the end.") exhibits obvious signs of anxiety in their discussion of frustration and doubts (70).

2.7 Measurement of pain related self-efficacy

The self-efficacy is usually assessed by using a questionnaire and the questionnaires that are used to assess self-efficacy in patients with musculoskeletal disorders (30) consisted of the Arthritis Self-Efficacy Scale (ASES) (26), Chronic Disease Self-Efficacy Scale (CDSES) (27), Chronic Pain Self-Efficacy Scale (CPSS) (28), Pain Self-Efficacy Questionnaire (PSEQ) (17), Self-Efficacy Scale (SES) (29), and Pain Related Self-Efficacy scale (UW-PRSE6).

2.7.1 Arthritis Self-Efficacy Scale

The Arthritis Self-Efficacy Scale (ASES) was developed in 1989 by Lorig et al (26). The ASES was developed to measure patients' arthritis-specific self-efficacy, or patients' beliefs that they could perform specific tasks or behaviors to cope with the consequences of arthritis (26). The original version of ASES consists of 20 items in 3 subscales: self-efficacy for managing pain, 5 items; self-efficacy for physical function, 9 items; and self-efficacy for controlling other symptoms, 6 items. The Cronbach's alpha coefficients of the ASES were 0.75, 0.90 and 0.87 and test-retest reliabilities were 0.87, 0.85 and 0.90 (26). The three subscales were found to correlate with both present and future health status based on indicators of pain, disability, and depression (71). Score range is 10–100 or 1–10 for each subscale, depending on response options used. Items are rated on a 10 (very uncertain) to 100 (very certain) rating scale, in 10-point increments (72). Higher scores indicate greater confidence in arthritis self-efficacy (71). The advantages of the ASES have been its specificity to arthritis patients and can be used to predict patients with arthritis disease.

The questionnaire is easy to score but it takes time to complete all items in the questionnaire (about 10 to 15 minutes).

2.7.2 The Chronic Disease Self-Efficacy Scale

The Chronic Disease Self-Efficacy Scale (CDSES) developed in the 1996 by Lorig et al. (27). The CDSES was developed for patients with chronic disease conditions, such as hypertension, diabetes, chronic obstructive pulmonary disease, arthritis disease, cardiovascular disease, lung disease, and stroke (73, 74). The effect of the chronic disease self-efficacy scale is commonly evaluated using the Chronic Disease Self-Efficacy Scale, which measures the self-efficacy to perform behaviors and to achieve outcomes among those with chronic diseases (75). The full version of CDSES measures multiple diverse aspects of managing chronic diseases (72). The original version of CDSES, in its entirety, contains 33 items in 10 subscales. The subscales are conceptually divided into 3 types of self-efficacy. First, self-efficacy to perform self-management behaviors consisted of four subscales: exercise regularly (3 items), get information about disease (1 item), obtain help from community, family, friends (4 items), communicate with physician (3 items). Second, self-efficacy to manage disease in general has one subscale: Manage Disease in General (5 items). Third, self-efficacy to achieve outcomes included five subscales: do chores (3 items), participate in social/recreational activities (2 items), manage symptoms (4 items), manage shortness of breath (1 item), and control/manage depression (6 items) (72, 75). Item stem for each item is “How confident are you that you can…” Responses are a 1–10 numerical rating scale for each item (1 = not at all confident, 10 = totally confident). Each subscale was scored from 1 to 10, with higher scores indicating

increased confidence. A score ≥7 indicates a good chance that the action plan would be accomplished, whereas a score <7 suggests that a reassessment of strategy and problem solving are beneficial to avoid failure (76). The CDSES displayed more satisfactory measurement properties with internal consistency coefficients ranging from 0.77 – 0.92 among the various subscales of the CDSES for the accumulated convenience sample. Test–retest correlations were 0.82–0.89 for different subscales (72). The questionnaire is easy to score and there were multiple domains in the questionnaire to assess patients with chronic diseases. However, it takes time to complete the questionnaire (about 15 to 20 minutes).

2.7.3 The Chronic Pain Self-Efficacy Scale

The Chronic Pain Self-Efficacy Scale (CPSS) was developed in 1989 by Anderson et al (28). The CPSS is designed to measure self-efficacy for coping with the consequences of chronic pain such as neck pain, shoulder pain, knee pain, abdomen pain, chest pain and fibromyalgia. The items from the Arthritis Self-Efficacy Scale were adapted for use with a general chronic pain population after discussions with patients and pain management specialists. An exploratory factor analysis of the CPSS responses identified 3 factors: self-efficacy for pain management (PSE), self-efficacy for physical function (FSE), and self-efficacy for coping with symptoms (CSE). There were 22 items in the CPSS. These items included modifications of the 5 items from the self-efficacy for pain management subscale of the ASES and the 9 items in the self-efficacy for physical function subscale of the ASES were modified to assess behaviors that are relevant to a general chronic pain population. The 6 items from the self-efficacy for controlling other arthritis symptoms

subscale of the ASES. The patients rated each belief on a 10-point Likert scale anchored on the ends by 10 = very uncertain and 100 = very certain. Coefficient alpha estimates of internal reliability were 0.88, 0.87, and 0.90 for PSE, FSE, and CSE, respectively (28). The advantages of the CPSS have been that the questionnaire is easy to score and there were three domains coping self-efficacy, functional self-efficacy, and pain self-efficacy in the questionnaire to assess the patients with chronic pain. However, it takes time to complete all items in the questionnaire (about 10 minutes).

2.7.4 The Pain Self-Efficacy Questionnaire

The Pain self-efficacy questionnaire (PSEQ) was developed in the 1989 by Nicholas et al (17). The PSEQ was developed for patients with chronic pain conditions (77), such as upper limb pain, neurosurgery, or orthopedic surgery (17, 29, 78-80). The PSEQ is a 10-item self-report questionnaire designed to assess the degree of confidence in people with ongoing pain in performing a number of activities despite pain. Each item is rated on a 7-point Likert-type scale (0 = not at all confident, 6 = completely confident). Low scores (< 20) indicate the person is more focused on the pain (i.e. seeking pain relief first). Unless this belief is addresses it is likely to limit willingness to exercise independently. High scores (> 40) indicate the person is likely to respond well to an exercise program. Total scores can range from 0 to 60, and a higher PSEQ scores indicates greater self-efficacy for functioning despite pain. The PSEQ has strong psychometric properties. A high degree of reliability was reflected in high internal consistency and high stability across time (up to 3 months)

under conditions of pain-focused treatment and no change in pain or disability (42, 81). The PSEQ is easy to understand and quick-to-administer.

2.7.5 Self-efficacy scale

The Self-Efficacy Scale (SCS) was developed in 1983 by Altmaier et al (29). An initial list of 50 such activities was generated in a pilot study in which a trained interviewer asked sample 48 LBP patients to describe activities that were difficult for them to perform. The SCS selected activities that varied in performance difficulty for low back patients and had high item-total correlations. The SCS consisting of 20 activities was selected for inclusion in the final self-efficacy scale. The item-total correlations ranged from 0.68 to 0.90 for the selected items, with a coefficient alpha of 0.97 for the total self-efficacy score. A previous study indicated how confident they were about their ability to successfully perform each of these 20 activities, despite pain, on a scale ranging from not at all confident (0) to very confident (10). Thus, scores could range from 0 to 200. The items in the SES are easy to understand. However, the questionnaire takes time to complete all 22 items in the questionnaire (29).

2.7.6 The UW Pain Related Self-Efficacy Scale

As indicated previously, pain-related self-efficacy has been defined as a person's confidence in his or her ability to manage pain and minimize the impact of pain on various aspects of their lives, including physical and psychological functioning (e.g., sleep, fatigue, mood), activities (e.g., leisure activities, self-care), and participation (e.g., work responsibilities, social interactions and relationships)

(32). The UW-PRSE6 items assess the respondents perceived ability to: (1) perform daily activities despite pain, (2) manage pain, (3) engage in valued activities despite pain, (4) keep pain from interfering with their social life, (5) stay in a good mood despite pain, (6) get a good night's sleep despite pain (32). Respondents indicate their agreement with each self-efficacy item on a 5-point Liker scale with 1 = "Not at all," 2 = "A little bit," 3 = "Somewhat," 4 = "Quite a bit," and 5 = "Very much" (Appendix A). The total raw score when all items are administered can range from 6 to 30, with higher scores indicating higher pain-related self-efficacy. However, the scores from the items administered – whether one item is administered or more than one item is administered – are normally transformed to a T-score, with a mean of 50 and SD of 10 in the normative sample (which was individuals with varying chronic pain conditions) (32).

2.8 Factors affecting pain related self-efficacy

Four factors that may directly or indirectly affect pain related self-efficacy include gender, age, personal goal setting, and cultural identity and socialization.

2.8.1 Gender

The gender differences are one factor that affects self-efficacy in responses to painful stimulation (82). Self-efficacy is one plausible factor that may mediate the relationship between gender and pain perception (82). Gender different trends emerged responses to factors that affect confidence in success and coping with pain (70). Previous studies reported that males with chronic pain had higher self-efficacy ratings than female patients (39, 83). Females were more likely than males to

experience recurrent pain, as well as frequent, severe, and longer-lasting pain. Females also tended to experience more pain-related disability than males (84, 85).

2.8.2 Age

The effect of age on self-efficacy in pain patients is less clear (86). The pattern of age differences may reflect developmental, daily living, or occupational differences that exist in the lives of such disparate age groups (86). A previous study found that the association between self-efficacy and age of the patient, chronic pain patients over 50 years of age generated lower self-efficacy scores than younger patient (86). On the other hand, Strong et al. (87) found no relationship between age of patients and self-efficacy. Evidence suggests no relationship between age of patient and self-efficacy about an ability to manage pain (86).

2.8.3 Personal goal setting

The personal goal setting has an impact on self-efficacy. Personal goals are determined in part by self-efficacy. Self-efficacy is suggested to influence the choice degree of challenge, and commitment to personal goal setting (88). Taking self-efficacy into account, assigned personal goals which are challenging yet attainable are considered to lead both to the highest performance levels and conjointly to resilient self-efficacy. People who perceive a high of self-efficacy set more challenging personal goals for themselves and possess a stronger commitment to these goals. These individuals are also more likely to construct or visualize success scenarios that guide performance than people with low self-efficacy (89).

2.8.4 Cultural identity and socialization

The effect of individuals cultural identities, and socialization are key predictors of self-efficacy (90). Cultural belief and socialization often affects the formation of self-efficacy to reduce pain (91). Previous studies on chronic pain in India and the United States found that cultural differences in philosophies and spirituality result in very different coping mechanisms in these two cultures (90, 92). Although patients in India and the United States experienced about the same degree of pain, patients in India reported less suffering and anger about the lack of pain relief compared with their counterparts in the United States. Pain management might occur because patients from different cultural groups express pain differently and/or health care professionals might interpret the expressions differently on the basis of their own cultural backgrounds (90).

2.9 Cross-cultural adaptation process

Cross-cultural adaptation of a health status self-administered questionnaire for use in a new country, culture, and/or language necessitates use of a unique method to reach equivalence between the original source and target language of the questionnaire. The term “cross-cultural adaptation” is used to encompass a process which looks at both language (translation) and cultural adaptation issues in the process of preparing a questionnaire for use in another setting (93). Vocabulary is more than a set of words. It contains ‘societal textures’ which give words nuances of meaning, peculiar to a language, and making translation difficulty (94). Three methods are commonly used in cross-cultural translation, including World Health Organization (WHO) methodology (95), the American Association of Orthopaedic

Surgeons (AAOS) (93), and Functional Assessment of Chronic Illness Therapy (FACIT) translation methodology (96). The FACIT translation methodology is more rigorous with fine details in each stage of the cross-cultural translation than the others (96).

2.9.1 World Health Organization (WHO) methodology

World Health Organization (WHO) methodology was established to achieve different language versions of the original English instrument that are conceptually equivalent in each of the target countries or cultures. The process is consisted of 5 steps, i.e. forward translation, expert panel, back translation, pre-testing and cognitive interviewing, and the final version (95).

1. Forward translation

One translator, preferably a health professional, who is familiar with terminology of the area covered by the instrument and with interviewing skills translates the original English questionnaire into target language. The translator should be knowledgeable of the English-speaking culture but his/her mother tongue should be the primary language of the target culture. Instructions should be given in the approach to translating, emphasizing conceptual rather than literal translations, as well as the need to use natural and acceptable language for the broadest audience.

2. Expert panel

Bilingual expert panel, who are fluent in English and the target language, review the forward translation to identify and resolve the inadequate

expressions/concepts of the translation. The expert panel may question some words or expressions and suggest alternatives. Experts should be given any materials that can help them to be consistent with previous translations. The number of experts in the panel may vary. In general, the panel should include the original translator (forward translator), experts in health, as well as experts with experience in instrument development and translation.

3. Back-translation

Using the same approach as that outlined in the first step, the instrument will then be translated back to English by an independent translator, whose mother tongue is English and who has no knowledge of the questionnaire, translates the questionnaire back to English.

4. Pre-testing and cognitive interviewing

Pre-test respondents should include individuals representative of those who will be administered the questionnaire. Pre-test respondents should number 10 minimum for each section. Respondents should also be asked about any word they did not understand as well as any word or expression that they found unacceptable or offensive. This information is best accomplished by in-depth personal interviews although the organization of a focus group may be an alternative. A written report of the pre-testing exercise, together with selected information regarding the participating individuals should also be provided.

5. Final version

The final version of the instrument in the target language should be the result of all the iterations described above. It is important that a serial number (e.g. 1.0) be given to each version.

2.9.2 The American Association of Orthopaedic Surgeons (AAOS) Outcomes Committee

The cross-cultural adaptation of a health status self-administered questionnaire for use in a new country, culture, and/or language necessitates use of a unique method, to reach equivalence between the original source and target versions of the questionnaire. The process is consisted of 11 stages was suggested. They are initial translation, synthesis, back translation, expert committee review, pretesting, as well as submission and appraisal (93).

Stage I: Initial Translation

The first stage in adaptation is the forward translation. Many recommend that at least two forward translations be made of the instrument from the original language (source language) to the target language. The translators each produce a written report of the translation that they complete. Additional comments are made to highlight challenging phrases or uncertainties. Their rationale for their choices is also summarized in the written report. The two translators should have different profiles, or backgrounds.

Stage II: Synthesis of these Translations

To produce a synthesis of the two translations, a third, unbiased person is added to the team. Working from the original questionnaire as well as the first translator's and the second translator's versions, a synthesis of these translations is first conducted, with a written report carefully documenting the synthesis process, each of the issues addressed, and how they were resolved. It is important that consensus rather than one person's compromising her or his feelings resolve issues.

Stage III: Back Translation

A translator who is totally blinded to the original version of the questionnaire translates the synthesized questionnaire into the original language. This is a process of validity checking to make sure that the translated version is reflecting the same item content as the original versions. The back-translations are produced by two persons with the source language as their mother tongue. The two translators should neither be aware nor be informed of the concepts explored, and should preferably be without medical background.

Stage IV: Expert Committee

The composition of this committee is crucial to achievement of cross-cultural equivalence. The minimum composition comprises methodologists, health professionals, language professionals, and the translators (forward and back translators) involved in the process up to this point. The original developers of the questionnaire are in close contact with the expert committee during this part of the process. The expert committee's role is to consolidate all the versions of the

questionnaire and develop what would be considered the pre-final version of the questionnaire for field testing. The committee will therefore review all the translations and reach a consensus on any discrepancy. The expert committee is making critical decisions so, again, full written documentation should be made of the issues and the rationale for coming to a decision about them.

Stage V: Test of the Pre-final Version

This field test of the new questionnaire seeks to use the pre-final version in subjects from the target setting. Ideally, between 30 and 40 persons should be tested. Each subject completes the questionnaire, and is interviewed to probe about what he or she thought was meant by each questionnaire item and the chosen response. Both the meaning of the items and responses would be explored. This ensures that the adapted version is still retaining its equivalence in an applied situation.

Stage VI: Submission of Documentation to the Developers or Coordinating Committee for Appraisal of the Adaptation Process

The final stage in the adaptation process is a submission of all the reports and forms to the developer of the instrument or the committee keeping track of the translated version. They in turn probably have a means to verify that the recommended stages were followed, and the reports seem to be reflecting this process well.

2.9.3 The functional assessment of chronic illness therapy (FACIT) translation methodology

The FACIT translation methodology emphasizes on a universal translation approach that includes multicounty review, the use of qualitative and quantitative methods in testing, and the exploration of new methods such as differential item functioning (DIF) analysis using item response theory to evaluate item equivalence. The process contains of 11 steps for translation that was shown to provide good overall comprehensibility among native language-speakers when being tested multilingually **(Figure 5)** (96).

1. Forward translation

Source items in English were translated into target language by two native speaking, independent professional translators. The translators were instructed to use simple language and to capture the meaning of the item rather than perform a literal translation. Furthermore, the translators were encouraged to complete (i.e. give a response to) the items for themselves to get a better understanding of the meaning and interpretation of the items.

2. Reconciliation

The reconciliation process utilizes one native speaker of the target language who was not involved with the forward translation to decide which forward translation is the most appropriate, alter any forward translations to make them more suitable, or offer new forward translations, if necessary. In terms of the qualifications of the person carrying out this role, it can be either a professional translator or a health

professional with experience in the translation of patient-oriented instruments that use language familiar to patients.

3. Back-translation

The back-translation of the reconciled version involves one native English speaker who is fluent in the target language and who was not involved in the previous steps of the translation process. The back-translator has access to the reconciled version of the two forward translations only and not to the two forward translations nor to the original English items undergoing translation.

4. Back-translation review/Quality control

Comparing back-translation with source document: FACIT staff compared source and back-translated English versions to identify discrepancies in the back-translations and provided clarification to the reviewers on the intent behind the items. This process accomplishes two goals: (a) assessing the equivalence of the source and target translation by means of the back-translation and (b) allowing for harmonization across the different languages being translated by comparing back-translations and ensuring consistency among them.

5. Expert review/Independent reviews

Three to four bilingual experts who may include health professionals independently analyze the forward translations, reconciliation, back-translation, and any comments noted by FACIT staff, providing commentary and alternative translations if needed, along with back-translations. Their main purpose is to analyze

the target-language translation in light of all the information provided and select the best target-language translation for each item. When possible, the developer should be involved in this process.

6. Pre-finalization review

FACIT staff evaluated the merit of the expert reviewers' comments, identified potential problems in their recommended translations and formulated questions and comments to guide the language coordinator for the target language.

7. Finalization process

After reviews are completed, they are evaluated by reviewing all of the preceding steps and addressing FACIT staff's comments, who is an experienced translator familiar with the intent of the items, to produce a final translation of the item.

8. Harmonization and quality control

The FACIT staff checked the equivalence of the final translation and item consistency in all reports in collaboration with the PROMIS® Statistical Center. The Language coordinator was consulted again for additional opinions as necessary.

9. Formatting and proofreading

All items were checked for spelling and grammatical issues by two independent proofreaders, and a reconciler, checked all items for spelling and grammar and formatted them as a questionnaire.

10. Cognitive testing and linguistic validation

Pretesting involves a standardized procedure so that data collected at different sites can be compared. Patients are recruited based on their native language, having the relevant diagnoses, and receiving relevant treatments if any. This allows for evaluation of the suitability of the translation for self-administration and replicates the trial setting quite well. After completing the questionnaire, the patient is asked questions on an item-by-item basis to restate the item in his or her own words and to provide interpretations for particular items that were problematic in translation. This process ensures that the meaning intended by the developer has been retained in translation and is also understood by the patient in the same way.

11. Analysis of participants' comments and finalization of translation

Participants' comments were analyzed to determine whether any item(s) needed to be revised and any possible issues are summarized. The translation was revised as appropriate where difficulty was reported or where there was a mismatch between understanding of the item and its intended meaning. Revisions were applied consistently for the same wording within and across banks.

The FACIT instruments comply with most of the recommendations for the development of instruments that will easily be translatable (97, 98). This methodology was proposed to be less bias when using the same translation across cultural groups than in applying country-specific versions produced by different individuals who tend to introduce stylistic changes that are not necessarily country specific in nature (96).

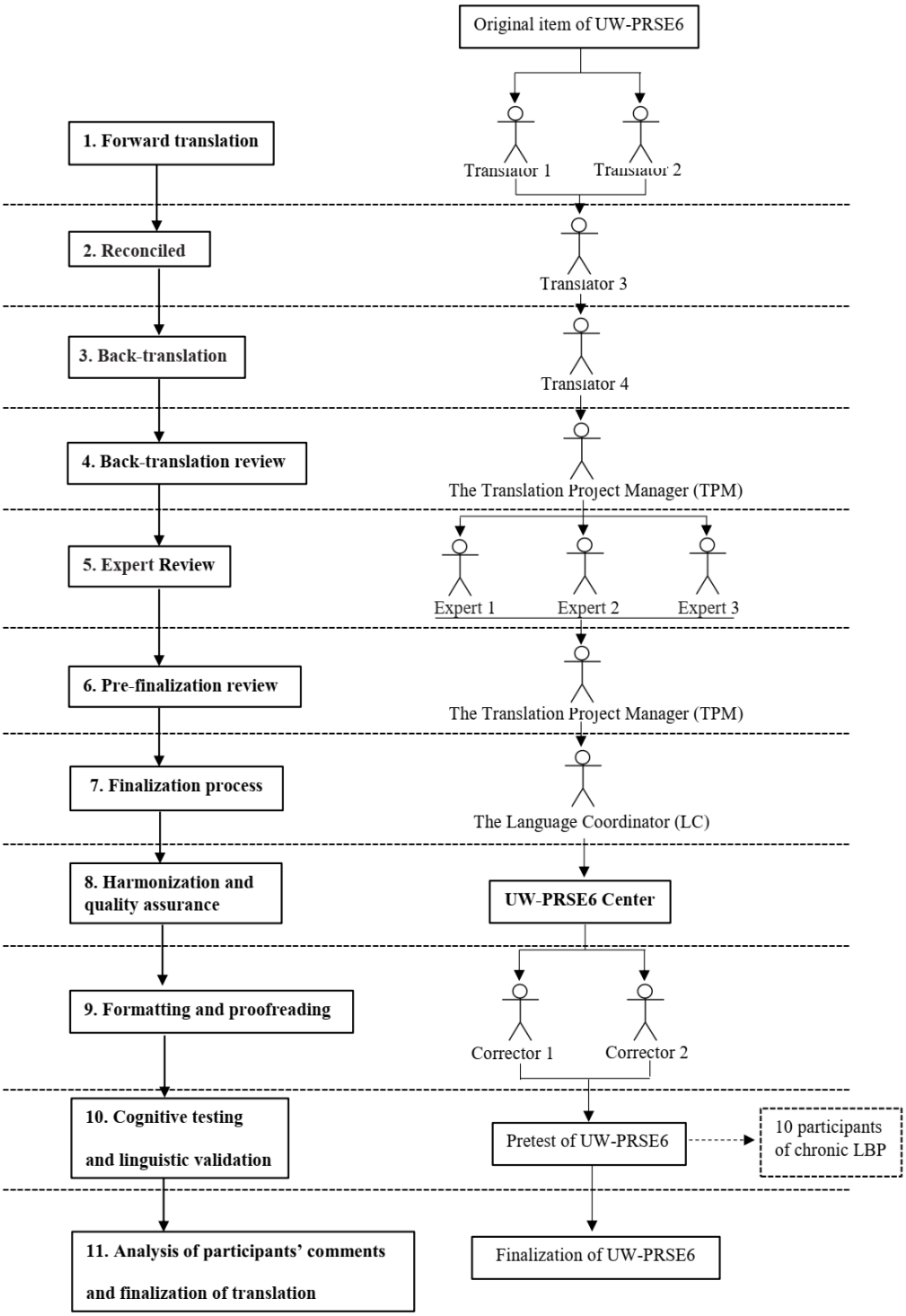
Original item of UW-PRSE6
Translator 1
Translator 2
1. Forward translation
2. Reconciled
Translator 3
3. Back-translation
Translator 4
4. Back-translation review
The Translation Project Manager (TPM)
5. Expert Review
Expert 1
Expert 2
Expert 3
6. Pre-finalization review
The Translation Project Manager (TPM)
7. Finalization process
The Language Coordinator (LC)
8. Harmonization and quality assurance
UW-PRSE6 Center
9. Formatting and proofreading
Corrector 1
Corrector 2
10. Cognitive testing and linguistic validation
Pretest of UW-PRSE6
10 participants of chronic LBP
11. Analysis of participants' comments and finalization of translation
Finalization of UW-PRSE6

Figure 5 Modified FACIT methodology diagram (96).**CHAPTER 3**

METHODOLOGY

3.1 Study A : Translation and cross-cultural adaptation

The original English version of the UW-PRSE6 (APPENDIX A) was used in order to produce the T-UW-PRSE6 (APPENDIX E). The translation team implemented specific steps in order to develop precise and culturally appropriate translations of the English source. Documentation of this process can be found in the item histories. The UW-PRSE6 V1.0 obtained from a team of researchers from the University of Washington, Seattle, USA, was used in this study consisting of six items. The methodology in translation refer to FACIT translation methodology which consisted of 11 steps (96).

3.1.1 Step I: Forward translation

Source items in English were translated into Thai by two bi-lingual native Thai speakers. The translators were asked to employ simple language appropriate to Thai culture. The translators completed each item for themselves to get a better understanding of the meaning and interpretation of the items.

3.1.2 Step II: Reconciliation

A third native Thai speaker, reconciled any differences in the translations of the first two translated questionnaires. After that, the most suitable translation was generated and the reasons for supporting the reconciliation were recorded by this individual (APPENDIX B).

3.1.3 Step III: Back-translation

The reconciled Thai version was back-translated by a native English-speaking translator who was also fluent in Thai. The back translator was blind to the original source English version. The translator performed the translation using simple language that captured the literal meaning of the items.

3.1.4 Step IV: Back-translation review/Quality control

A native English speaker and who had experience in the development of the UW-PRSE6 performed a review of the back-translation. The source and the back-translated English versions were compared to assess the equivalence of the English source and Thai translation. The Translation Project Manager (TPM), who is a health professional with experience in the intent of the items and a native Thai speaker, provided comments on the discrepancies which helped clarify the intent behind the items

3.1.5 Step V: Expert reviews /Independent reviews

Three bilingual Thai native speakers who are healthcare professionals, examined all of the preceding steps and selected the most appropriate translation for each item, or developed alternate translations if none of the previous translations were deemed acceptable.

3.1.6 Step VI: Pre-finalization review

The TPM evaluated the merit of the reviewers' comments. Any potential problems in their recommended translations were identified and commented in order to guide the Thai language coordinator.

3.1.7 Step VII: Finalization process

The Language Coordinator (LC), who is a health professional with experience in the intent of the items and was a native Thai speaker, determined the final translation by reviewing of the preceding information as well as the TPM's comments. The LC provided explanations for the choice of final translation. In addition, the respective literal back-translation and polished back-translation for each item were provided.

3.1.8 Step VIII: Harmonization and quality assurance

A native English speaker who was involved in the development of the UW-PRSE6 made a preliminary assessment of the accuracy and equivalence of the final translation and verifying that documentation of the decision-making process was complete. The LC was consulted again for additional input when necessary.

3.1.9 Step IX: Formatting and proofreading

Formatting, typesetting, and proofreading of all items of the final translation were checked for spelling and grammatical issues or item forms by two proofreaders who worked independently and reconciled the proofreading comments.

3.1.10 Step X: Cognitive testing and linguistic validation

The final version of the Thai version of the UW-PRSE6 was pretested. The objective was to verify that the meaning of each item was equivalent to the English source after translation. An interview script in Thai was created by the TPM. Ten Thai native speakers with chronic pain participated in this step. Each participant completed the questionnaire independently. They were then asked to provide feedback on the difficulty and appropriateness of each item. Participants were asked questions regarding item comprehension (i.e., the meaning of specific words in the items, the overall meaning of the item, or why they chose a specific answer). When appropriate, the participants were asked to provide alternative wording for any items that they indicated were difficult to understand.

3.1.11 Step XI: Analysis of participants' comments and finalization of translation

The TPM compiled participants' comments (back-translated into English) and summarized the issues. All of the participants' comments and suggestions were examined and considered by the TPM to determine whether the items were well understood by Thai participants. In consultation with the LC, final revisions were made to the translation. Finally, the native English speaker who was involved in the development of the UW-PRSE6 conducted a final quality review, and the translation was finalized.

3.2 Study B : An examination of the reliability, and construct validity of the TUW-PRSE6 in individuals with chronic LBP.

3.2.1 Participants

A convenience sample of individuals with chronic LBP from physical therapy departments in hospitals and physical therapy clinics in the Bangkok metropolitan area was recruited to evaluate the psychometric properties of a number of measures that were translated into Thai. All potential participants who have the same inclusion and exclusion criteria was screened using a questionnaire (Appendix C). The other questionnaire was used to collect participants' demographic data (Appendix D). The study was approved by the Chulalongkorn University Human Ethics Committee (COA No. 156/2018) (Appendix I).

Inclusion criteria

- were native Thai speakers who could understand and communicate in Thai language
- were over 18 years of age
- had chronic LBP that had persisted at least three months and had resulted in pain on at least half the days in the past six months. The low back region is the space between the lower posterior margin of the rib cage and the horizontal gluteal fold (1).

Exclusion criteria

- were those having serious conditions or complications such as fever or vision and hearing impairments during data collection period that might affect the ability to answer the questionnaire.

3.2.2 Evaluation of internal consistency

Internal consistency refers to the degree of interrelatedness among items, which indicates the extent to which these items measure the same construct (99). Cronbach's α was used to determine the homogeneity of the items.

3.2.2.1 Evaluation of ceiling and floor effects

The ceiling and floor effects occur when a considerable proportion of subjects score the best/highest or worst/lowest score for each item of the T-UW-PRSE6 (100). Ceiling and floor effects are considered to be present if more than 15% of respondents achieved the lowest or highest possible score, respectively (101).

3.2.3 Evaluation of test-retest reliability

Test-retest reliability of self-reported questionnaires concerns the extent to which the score is relatively free of systematic error. It can be evaluated by determining the extent to which scores obtained from the same individual at different time points and who have not changed are similar. Therefore, this study aimed to evaluate the test-retest stability coefficients for the T-UW-PRSE6 scale scores among individuals with chronic pain, who indicated on an 11-point global perception of change scale that they did not change between two assessments made seven days apart.

3.2.4 Evaluation of construct validity

For evaluating convergent validity, *a priori* hypotheses were formulated regarding associations between the T-UW-PRSE6 scores and measures of domains thought to be similar and related to the construct of pain-related self-efficacy.

One of the measures used to evaluate the construct validity of the T-UW-PRSE6 was the Thai version of the 16-item Fear Avoidance Beliefs Questionnaire (T-FABQ), which was designed to measure fear-related beliefs regarding the effects of physical activity on the experience of pain in individuals with LBP (102). With the FABQ, respondents indicate their level of agreement with each item reflecting fear of movement on a 7-point Likert scale, with 0 = "Completely disagree" and 6 = "Completely agree." The FABQ has two scales, assessing fear of movement related to work (Work scale) and fear of movement associated with physical activity (Physical Activity scale) (Appendix F). The FABQ Work scale can range from 0 to 42 and the FABQ Physical Activity scale ranges from 0 to 24. A higher score indicates more strongly held fear avoidance beliefs (103-105). If the T-UW-PRSE6 were valid, this study anticipated negative moderate to strong associations between it and the two FABQ scales. The FABQ was administered at the initial assessment only.

The Thai version of Medical Outcome Study Short-Form 36 (T-SF-36) is a self-administered questionnaire containing 36 items that assess eight quality of life domains. The scale score labels are General Health, Physical Functioning, Role Limitations Related to Physical Problems, Role Limitations Related to Emotional Problems, Social Functioning, Bodily Pain, Vitality, and Mental Health (Appendix G) (106, 107). Items assessing each domain are coded, summed, and transformed on to a scale from 0 to 100, with higher scores indicating better quality of life or health status

for that domain. The two-week test-retest reliabilities of the T-SF-36 have been shown to be comparable to those of the original scale, ranging from 0.60 to 0.81 (106). If the T-UW-PRSE6 scale were valid, this study anticipated negative and statistically significant associations between it and all of the T-SF-36 scales. The T-SF-36 was administered at the initial assessment only.

In order to assess the reliability and construct validity of the T-UW-PRSE6, each participant was asked to complete the T-UW-PRSE6 items twice with at least a 7-day interval in between. They were asked to complete a 11-point Global Perception of Change (GPC) scale (Appendix H) (108) at the second assessment. Respondents rated the overall change in their condition since the last assessment on a -5 to 5 scale, with -5 = "Vastly worse" and 5 = "Completely recovered". For purposes of evaluating the test-retest reliability of the T-UW-PRSE6, only the subset of the sample who reported little or no change in their condition over the 1-week interval, i.e. scoring from -1 to 1 on the GPC scale, were included.

3.3 Statistical analysis

Demographic characteristics of participants were analyzed using descriptive statistics. Internal consistency of the items of T-UW-PRSE6 questionnaire was assessed using Cronbach's alpha. Cronbach's alpha is between 0.70 and 0.90. Values less than 0.70 indicated irrelevant questionnaire items, whereas values greater than 0.90 indicated redundancy of the questionnaire items (109). Test-retest reliability of the questionnaires was evaluated using the intraclass correlation coefficient (ICC [2,1]) (110). The correlation values will be interpreted as follows: above 0.75 is good to excellent, 0.50-0.75 is moderate to good, 0.25-0.50 is fair, and below 0.25 is no

relationship (111). The $SEM_{test\text{-}retest}$ was calculated by the square root of an error variance of the ICC(2,1) (112, 113). Minimal detectable change at 95% confidence ($MDC_{95\%}$) was calculated using the following formula: $MDC_{95\%}$ = Square root of 2 x $SEM_{test\text{-}retest}$ x 1.96 (112, 113). Construct validity of T-UW-PRSE6 was evaluated by computing Spearman correlation coefficients between the T-UW-PRSE6 scale score and the measures of the validity criterion variables, including the eight subscales of SF-36 scores and the two subscales of FABQ scores. As indicated in the Introduction, if valid, The hypothesis was that the T-UW-PRSE6 score was positively associated with measures of adaptive function (i.e., SF-36 General Health, Physical Functioning, Role Physical, Role Emotional, Social Functioning, Bodily Pain, Vitality, and Mental Health scales) and was negatively associated with measures of dysfunction (i.e., FABQ work and physical activity subscales), i.e., demonstrate convergent validity. All the statistical analyses were conducted using SPSS statistical software, version 22.0 (SPSS Inc, Chicago, IL, USA). Statistical significance was set at the 5% level.

CHAPTER 4

RESULT

Two hundred and forty-one participants with chronic LBP enrolled in the study. The descriptive characteristics of participants are presented in **Table 1**. As can be seen, the majority of the sample were women (71%) and the sample had an average age of 46.2 years. The majority of participants (80%) were employed. Their average low back pain duration was 52.3 months.

Table 1 Characteristic of participants (n = 241)

General characteristics	n (%)	Mean (SD)
Age		46.2 (16.9)
Sex		
-Male	69 (29%)	
-Female	172 (71%)	
Weight (self-reported), kilograms		63.0 (12.9)
Height (self-reported), meters		1.6 (0.09)
Pain duration, months		52.3 (76.4)
Chronic LBP in the past six months		
-Every day or nearly every day in the past 6 months	114 (47%)	
-At least half the days in the past 6 months.	127 (53%)	
Employment status		
-Yes	194 (80%)	
-No	47 (20%)	

LBP, Low back pain.

4.1 Internal Consistency

The Cronbach's alpha of the T-UW-PRSE6 was 0.85, indicating a good internal consistency for the measure in the study sample (114).

4.1.1 Ceiling and floor effects

There was no ceiling or floor effect of the participants in the highest score (30) or lowest score (6) of the T-UW-PRSE6. The ceiling or floor effect was considered present as the percentages did not exceed 15%. Cronbach's alpha for the T-UW-PRSE6 score and ceiling and floor effect are presented in **Table 2**.

Table 2 Cronbach's alpha and ceiling and floor effect statistics for the T-UW-PRSE6 scales (n = 241)

Measure	Cronbach's alpha	Ceiling effect (%)	Floor effect (%)
T-UW-PRSE6	0.85	6 (0%)	30 (3.7%)

4.2 Test-retest reliability

One hundred and fifty-two of the participants rated their overall condition as having little to no change at the second assessment. Descriptive characteristics of participants are presented in **Table 3**. The mean T-UW-PRSE6 score at the baseline and second assessments for these individuals were 53.2 (± 7.4) and 53.5 (± 7.0), respectively (p = 0.507) The overall test–retest reliability (ICC [2,1]) of the T-UW-PRSE6 in this subsample was 0.72, indicating moderate to good test-retest reliability (111). Means, standard deviations, and the test-retest reliability coefficients of the

T-UW-PRSE6 scores at baseline and one week later for participants who reported little to no change in their condition (n = 152) are presented in **Table 4**.

Table 3 Characteristic of test-retest study participants (n = 152)

General characteristics	n (%)	Mean (SD)
Age		44.61 (16.38)
Gender		
-Male	38 (25%)	
-Female	114 (75%)	
Pain duration, months		59.00 (85.71)
Pain intensity (1-10)		4.10 (2.14)
11-point global perception of change scale		
- No change (-1)	32 (21.1%)	
- No change (0)	90 (59.2%)	
- No change (1)	30 (14.7%)	
Employment status		
-Yes	125 (82.2%)	
-No	27 (17.8%)	

Table 4 Means (standard deviations) and the test-retest reliability coefficients of the T-UW-PRSE6 scales (n = 152)

Measure	**Baseline** Mean(SD)	**1 week** Mean(SD)	**ICC(2,1)**	**SEM**$_{test\text{-}retest}$	**MDC**$_{95\%}$
T-UW-PRSE6	53.21(7.4)	53.50(7.0)	0.72	2.82	7.82

ICC, Intraclass correlation coefficient; MDC, Minimal detectable change; SEM, Standard error of measurement.

4.3 Construct Validity

Two hundred and forty-one participants with chronic low back pain completed all measurement instruments at the baseline assessment. Minimum, maximum, Mean(SD), Spearman Correlation Coefficient between the T-UW-PRSE6, and the validity criteria measures are presented in **Table 5.** As can be seen, for convergent validity, a significant positive correlation was found between the T-UW-PRSE6 scores and the T-SF-36 General Health (r = 0.38), Physical Functioning (r = 0.42), Role Physical (r = 0.54), Role Emotional (r = 0.51), Social Functioning (r = 0.47), Bodily Pain (r = 0.54), Vitality (r = 0.41), and Mental Health (r = 0.40) scales (all ps < 0.01). Significant negative correlations were found between the T-UW-PRSE6 score and the FABQ Work (r = -0.34) and Physical Activity (r = -0.34) scales (ps < 0.01).

Table 5 Minimum, Maximum, Mean(SD), Spearman Correlation Coefficient between the T-UW-PRSE6 and the validity criteria measures (n = 241)

	Measures	Correlation Coefficient (r)	Minimum	Maximum	Mean(SD)	*P*
SF-36	General Health	0.38	0	162.50	55.30(23.15)	< 0.01
	Physical Functioning	0.42	0	100	55.65(26.73)	< 0.01
	Role Physical	0.54	0	100	67.74(22.30)	< 0.01
	Role Emotion	0.51	0	100	70.47(25.15)	< 0.01
	Social Functioning	0.47	25	100	69.97(21.38)	< 0.01
	Bodily Pain	0.54	10	100	53.40(18.22)	< 0.01
	Vitality	0.41	18.75	93.75	58.27(16.71)	< 0.01
	Mental Health	0.40	15	100	66.31(16.00)	< 0.01
FABQ	Work subscale	-0.34	0	42	20.74(9.85)	< 0.01
	Physical Activity subscale	-0.34	0	24	15.71(5.84)	< 0.01

SF-36, Short-Form 36; FABQ, Fear Avoidance Beliefs Questionnaire.

CHAPTER 5

DISCUSSION

The aims of this study were to translate the UW-PRSE6 into Thai using the FACIT methods for cross-cultural adaptation and evaluate the measurement properties of the Thai version of UW-PRSE6 in individuals with chronic low back pain. The findings support the successful cross-cultural adaptation process of the UW-PRSE6 instructions and items into Thai. In addition, the findings showed that the T-UW-PRSE6 has good internal consistency, moderate to good test–retest reliability, and construct validity, as evidenced by significant associations with measures of the validity criterion variables, including the eight T-SF-36 subscale scores and two FABQ subscale scores.

The process of translation and back-translation of the Thai version of UW-PRSE6 was carried out strictly in accordance with the established guidelines (93). Backward translation was used to correct possible misinterpretations of forward translation and confirm conceptual equivalence. In the review process, we compared the translated instructions and items in all steps with the original version and found that the meaning of some items from the back-translation process had different meanings from the original version. This step occasionally indicates ambiguous wording in the translation process. Consequently, the items were revised to ensure that they communicated the meaning of the original version. For example, “Deal with the pain you have during your everyday activity” was changed to “Manage the pain you have during your everyday activity,” because the literal meaning of “deal with” in Thai does not communicate the same meaning as in English. However, only one

translator in the step of backward translation may lead to bias due to personal perception, Thus, it is recommended to increase a number of translators in the translation process.

The FACIT translation methodology to ensure that we complied with the highest quality translation and adaptation procedures (98, 115). One aspect of the FACIT translation methodology that makes it unique among translation procedures is its emphasis on a universal translation approach whenever possible, which addresses the challenge of dealing with languages that are spoken in multiple countries. The FACIT methodology attempts to attain five dimensions of equivalence in cross-cultural translation: semantic/linguistic, content, conceptual, criterion, and technical equivalence between the source and target questionnaires (116). The FACIT translation methodology also provides opportunities for significant dialogue between the reviewer/language coordinator and the project manager, during which item translations are discussed and explored, ensuring appropriate decision making regarding the translation and cross-cultural adaptation of each item (117). In the translation process, translator should be reminded to use language that can be comprehend by a majority of people, especially those aged 10 to 12 year old (97).

The results indicated that, as hypothesized, the T-UW-PRSE6 is conceptually related to the T-SF-36 and T-FABQ subscales. Our findings indicating significant and positive associations between the T-UW-PRSE6 score and the SF-36 subscale scores are consistent with those from studies using English speaking samples, which also found positive associations between measures of pain-related self-efficacy and measures of different quality of life domains, such as activities of daily living, mobility, and physical function (39, 118, 119). Consistent with previous studies**,** the

findings also support the importance of pain-related self-efficacy as a predictor of adjustment to chronic pain. Higher pain related self-efficacy levels are consistently associated with better scores in quality of life, high activity levels**,** reduced disability, lower pain intensity, less pain behaviors, and worked longer hours (17, 119-122).

The study findings indicating significant negative associations between the T-UW-PRSE6 scores and the FABQ subscale scores is consistent with those from a previous study, showing a significant negative association between a measure of pain self-efficacy and fear avoidance in an English speaking sample of patients with chronic low back pain (49). Participants with higher self-efficacy have also been found to have less fear of movement, catastrophizing, avoidance of pain, less pain severity, disability, and depression (43, 123). This study found that the T-UW-PRSE6 had low correlation with T-FABQ, which may be explained by the majority of participants were female. Differences between male and female with regard to pain perception have been proposed in various studies. Previous study evaluated the fear avoidance beliefs of patients with chronic diseases and found that males reported greater fear avoidance belief scores than females (124), although females reported experiencing more pain and show greater sensitivity and less tolerance to painful stimuli (125, 126).

The T-UW-PRSE6 is a health status measure designed to be completed by patients to assess self-efficacy due to chronic pain. The T-UW-PRSE6 is brief, easy to complete, and readily understood by patients. The results of the current study indicate that the T-UW-PRSE6 can be translated and culturally adapted into the Thai language without significant modification of the contents and questionnaire structure. All participants in the current study could complete the questionnaire by themselves,

demonstrating its ease and comprehensibility in our sample of Thai individuals with chronic low back pain.

However, there are a number of study limitations that should also be considered when interpreting the study findings. First, the T-UW-PRSE6 was tested in a sample of patients with chronic low back pain. Thus, this study was unable to evaluate its reliability and validity in individuals with other types of chronic pain problems. While lack of any reasons to anticipate that it would evidence significant different levels of reliability and validity in individuals with chronic headaches or with other chronic pain conditions, research to evaluate its measurement properties in these populations is needed to establish the generalizability of the current findings. Second, this study did not evaluate the measure's ability to detect changes in pain-related self-efficacy following treatments designed to target this construct. Sensitivity to change is an important psychometric feature, especially when the measure assesses a domain that is a target of treatment and/or is hypothesized to be a mediator of effective treatment (127). Future research to evaluate the sensitivity of the T-UW-PRSE6 to change in a variety of samples with chronic conditions would be useful, and would provide important additional information regarding the measure's utility. Third, the present study did not identify any cutoffs for determining the T-UW-PRSE6 scores needed for having positive effects of self-efficacy on pain intensity and disability; knowing such cutoffs would have clinical utility, providing clinicians with information that would be useful for identifying patients who might benefit most from interventions designed to increase self-efficacy (i.e., patients who score below the identified cutoff scores). Future researchers should therefore seek to identify T-UW-PRSE6 cut-off scores that can be used for this purpose.

CHAPTER 6

CONCLUSION

Despite the study's limitations, the findings provide important initial support for the cultural appropriateness and psychometric properties of the T-UW-PRSE6 scale as a measure of pain-related self-efficacy in individuals with chronic low back pain who speak Thai. Additional research would be useful that replicates the current findings in samples of individuals with different chronic pain conditions, that evaluates the sensitivity of the T-UW-PRSE6 to treatment which is designed to change pain-related self-efficacy beliefs, and that identifies cutoffs that would be useful for identifying patients with chronic pain who might most benefit from treatment. Despite this, the measure appears to have enough strengths to make it useful for cross-cultural research evaluating the role that pain-related self-efficacy may play and can be used in both clinical treatment and research settings for evaluating pain-related self-efficacy in adjustment to chronic pain.

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APPENDIX

APPENDIX A

UW - Pain Related Self-Efficacy Scale (UW-PRSE)

Instructions: For the following questions, please think about the last 7 days and mark one box per row.

How confident are you that…	Not at All	A little bit	Somewhat	Quite a bit	Very much
1. You can do most of your daily activities in spite of your pain?	☐	☐	☐	☐	☐
2. You can manage your pain during your daily activities?	☐	☐	☐	☐	☐
3. You can do the things you most want to do in spite of your pain?	☐	☐	☐	☐	☐
4. You can keep your pain from interfering with your social life?	☐	☐	☐	☐	☐
5. You can be in a good mood in spite of your pain?	☐	☐	☐	☐	☐
6. You can get a good night's sleep in spite of your pain?	☐	☐	☐	☐	☐

APPENDIX B

Item history of Pain Related Self-Efficacy Scale (UW-PRSE)

Instruction		**หมายเหตุ**
Eng.	Instructions: For the following questions, please think about the last 7 days and mark one box per row.	
Fwd.1	คำแนะนำ: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในช่วง 7 วันที่ผ่านมาและทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละแถวเพียงช่องเดียว	
Fwd.2	คำชี้แจง: เมื่อตอบคำถามต่อไปนี้ โปรดคิดถึงสถานการณ์ในแต่ละข้อเมื่อ 7 วันที่ผ่านมา และทำเครื่องหมายลงในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	

REC	คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	ผู้รวบรวมได้นำการแปลของทั้ง Fwd 1 และ Fwd 2 มารวมกัน 1. คำชี้แจง นำมาจากการแปลของ Fwd 2 เนื่องจากเป็นหัวข้อที่ใช้ในการอธิบายความหมายได้เข้าใจ และเป็นคำที่เหมาะสมแก่การสื่อความหมายของการชี้แจงการทำแบบสอบถาม 2. “โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา” นำมาจากการแปลของ Fwd 1 เนื่องจาก การแปลเป็นภาษาไทยมีเนื้อหาที่ใกล้เคียงกับต้นฉบับภาษาอังกฤษ ร่วมกับความหมายของประโยคเข้าใจง่าย และนำคำว่า “แต่ละข้อ” ของ Fwd 2 มาใส่เพิ่มเติมลงในประโยคเพื่อให้เข้าใจง่ายและละเอียดมากขึ้นในการอ่านทำความเข้าใจในคำชี้แจงของแบบสอบถาม 3. “ทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว” นำมาจากการแปลของ Fwd 2 เนื่องจากอ่านเข้าใจง่าย ทำให้ผู้ตอบแบบสอบถามไม่เกิดความสับสนในการทำความเข้าใจกับคำชี้แจงของแบบสอบถาม

BT	Instruction: according to the following statements, put a checkmark in a box that is true based on the past 7 days.	
Quality control FACIT staff (MJ)	Instruction: according to the following statements, put one checkmark only in a box that is true based on the past 7 days.	Okay. Maybe add a comment that says, “Make only one mark per item like the other scale. Could even use the same text that was translated as “Put one checkmark ONLY in a box that is true.”
REV. 1	คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	เนื้อหาของต้นฉบับ ตรงกันกับสำนวนที่แปล และบริบทของคำที่ใช้ในภาษาไทยอย่างน่าพึงพอใจ ไม่ผิดเพี้ยนไปจากสิ่งที่ภาษาอังกฤษต้องการจะสื่อความหมาย
REV. 2	คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	ไม่เห็นด้วย เนื่องจากคำว่า “ในแต่ละข้อ” เขียนซ้ำไปมา ในประโยคคำสั่งมีเพียงครั้งเดียวก็เพียงพอแล้ว เพราะการเขียนซ้ำกันอาจจะทำให้ผู้อ่านเกิดความสับสนได้ จึงได้มีการเปลี่ยนประโยคใหม่
REV. 3	คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	ฉบับภาษาไทยแปลได้ใกล้เคียงกับฉบับภาษาอังกฤษ และอธิบายคำชี้แจงได้อย่างละเอียด อ่านแล้วเข้าใจในความหมายของคำชี้แจงที่ต้องการจะสื่อ

Consensus	คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว	
Suggestion and/or comments By Prawit	**คำชี้แจง**: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง **7** วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมของแต่ละข้อเพียงช่องเดียว **คำชี้แจง**: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง **7** วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมเพียง **1** ช่องในแต่ละแถวเท่านั้น	เห็นไม่ตรงกันในส่วนท้ายของ “คำชี้แจง” โดยมีความเห็นแบ่งออกเป็น 2 ฝ่าย ฝ่ายละ 2 คน ขอให้ อ รสลัย เป็นผู้เลือกคนสุดท้าย
Final By Rotsalai	**คำชี้แจง:** ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง 7 วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมเพียง 1 ช่องในแต่ละแถวเท่านั้น	คำแปลนี้สอดคล้องกับความหมายในภาษาอังกฤษ และชัดเจน ง่ายต่อการปฏิบัติ

Instruction		**หมายเหตุ**
Eng.	How confident are you that… Not at All, A little bit, Somewhat, Quite a bit, Very much	
Fwd.1	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, ค่อนข้างมาก, มากๆ	
Fwd.2	คุณมั่นใจขนาดไหนว่า ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	
REC	ท่านมั่นใจมากเพียงใดว่า... ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	เลือกใช้การแปลภาษาไทยของ Fwd 1 และ Fwd 2 นำมารวมกัน 1. “ท่านมั่นใจมากเพียงใดว่า …” นำมาจากการแปลของ Fwd 1 เนื่องจาก แปลได้เนื้อหาสอดคล้องกับต้นฉบับและเข้าใจในการสื่อความหมายของประโยค 2. “ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด” นำมาจากการแปลของ Fwd 2 เนื่องจาก แต่ละคำเข้าใจง่ายในการตอบแบบสอบถามและเป็นคำที่คุ้นชินของการตอบแบบสอบถามทั่วไป
BT	You are able to… Strongly Disagree, Disagree, Average , Agree, Strongly Agree	

Quality control FACIT staff (MJ)	How confident are you that… Not at All, A little bit, Somewhat, Quite a bit, Very much	This should be, “HOW CONFIDENT are you that…” Opps. These reponse options differ from the orginal. The original response options are “Not at all”, “A little bit”, “Somewhat”, “Quite a bit” and “Very much”.
REV. 1	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	ยอดเยี่ยม ในแต่ละคำที่ถูกแปลตรงกันกับความหมายในภาษาต้นฉบับ และมีใจความที่สื่อความหมายตรงกันกับสิ่งที่ต้นฉบับต้องการสื่อไม่ผิดเพี้ยน
REV. 2	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	เห็นด้วย เพราะเป็นตัวเลือกเหมาะสมกับคำถาม
REV. 3	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	การแปลเป็นภาษาไทยแปลได้ตรงตามเนื้อหาของต้นฉบับ เนื่องจาก เข้าใจได้ง่ายในความหมายของแต่ละคำที่ต้องการจะสื่อ
Consensus	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	
Suggestion and/or comments By Prawit	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	เห็นด้วยกับ consensus

Final By Rotsalai	ท่านมั่นใจมากเพียงใดว่า… ไม่เลย, เล็กน้อย, ปานกลาง, มาก, มากที่สุด	เห็นด้วยกับ อ.ประวิตร

Instruction		หมายเหตุ
Eng.	1. You can do most of your daily activities in spite of your pain?	
Fwd.1	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวด	
Fwd.2	คุณสามารถทำกิจวัตรประจำวันส่วนใหญ่ของคุณได้ทั้งๆ ที่ยังรู้สึกปวดอยู่	
REC	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	นำการแปลเป็นภาษาไทยของ Fwd 1 มาใช้เป็นหลัก เนื่องจากแปลเนื้อหาได้ตรงกับภาษาอังกฤษต้นฉบับ และนำคำว่า “อยู่” จาก Fwd 2 มาเติมในประโยคเพื่อทำให้เข้าใจในความหมายของประโยคได้ชัดเจนมากขึ้น
BT	Go on with your daily life despite the pain you have	

Quality control FACIT staff (MJ)	Go on with your daily activities despite the pain you have.	Close. SHuld be “Go on with your daily ACTIVITIES despite the pain you have.” In English, activities is a little different than life. Possible to tweak so this means “activities” and still mean something to the respondents? If not, then “Life” is an okay substitute.
REV. 1	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	ภาษาไทยที่ใช้ในการแปลตรงกันกับความหมายในภาษาต้นฉบับอย่างครบถ้วน และตรงกับบริบทเดิมอย่างชัดเจน ไม่ผิดเพี้ยน
REV. 2	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	เห็นด้วย เพราะเป็นการคำถามที่เหมาะกับสถานการณ์ของคนไทย ที่ไม่สามารถหยุดทำงานได้ แม้ว่ามีอาการปวด
REV. 3	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	การแปลจากภาษาอังกฤษเป็นภาษาไทยแปลเนื้อหาได้ตรง ถูกต้อง และเข้าใจในความหมายของประโยคอ่านแล้วไม่เกิดความสับสน
Consensus	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	
Suggestion and/or comments By Prawit	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	เห็นด้วยกับ consensus

Final By Rotsalai	ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	เห็นด้วยกับ อ.ประวิตร

Instruction		**หมายเหตุ**
Eng.	2. You can manage your pain during your daily activities?	
Fwd.1	ท่านสามารถจัดการอาการปวดได้ในระหว่างทำกิจวัตรประจำวัน	
Fwd.2	คุณสามารถจัดการกับความปวดได้ในระหว่างที่ทำกิจวัตรประจำวัน	
REC	ท่านสามารถจัดการกับอาการปวดได้ในระหว่างทำกิจวัตรประจำวัน	การแปลของทั้งสองคน มีความใกล้เคียงกับต้นฉบับมาก 1. เลือกการแปลของ Fwd 1 เป็นหลัก เนื่องจาก Fwd 1 ใช้การแปลเป็นคำว่า “อาการปวด” เพราะเป็นคำที่อ่านแล้วสามารถเข้าใจในความหมายของคำที่ต้องการจะสื่อได้ง่ายกว่าคำว่า “ความปวด” 2. เติมคำว่า “กับ” จาก Fwd 2 เพิ่มเข้ามา เนื่องจากทำให้ประโยคละเอียดอ่านแล้วเข้าใจในความหมายมากขึ้น
BT	Deal with the pain you have during your everyday activity.	

Quality control FACIT staff (MJ)	Manage the pain you have during your everyday activity.	Very close. “Manage” has a slightly more positive spin on it than “Deal with” in English. It means to cope with. If the Thai word has this positive spin, then this is okay.
REV. 1	ท่านสามารถจัดการกับอาการปวดได้ในระหว่างการทำกิจวัตรประจำวัน	ภาษาไทยที่ใช้แปลมีความหมายตรงกันกับภาษาต้นฉบับทั้งเนื้อหา และ บริบทของคำตามเดิมทุกประการ
REV. 2	ท่านสามารถจัดการกับอาการปวดขณะทำกิจวัตรประจำวันได้	ไม่เห็นด้วย เนื่องจาก มีการเรียงรูปแบบประโยคที่อ่านแล้วสะดุด จึงปรับการเรียงประโยคใหม่เพื่อให้ได้ประโยคที่อ่านแล้วลื่นไหลมากขึ้น
REV. 3	ท่านสามารถจัดการกับอาการปวดได้ขณะทำกิจวัตรประจำวัน	การแปลเป็นภาษาไทยแปลเนื้อหาได้ใกล้เคียงกับต้นฉบับ แต่มีข้อแนะนำในการเปลี่ยนคำจาก “ในระหว่างการทำกิจวัตรประจำวัน” เป็น “ขณะทำกิจวัตรประจำวัน” เนื่องจากเป็นคำที่เข้าใจความหมายได้ง่าย และไม่ควรใช้คำที่ฟุ่มเฟือยเกินไป เมื่อเปลี่ยนคำแล้วความหมายก็ยังเหมือนเดิม อ่านแล้วเข้าใจถึงการสื่อความหมาย
Consensus	ท่านสามารถจัดการกับอาการปวดได้ในระหว่างการทำกิจวัตรประจำวัน	

Suggestion and/or comments By Prawit	ท่านสามารถจัดการกับอาการปวดได้ในระหว่างการทำกิจวัตรประจำวัน	เห็นด้วยกับ consensus (ไม่เอาคำว่า “ขณะ” แต่ให้ใช้ “ในระหว่างการ” เหมือนที่ผู้แปลเอกสารใช้)
Final By Rotsalai	ท่านสามารถจัดการกับอาการปวดได้ในระหว่างการทำกิจวัตรประจำวัน	เห็นด้วยกับ อ.ประวิตร

Instruction		**หมายเหตุ**
Eng.	3. You can do the things you most want to do in spite of your pain?	
Fwd.1	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวด	
Fwd.2	คุณสามารถทำสิ่งต่างๆ ที่ต้องการทำมากที่สุดได้ทั้งๆ ที่ยังรู้สึกปวดอยู่	
REC	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	1. เลือกใช้ของ Fwd 1 เป็นหลัก เนื่องจากแปลภาษาไทยได้ตรงตามเนื้อหา สอดคล้องกับต้นฉบับ และสื่อความหมายของประโยคได้เข้าใจ 2. เติมคำว่า “อยู่” จาก Fwd 2 เพราะทำให้ประโยคสมบูรณ์ขึ้น อ่านแล้วเข้าใจในความหมายมากขึ้น

BT	Do things you need to do most despite the pain you have	
Quality control FACIT staff (MJ)	Do thing you want to do most despite the pain you have.	Close. Should be “Do thing you WANT to do most despite the pain you have”. Not need to. Possible to change the Thai version so it says “WANT”?
REV. 1	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	ภาษาไทยแปลตรงกันกับความหมายเดิมของภาษาต้นฉบับทุกประการ ทั้งการใช้คำ และบริบทไม่ผิดเพี้ยนไปจากเดิม
REV. 2	ท่านสามารถทำสิ่งต่างๆ ได้แม้มีอาการปวดอยู่	ไม่เห็นด้วย เพราะคนไทยไม่ค่อยมีสิ่งที่อยากจะทำมากที่สุด แต่อยากจะทำทุกอย่างให้ได้เหมือนเดิมโดยไม่มีอาการปวดมากกว่า จึงเปลี่ยนรูปแบบประโยคให้เหมาะสมกับคนไทยเป็น “ทำสิ่งต่างๆ ได้แม้มีอาการปวดอยู่”
REV. 3	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	ภาษาไทยแปลได้ถูกต้องตามต้นฉบับ เนื่องจากอ่านแล้วเข้าใจในความหมายที่ต้องการจะสื่อไม่เกิดความสับสนในการตีความ
Consensus	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	

Suggestion and/or comments By Prawit	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	เห็นด้วยกับ consensus
Final By Rotsalai	ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	เห็นด้วยกับ อ.ประวิตร

Instruction		**หมายเหตุ**
Eng.	4. You can keep your pain from interfering with your social life?	
Fwd.1	ท่านสามารถควบคุมไม่ให้อาการปวดรบกวนการเข้าสังคมของท่านได้	
Fwd.2	คุณสามารถระงับความปวดไม่ให้รบกวนคุณเวลาสังสรรค์กับเพื่อนฝูง	

REC	ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้	ใช้การแปลของ Fwd 1 เป็นหลัก 1. ใช้คำว่า “ควบคุมอาการปวด” เนื่องจากขณะเข้าสังคมแล้ว มีอาการปวด เราจะต้องควบคุมอาการปวดที่มีอยู่นั้นไม่ให้รบกวนการเข้าสังคมของเรา ไม่ใช่การระงับอาการปวดขณะเข้าสังคมอยู่ 2. การสลับตำแหน่งจาก “ท่านสามารถควบคุมไม่ให้อาการปวดรบกวนการเข้าสังคมของท่านได้” เป็น “ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้” เนื่องจากอ่านเข้าใจง่ายกว่า และสื่อความหมายที่ต้องการได้อย่างถูกต้อง
BT	Control your pain while socializing with others	

Quality control FACIT staff (MJ)	You can keep your pain from interfering with your social life	This needs some changes. It is not so much controlling pain while socializing (i.e., being able to decrease pain when with others) but stopping the pain from interfering with ones social life. With the latter (true) meaning, pain might still be very high when with others, but the person can socialize anyway – the pain does not stop the respondent from socializing. It is possible to change the Thai to mean more the latter?
REV. 1	ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้	แปลได้ตรงกับต้นฉบับครับ มีภาษาที่เข้าใจง่าย ครบถ้วนไม่ตกหล่นไปจากความหมายเดิม
REV. 2	ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้	เห็นด้วย เพราะเป็นการเรียงประโยคที่มีทั้งเหตุและผล อีกทั้งยังเป็นสิ่งที่ คนไทยมีผลกระทบเมื่อมีอาการปวด
REV. 3	ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้	แปลภาษาไทยได้อย่างครอบคลุมมีเนื้อหาสอดคล้องกับต้นฉบับ ทำให้เข้าใจในความหมายได้ง่าย
Consensus	ท่านสามารถควบคุมอาการปวดไม่ให้รบกวนการเข้าสังคมของท่านได้	

Suggestion and/or comments By Prawit	ท่านสามารถยับยั้งไม่ให้อาการปวดรบกวนการเข้าสังคมของท่านได้	ปรับแก้จากที่อ่าน comments จาก MJ ว่า เป็น stopping ไม่ใช่ controlling
Final By Rotsalai	ท่านสามารถยับยั้งไม่ให้อาการปวดรบกวนการเข้าสังคมของท่านได้	เห็นด้วยกับ อ.ประวิตร

Instruction		**หมายเหตุ**
Eng.	5. You can be in a good mood in spite of your pain?	
Fwd.1	ท่านยังอารมณ์ดีแม้มีอาการปวด	
Fwd.2	คุณยังคงอารมณ์ดีทั้งๆ ที่ยังรู้สึกปวดอยู่	
REC	ท่านยังคงมีอารมณ์ดีแม้ยังมีอาการปวดอยู่	เลือกใช้ของ Fwd1 เป็นหลัก เนื่องจากแปลเป็นภาษาไทยได้ใกล้เคียงกับต้นฉบับ และนำคำว่า “คง...ยัง...อยู่” จาก Fwd 2 มาใช้ เป็น “ท่านยังคงมีอารมณ์ดีแม้ยังมีอาการปวดอยู่” เนื่องจากทำให้มีรายละเอียดเพิ่มมากขึ้น ทำให้เข้าใจในความหมายของประโยคชัดเจนมากขึ้น

BT	Manage to be happy despite the pain you have	
Quality control FACIT staff (MJ)	Manage to be in a good mood despite the pain you have.	This one is very close, and could potentially work if the improvement I will suggest is not possible. The original item is about being in a good mood (which is not quite the same as happy in English). So it would be ideal of the Thai version could mean, "Manage to be in a good mood despite the pain you have." Possible? If not, then "happy" is okay.
REV. 1	ท่านยังคงมีอารมณ์ดีได้แม้อาการปวดยังคงอยู่	ใช้ได้ครับ ความหมายตรงตามต้นฉบับครับถึงแม้คำถามใจความเดิมของภาษาต้นฉบับจะดูแปลก แต่ภาษาไทยก็สื่อความหมายตรงกันกับสิ่งที่ต้นฉบับต้องการจะสื่อ
REV. 2	ท่านยังคงอารมณ์ดีแม้มีอาการปวดอยู่	ไม่เห็นด้วย เพราะใช้คำที่มากเกินไป จึงปรับเปลี่ยนเป็น "ท่านยังคงอารมณ์ดีแม้มีอาการปวดอยู่" ซึ่งก็จะเห็นว่าความหมายไม่ได้เปลี่ยนแปลงไปจากเดิม

REV. 3	ท่านยังคงมีอารมณ์ดีแม้มีอาการปวดอยู่	แปลได้ตรงกับเนื้อหาของต้นฉบับ แต่แนะนำให้ตัดคำว่า “จะ...ยัง” ออกจากประโยค เนื่องจากใช้คำที่ฟุ่มเฟือยเกินไปและเมื่อตัดคำว่า “จะ...ยัง” ออกก็ไม่ได้ทำให้ความหมายของประโยคเปลี่ยนแปลงไปจากเดิม
Consensus	ท่านยังคงมีอารมณ์ดีแม้มีอาการปวดอยู่	
Suggestion and/or comments By Prawit	ท่านยังคงมีอารมณ์ดีแม้มีอาการปวดอยู่	เห็นด้วยกับ consensus
Final By Rotsalai	ท่านยังคงมีอารมณ์ดีแม้มีอาการปวดอยู่	เห็นด้วยกับ อ.ประวิตร

Instruction		**หมายเหตุ**
Eng.	6. You can get a good night's sleep in spite of your pain?	
Fwd.1	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวด	
Fwd.2	คุณสามารถหลับสนิททั้งๆ ที่ยังรู้สึกปวดอยู่	

REC	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	เลือกใช้ของ Fwd1 เป็นหลัก เนื่องจากแปลเป็นภาษาไทยได้ตรงกับเนื้อหาสอดคล้องกับต้นฉบับ และเข้าใจได้ง่ายในการสื่อความหมายของประโยค
BT	Sleep very well despite the pain you have	
Quality control FACIT staff (MJ)	Sleep very well despite the pain you have	This one is fine.
REV. 1	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	ใช้ได้ครับ ความหมายตรงกันกับภาษาต้นฉบับ
REV. 2	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	เห็นด้วย เพราะเป็นการถามที่ระบุเวลาชัดเจนว่า ต้องการถามตอนไหน อีกทั้งประโยคคำถามนี้ ยังเป็นสิ่งที่จำเป็นต้องถามเพื่อประกอบการตัดสินใจวินิจฉัยโรค
REV. 3	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	การแปลภาษาไทยได้เนื้อหาตรงกับต้นฉบับ เนื่องจากทำให้เข้าใจในความหมายที่ต้องการสื่ออย่างชัดเจน
Consensus	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	

Suggestion and/or comments By Prawit	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	เห็นด้วยกับ consensus
Final By Rotsalai	ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	เห็นด้วยกับ อ.ประวิตร

APPENDIX C

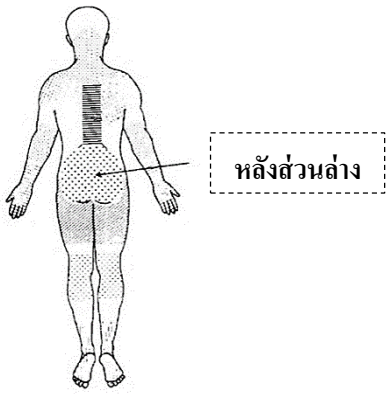
Screening questionnaire

แบบคัดกรองอาสาสมัคร

1. อายุ _____ ปี

2. อาการปวดหลังส่วนล่างของท่านอยู่ในบริเวณดังรูปขวามือ ใช่หรือไม่

( ) ใช่ ( ) ไม่ใช่



3. อาการปวดหลังส่วนล่างเป็นปัญหาต่อเนื่องสำหรับท่านมาเป็นระยะเวลานานเท่าใด

_____ ปี _____ เดือน _____ วัน

4. อาการปวดหลังส่วนล่างเป็นปัญหา*ต่อเนื่อง*สำหรับท่านบ่อยเพียงใดในระยะเวลา 6 เดือนที่ผ่านมา

( ) มีอาการทุกวัน หรือ เกือบทุกวันของระยะเวลา 6 เดือนที่ผ่านมา

( ) มีอาการเกิดขึ้นอย่างน้อยร้อยละ 50 ของระยะเวลา 6 เดือนที่ผ่านมา

( ) มีอาการเกิดขึ้นน้อยกว่าร้อยละ 50 ของระยะเวลา 6 เดือนที่ผ่านมา

APPENDIX D

Demographic questionnaire

แบบบันทึกข้อมูลผู้เข้าร่วมงานวิจัย

เลขที่ประชากรตัวอย่าง _____

วันที่ตอบแบบสอบถาม_____

1. เพศ ☐ ชาย ☐ หญิง
2. ส่วนสูง : _____ เซนติเมตร น้ำหนัก : _____ กิโลกรัม
3. ท่านเคยได้รับการตรวจวินิจฉัยอาการปวดหลังส่วนล่างโดยแพทย์หรือไม่

   ☐ เคย โปรดระบุการวินิจฉัยโรค : _____

   ☐ ไม่เคย

4. สถานภาพการทำงาน

   ☐ ทำงาน โปรดระบุอาชีพ : _____

   ☐ ว่างงาน

5. ท่านได้รับการค่าชดเชยการรักษาอาการปวดหลังส่วนล่างหรือไม

   ☐ ได้รับ

   ☐ ไม่ได้รับ

APPENDIX E

T-UW-PRSE6 - Thai version

แบบสอบถามความสามารถในการควบคุมอาการปวด

คำชี้แจง: ขณะที่ท่านตอบคำถามต่อไปนี้ โปรดนึกถึงเหตุการณ์ในแต่ละข้อในช่วง **7** วันที่ผ่านมา และทำเครื่องหมายในช่องสี่เหลี่ยมเพียง 1 ช่องในแต่ละแถวเท่านั้น

ท่านมั่นใจมากเพียงใดว่า ...	ไม่เลย	เล็กน้อย	ปานกลาง	มาก	มากที่สุด
7. ท่านสามารถทำกิจวัตรประจำวันส่วนใหญ่ได้แม้มีอาการปวดอยู่	☐	☐	☐	☐	☐
8. ท่านสามารถจัดการกับอาการปวดได้ในระหว่างการทำกิจวัตรประจำวัน	☐	☐	☐	☐	☐
9. ท่านสามารถทำสิ่งต่างๆ ที่ท่านต้องการทำมากที่สุดได้แม้มีอาการปวดอยู่	☐	☐	☐	☐	☐
10. ท่านสามารถยับยั้งไม่ให้อาการปวดรบกวนการเข้าสังคมของท่านได้	☐	☐	☐	☐	☐
11. ท่านยังคงมีอารมณ์ดีแม้มีอาการปวดอยู่	☐	☐	☐	☐	☐
12. ท่านสามารถนอนหลับตอนกลางคืนได้สนิทแม้มีอาการปวดอยู่	☐	☐	☐	☐	☐

แบบประเมินผลลัพธ์ **UW-PRSE** เป็นทรัพย์สินทางปัญญาของมหาวิทยาลัยวอชิงตัน และได้จดลิขสิทธิ์แล้ว การพัฒนาเครื่องมือนี้ได้รับเงินทุนสนับสนุนจาก **National Institutes of Health** และ **National Institute on Disability and Rehabilitation Research** ของประเทศสหรัฐอเมริกา การใช้หรือตีพิมพ์แบบประเมิน **UW-PRSE** ต้องได้รับอนุญาตจาก uwcorr@u.washington.edu ก่อน

APPENDIX F

Fear Avoidance Beliefs Questionnaire (T-FABQ) – Thai version

แบบสอบถามพฤติกรรมที่เกี่ยวข้องกับอาการปวดหลัง

คำชี้แจง แบบสอบถามนี้มีทั้งหมด 16 ข้อความ เมื่อท่านอ่านแต่ละข้อความแล้วขอให้ท่านเลือกวงกลมล้อมรอบตัวเลขในข้อความนั้นที่ตรงกับความรู้สึกของท่านในขณะนี้มากที่สุด

ตอนที่ 1 คำถาม: ท่านคิดว่าการเคลื่อนไหวร่างกายในกิจวัตรประจำวัน เช่น เดิน ก้มตัว ยกของ ฯลฯ มีผลต่ออาการปวดหลังของท่านอย่างไร (ให้ตอบว่าเห็นด้วยมากน้อยเพียงใดต่อข้อความในข้อ 1-5)

โดย 0 หมายถึง ไม่เห็นด้วยอย่างยิ่ง ⟶ 6 หมายถึง เห็นด้วยอย่างยิ่ง

		ไม่เห็นด้วยอย่างยิ่ง			ไม่แน่ใจ			เห็นด้วยอย่างยิ่ง
1.	อาการปวดของฉันเกิดจากการเคลื่อนไหวร่างกาย	0	1	2	3	4	5	6
2.	เมื่อฉันเคลื่อนไหวร่างกายอาการปวดของฉันเพิ่มมากขึ้น	0	1	2	3	4	5	6
3.	การเคลื่อนไหวร่างกายน่าจะเป็นสาเหตุที่ทำให้หลังของฉันบาดเจ็บ	0	1	2	3	4	5	6
4.	ฉันไม่ควรเคลื่อนไหวร่างกายในท่าที่จะทำให้ฉันปวดมากขึ้น	0	1	2	3	4	5	6
5.	ฉันไม่สามารถเคลื่อนไหวร่างกายในบางท่าเพราะทำให้มีอาการปวดมากขึ้น	0	1	2	3	4	5	6

ตอนที่ 2 คำถาม: ท่านคิดว่างานของท่านมีผลต่ออาการปวดหลังของท่านหรือไม่ (ให้ตอบว่าเห็นด้วยมากน้อยเพียงใดต่อข้อความในข้อ 6-16)

		ไม่เห็นด้วยอย่างยิ่ง			ไม่แน่ใจ			เห็นด้วยอย่างยิ่ง
6.	อาการปวดของฉันมีสาเหตุมาจากงานที่ทำ หรืออุบัติเหตุที่เกิดขึ้นในขณะทำงาน	0	1	2	3	4	5	6
7.	ฉันมีอาการปวดมากขึ้นเมื่อทำงาน	0	1	2	3	4	5	6
8.	ฉันได้เรียกร้องเงินชดเชยจากการที่ฉันมีอาการปวด	0	1	2	3	4	5	6
9.	งานที่ทำอยู่หนักเกินไปสำหรับฉัน	0	1	2	3	4	5	6
10.	งานที่ทำอยู่ทำให้อาการปวดของฉันแย่ลง	0	1	2	3	4	5	6
11.	งานของฉันอาจทำให้หลังของฉันบาดเจ็บมากขึ้น	0	1	2	3	4	5	6
12.	ฉันไม่ควรทำงานตามปกติหากยังมีอาการปวดอย่างนี้อยู่	0	1	2	3	4	5	6
13.	ฉันไม่สามารถทำงานตามปกติได้เพราะอาการปวดที่มีอยู่	0	1	2	3	4	5	6
14.	ฉันไม่สามารถทำงานตามปกติได้จนกว่าอาการปวดที่เป็นอยู่จะได้รับการรักษา	0	1	2	3	4	5	6
15.	ฉันคิดว่าฉันคงไม่สามารถกลับไปทำงานตามปกติได้ภายใน 3 เดือน	0	1	2	3	4	5	6
16.	ฉันคิดว่าฉันไม่สามารถกลับไปทำงานได้อีก	0	1	2	3	4	5	6

APPENDIX G

The Medical Outcome Study Short-Form 36 (T-SF-36) – Thai version

แบบสอบถามสำหรับประเมินสุขภาพในผู้ป่วยปวดหลัง

คำแนะนำการตอบแบบสอบถาม

กรุณาตอบแบบสอบถามให้ครบทุกข้อ คำถามบางข้ออาจมีความคล้ายคลึงกันแต่มีความแตกต่างกันโปรดใช้เวลาประมาณ 10 นาทีอ่านและตอบคำถามแต่ละข้อให้ถูกต้องตามความเป็นจริงโดยขีดเครื่องหมายถูก
ในวงกลม ที่ท่านเห็นว่าตรงกับลักษณะของท่านมากที่สุด

1. ในภาพรวม ท่านคิดว่าสุขภาพของท่าน

☐	☐	☐	☐	☐
ดีเยี่ยม	ดีมาก	ดี	ปานกลาง	เลว

2. เมื่อเปรียบเทียบเมื่อ 1 ปีก่อน ท่านคิดว่าสุขภาพของท่านปัจจุบันเป็นอย่างไร?

☐	☐	☐	☐	☐
ปัจจุบันดีกว่าปีที่แล้วมาก	ปัจจุบันดีกว่าเล็กน้อย	เท่าๆ กับปีที่แล้ว	ปัจจุบันเลวกว่าปีที่แล้วเล็กน้อย	ปัจจุบันเลวกว่าปีที่แล้วมาก

3. ท่านคิดว่าสุขภาพของท่านในปัจจุบันมีผลให้ท่านทำกิจกรรมต่างๆ ต่อไปนี้ลดลงหรือไม่เพียงใด?

	ลดลงมาก	ลดลงเล็กน้อย	ไม่ลดลงเลย
3.1 กิจกรรมที่ต้องใช้แรงมาก เช่นวิ่ง ยกของหนัก เล่นกีฬาที่ต้องใช้แรงมาก	☐	☐	☐
3.2 กิจกรรมที่ออกแรงปานกลาง เช่นเลื่อนโต๊ะ กวาดถูบ้าน เล่นกีฬาเบา	☐	☐	☐
3.3 ยกถือของเวลาไปซื้อของในห้างสรรพสินค้า	☐	☐	☐
3.4 ขึ้นบันไดหลายชั้น (จากชั้น 1 ไปชั้น 3 หรือมากกว่า)	☐	☐	☐
3.5 ขึ้นบันได (จากชั้น 1 ไปชั้น 2)	☐	☐	☐
3.6 ก้มลงเก็บของ คุกเข่า งอตัว	☐	☐	☐
3.7 เดินเป็นระยะทาง มากกว่า 1 กิโลเมตร	☐	☐	☐
3.8 เดินเป็นระยะทางหลายร้อยเมตร	☐	☐	☐
3.9 เดินประมาณ 100 เมตร	☐	☐	☐
3.10 อาบน้ำหรือแต่งตัว	☐	☐	☐

4. ในช่วง 4 สัปดาห์ที่ผ่านมา ท่านมีปัญหาการทำงานหรือทำกิจวัตรประจำวันซึ่งเป็นผลเนื่องมาจากสุขภาพร่างกายของท่านหรือไม่?

	ตลอดเวลา	ส่วนใหญ่	บางเวลา	ส่วนน้อย	ไม่ใช่
4.1 ต้องลดเวลาในการทำงานหรือทำกิจวัตร	☐	☐	☐	☐	☐
4.2 ทำงานหรือทำกิจวัตรได้น้อยกว่าที่ต้องการ	☐	☐	☐	☐	☐
4.3 ทำงานหรือทำกิจวัตรบางอย่างไม่ได้	☐	☐	☐	☐	☐
4.4 ทำงานหรือทำกิจวัตรได้ลำบากกว่าเดิม	☐	☐	☐	☐	☐

5. ในช่วง 4 สัปดาห์ที่ผ่านมา ท่านประสบปัญหาในการทำงานหรือทำกิจวัตรประจำวันซึ่งเป็นผลสืบเนื่องมาจากปัญหาทางอารมณ์หรือจิตใจ (เช่น รู้สึกซึมเศร้า หรือวิตกกังวล) หรือไม่?

	ตลอดเวลา	ส่วนใหญ่	บางเวลา	ส่วนน้อย	ไม่ใช่
5.1 ต้องลดเวลาในการทำงานหรือทำกิจวัตร	☐	☐	☐	☐	☐
5.2 ทำได้น้อยกว่าที่ต้องการ	☐	☐	☐	☐	☐
5.3 ไม่สามารถทำได้อย่างระมัดระวังเหมือนปกติ	☐	☐	☐	☐	☐

6. ในช่วง 4 สัปดาห์ที่ผ่านมา ปัญหาสุขภาพหรืออารมณ์ความรู้สึกของท่านมีผลรบกวนต่อการมีกิจกรรมทางสังคมของท่านกับครอบครัว เพื่อน เพื่อนบ้าน หรือกลุ่มมากน้อยเพียงใด?

☐ ☐ ☐ ☐ ☐

ไม่รบกวนเลย รบกวนเล็กน้อย รบกวนปานกลาง รบกวนค่อนข้างมาก รบกวนมาก

7. ท่านมีอาการปวดมากน้อยพียงใด ในช่วง 4 สัปดาห์ที่ผ่านมา?

☐ ☐ ☐ ☐ ☐ ☐

ไม่ปวดเลย ปวดน้อยมาก ปวดน้อย ปวดปานกลาง ปวดรุนแรง ปวดรุนแรงมาก

8. ในช่วง 4 สัปดาห์ที่ผ่านมา อาการปวดรบกวนการทำงาน (ทั้งที่ทำงานและที่บ้าน) มากน้อยเพียงใด?

☐ ☐ ☐ ☐ ☐

ไม่รบกวนเลย รบกวนเล็กน้อย รบกวนปานกลาง รบกวนค่อนข้างมาก รบกวนมาก

9. คำถามต่อไปนี้เกี่ยวข้องกับอารมณ์ความรู้สึกที่เกิดขึ้นกับท่านในช่วง 4 สัปดาห์ที่ผ่านมา กรุณาให้คำตอบ ที่ตรงกับความรู้สึกของท่านมากที่สุดในแต่ละคำถามเกิดขึ้นบ่อยเพียงใดในช่วง 4 สัปดาห์ที่ผ่านมา?

	ตลอดเวลา	ส่วนใหญ่	บางเวลา	ส่วนน้อย	ไม่ใช่
9.1 รู้สึกกระปรี้กระเปร่ามาก	☐	☐	☐	☐	☐
9.2 รู้สึกหงุดหงิดกังวลมาก	☐	☐	☐	☐	☐
9.3 ซึมเศร้าไม่ร่าเริง	☐	☐	☐	☐	☐
9.4 รู้สึกสงบ	☐	☐	☐	☐	☐
9.5 รู้สึกเต็มไปด้วยพลัง	☐	☐	☐	☐	☐
9.6 รู้สึกหมดกำลังใจ ซึมเศร้า	☐	☐	☐	☐	☐
9.7 รู้สึกอ่อนเพลีย ไม่มีกำลัง	☐	☐	☐	☐	☐
9.8 รู้สึกมีความสุขดี	☐	☐	☐	☐	☐
9.9 รู้สึกเบื่อหน่าย	☐	☐	☐	☐	☐

10. ในช่วง 4 สัปดาห์ที่ผ่านมา ปัญหาสุขภาพหรืออารมณ์ความรู้สึกของท่านมีผลรบกวนต่อเวลาการมีกิจกรรมทางสังคมของท่าน (เช่นไปเยี่ยมญาติหรือเพื่อน) มากน้อยเพียงใด?

☐ ตลอดเวลา ☐ ส่วนใหญ่ ☐ บางเวลา ☐ ส่วนน้อย ☐ ไม่มีเลย

11. ข้อความต่อไปนี้ที่ตรงกับสุขภาพของท่านหรือไม่?

	ถูกต้องที่สุด	ส่วนใหญ่ถูกต้อง	ไม่ทราบ	ส่วนใหญ่ไม่ถูกต้อง	ไม่ถูกต้อง
11.1 ไม่สบายหรือเจ็บป่วยง่ายกว่าคนทั่วไป	☐	☐	☐	☐	☐
11.2 มีสุขภาพดีเท่ากับคนอื่นๆ	☐	☐	☐	☐	☐
11.3 คิดว่าสุขภาพจะเลวลง	☐	☐	☐	☐	☐
11.4 มีสุขภาพดีเยี่ยม	☐	☐	☐	☐	☐

APPENDIX H

11-point global perceived effect scale – Thai version

ระดับการเปลี่ยนแปลงของอาการในภาพรวม

คำชี้แจง: โปรดวงกลมตัวเลขที่บ่งชี้ว่าอาการปวดหลังส่วนล่างของท่านเปลี่ยนแปลงไปอย่างไรเมื่อเทียบกับ 7 วันที่ผ่านมา (โดยระบุระดับอาการที่เปลี่ยนแปลงของอาการปวดหลังส่วนล่างโดย −5 หมายถึง อาการปวดแย่ลงอย่างมาก 0หมายถึง อาการปวดไม่เปลี่ยนแปลง และ5 หมายถึง อาการปวดดีขึ้นอย่างมาก)

-5 -4 -3 -2 -1 0 1 2 3 4 5

อาการปวดแย่ลงอย่างมาก	อาการปวดไม่เปลี่ยนแปลง	อาการปวดดีขึ้นอย่างมาก

APPENDIX I

Chulalongkorn University Human Ethics Committee

AF 02-12

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University
Jamjuree 1 Building, 2nd Floor, Phyathai Rd., Patumwan district, Bangkok 10330, Thailand,
Tel/Fax: 0-2218-3202 E-mail: eccu@chula.ac.th

COA No. 156/2018

Certificate of Approval

Study Title No. 117.1/61 : CROSS-CULTURAL ADAPTATION, RELIABILITY, AND CONSTRUCT VALIDITY OF THE THAI VERSION OF THE UW PAIN APPRAISAL SCALE, UW PAIN-RELATED SELF-EFFICACY SCALE, AND PATIENT-REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM-29

Principal Investigator : ROTSALAI KANLAYANAPHOTPORN, Ph.D.

Place of Proposed Study/Institution : Faculty of Allied Health Sciences, Chulalongkorn University

The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University, Thailand, has approved constituted in accordance with the International Conference on Harmonization – Good Clinical Practice (ICH-GCP).

Signature: Prida Tasanapradit ..... Signature: Nuntaree Chaichanawongsaroj

(Associate Professor Prida Tasanapradit, M.D.) Chairman

(Assistant Professor Nuntaree Chaichanawongsaroj, Ph.D.) Secretary

Date of Approval : 3 July 2018 Approval Expire date : 2 July 2019

The approval documents including

1) Research proposal
2) Patient/Participant Information Sheet and Informed Consent Form
3) Researcher
4) Questionnaire

117.1/61
Date of Approval - 3 JUL 2018
Approval Expire Date - 2 JUL 2019

The approved investigator must comply with the following conditions:

1. *The research/project activities must end on the approval expired date of the Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University (RECCU). In case the research/project is unable to complete within that date, the project extension can be applied one month prior to the RECCU approval expired date.*
2. *Strictly conduct the research/project activities as written in the proposal.*
3. *Using only the documents that bearing the RECCU's seal of approval with the subjects/volunteers (including subject information sheet, consent form, invitation letter for project/research participation (if available).*
4. *Report to the RECCU for any serious adverse events within 5 working days*
5. *Report to the RECCU for any change of the research/project activities prior to conduct the activities.*
6. *Final report (AF 03-12) and abstract is required for a one year (or less) research/project and report within 30 days after the completion of the research/project. For thesis, abstract is required and report within 30 days after the completion of the research/project.*
7. *Annual progress report is needed for a two- year (or more) research/project and submit the progress report before the expire date of certificate. After the completion of the research/project processes as No. 6.*

VITA

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