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นิพนธ์ต้นฉบับ

การพัฒนาแบบสอบถามความเชื่อมั่นในความสัมพันธ์ระหว่างบุคคลในกลุ่มนักศึกษามหาวิทยาลัย ฉบับภาษาไทย

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วันที่รับบทความ: 22 กรกฎาคม 2568 | **วันที่แก้ไขบทความ:** 3 กันยายน 2568 | **วันตอบรับบทความ:** 28 ตุลาคม 2568

บทคัดย่อ

วัตถุประสงค์ การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อพัฒนาและตรวจสอบคุณภาพของแบบสอบถามความเชื่อมั่นในความสัมพันธ์ระหว่างบุคคลฉบับภาษาไทยในกลุ่มนักศึกษามหาวิทยาลัย

วัสดุและวิธีการ การศึกษานี้ใช้ระเบียบวิธีวิจัยเชิงปริมาณ กลุ่มประชากรคือ นิสิตระดับปริญญาตรีจำนวน 13,616 คน อายุระหว่าง 18-23 ปี ที่กำลังศึกษาอยู่ในมหาวิทยาลัยเกษตรศาสตร์ วิทยาเขตศรีราชา จำนวน 528 คน แบบสอบถามต้นฉบับพัฒนาโดย Novák (2017) มีจำนวน 30 ข้อ ทั้งข้อคำถามเชิงบวกและเชิงลบ การพัฒนา ICQ-Thai เริ่มจากการทบทวนวรรณกรรมและคัดเลือกข้อคำถามที่สอดคล้องกับบริบททางวัฒนธรรมไทย โดยแนวคิดหลัก ได้แก่ ทฤษฎีความเชื่อมั่นในความสามารถของตนเองของ Bandura (1977, 1982) ทฤษฎีความวิตกกังวลทางสังคมของ Leary และ Kowalski (1995) และแนวคิดเรื่องความสามารถทางสังคมและความกล้าแสดงออกของ Anderson-Butcher et al. (2016) แบบสอบถามฉบับภาษาไทยได้รับการปรับโครงสร้างให้มี 3 มิติหลัก โดยยังคงข้อคำถามเชิงบวกและเชิงลบไว้ การวิเคราะห์ข้อมูลใช้โมเดลสมการโครงสร้าง (SEM) ร่วมกับการวิเคราะห์องค์ประกอบเชิงยืนยัน (CFA) เพื่อประเมินความตรงเชิงโครงสร้างและความเชื่อมั่นของเครื่องมือ

ผลการศึกษา แบบจำลองมีความสอดคล้องที่ดีระหว่างโมเดลกับข้อมูลเชิงประจักษ์ โดยมีค่า $\chi^2/df = 1.666$, RMSEA = 0.045 และ CFI = 0.989 ซึ่งอยู่ในเกณฑ์ที่ยอมรับได้ ค่าความเชื่อมั่นเชิงโครงสร้าง ($\rho c = 0.878$) และค่าความแปรปรวนเฉลี่ยที่สกัดได้ ($\rho v = 0.554$) ยืนยันถึงความตรงเชิงบรรจบและความสอดคล้องภายในของแบบสอบถามอยู่ในระดับดี

สรุป แบบสอบถามความเชื่อมั่นในความสัมพันธ์ระหว่างบุคคลฉบับภาษาไทย มีประสิทธิภาพและเหมาะสมกับการใช้งานในบริบททางวัฒนธรรมไทย

คำสำคัญ: ความวิตกกังวลทางความคิด, ความเชื่อมั่นในความสัมพันธ์ระหว่างบุคคล, การตรวจสอบคุณภาพแบบสอบถาม, ความเชื่อมั่นในตนเอง, พฤติกรรมทางสังคม, ฉบับภาษาไทย

Thai Journal of Clinical Psychology
https://so03.tci-thaijo.org/index.php/tci-thaijclinicpsy

Original Article

Validation of the Thai Version of the Interpersonal Confidence Questionnaire among University Students

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Received: 22 July 2025 | **Revised:** 3 September 2025 | **Accepted:** 28 October 2025

Abstract

Objectives: The purpose of this study was to develop and validate the Thai version of the Interpersonal Confidence Questionnaire (ICQ) to assess interpersonal confidence among Thai university students.

Materials and methods: This study employed quantitative research design. The study population was 13,616 undergraduate-students between 18-23 years old studying at Kasetsart University, Sriracha Campus. The authors use a cluster random sampling method and there were 528 respondents. The ICQ was constructed by Novák in 2017, consists of 30 items and comprised of positive and negative items. This develops Thai version of ICQ led to a review of the literature and a number of relevant items were identified to incorporate. To begin with, Bandura's self-efficacy theory (1977, 1982) is about a person's beliefs in their abilities and the impact on decisions and efforts in social settings. Next, Leary and Kowalski's Social anxiety theory (1995) describes how fear of negative evaluation leads to avoiding social contact. In addition, social competence and assertiveness (Anderson-Butcher et al., 2016) emphasize the value of social skills and the ability to work with others. Informed by these frameworks, the ICQ-Thai was reconstructed into three dimensions, still comprising positive and negative items. The methodological approach was structural equation model (SEM) with confirmatory factor analysis (CFA) was used to evaluate structural validity and reliability.

Results: The model demonstrated good fit with the empirical data (χ^2/df = 1.666, RMSEA = 0.045, CFI = 0.989). The construct reliability (ρc = 0.878) and average variance extracted (ρv = 0.554) confirmed acceptable convergent validity and internal consistency.

Conclusion: The Thai version of the Interpersonal Confidence Questionnaire (ICQ) was feasible to evaluate interpersonal confidence among Thai university students.

Keywords: Cognitive Anxiety, Interpersonal confidence, Questionnaire validation, Self-confidence, Social Behavior, Thai version

Introduction

Interpersonal skills critically influence social functioning, mental well-being, and academic and career success including positive communication, collaboration, and constructive conflict resolution, are critical for social functioning, psychological well-being, and academic and career success. Seppänen et al. (2021) validated the Interpersonal Confidence Questionnaire (ICQ) and demonstrated that training focused on interpersonal skills can significantly enhance confidence in social interactions. Complementarily, Van Pham (2024) also found in a detailed review of studies that programs focusing on social and emotional learning help students do better in school, feel less anxious, and have a better quality of life overall. For university students navigating the transition from adolescence to early adulthood (Erikson, 1968), interpersonal confidence (IC) defined as an individual's belief in their ability to interact effectively, appropriately, and confidently across diverse social situations (Seppänen et al., 2021) is particularly vital. High ICQ manifests as assertiveness, active listening, emotional regulation, and strong relationship building. Moreover, fostering interpersonal confidence enables students to navigate complex social challenges in the digital age effectively. Given that modern communication predominantly occurs via social media, Lai et al. (2023) highlighted that online communication skills serve as a critical mechanism in helping students adapt to the digital world.

While instruments like the Interpersonal Confidence Questionnaire (ICQ) exist (Novák, 2017; revised by Seppänen et al., 2021), their direct application in Thailand is limited by cultural incompatibilities. Thai social norms, emphasizing kreng jai, face-saving, and conflict avoidance (Aida, 1994; Bhattarachaiyakorn & Phettakua, 2023), differ significantly from Western contexts and influence communication behaviors, such as public speaking or declining requests. Social anxiety and fear of negative evaluation can lead to isolation, stress, and reduced academic engagement (Rhein & Nanni, 2022; Chatterjee & Kortenkamp, 2022).

Previous research has focused on the development of instruments to measure interpersonal confidence, most notably the Interpersonal Confidence Questionnaire (ICQ) developed by Novák (2017), which had 30 items. The instrument was subsequently revised by Seppänen et al. (2021) into an 18-item measure six factors: confidence, flexibility, listening skills, tolerance of failure, collaboration motivation, and presence all of which are closely associated with overall interpersonal confidence. Consistent with this conceptualization, Cantero-Sánchez et al. (2021) carried out an experimental study on professional assertiveness training and discovered that participants showed a significant decrease in social anxiety along with significantly higher assertiveness levels following training. In the context of higher education in Thailand, Rhein and Nanni (2022) examined the mental health of university students and identified a significant association between social anxiety and fear of negative evaluation. This finding underscores the importance of Cognitive Anxiety as a negative factor that undermines students' confidence in social interactions. Therefore, assessing social confidence by separately measuring Cognitive Anxiety can provide a more comprehensive understanding of students' psychosocial difficulties.

Moreover, Bhattarachaiyakorn and Phettakua (2023) reported that Thai students' anxiety about speaking English is greatly influenced

by cultural rules related to face-saving and kreng jai (consideration for others). This shows how social-emotional behaviors are shaped by cultural values, resulting in confidence levels that differ from those observed in Western contexts.

The present study therefore supports the use of a three-factor structure of the ICQ-Thai, which separates behavioral components from anxiety components, as a more appropriate representation of interpersonal confidence within the Thai cultural setting. At present, there is a lack of systematically developed instruments that are linguistically and culturally adapted to the Thai context particularly in relation to kreng jai, face-saving, and conflict avoidance (Aida, 1994; Bhattarachaiyakorn & Phettakua, 2023). These cultural patterns have important implications for communication behaviors, especially in situations requiring public speaking or for declining inappropriate requests. Social anxiety and fear of negative evaluation may lead to isolation, stress, and reduced academic engagement (Rhein & Nanni, 2022; Chatterjee & Kortenkamp, 2022).

Thus, this study was conducted with an aim to translate Interpersonal Confidence Questionnaire into Thai version through proper adaptation process, including obtaining permission from the author, literature review, rephrasing items to make them culturally appropriate. The resulting ICQ-Thai comprises three key dimensions:

Self-confidence this aspect is related to the ability to share information without fear of being judged. Bandura's (1977, 1982) theory of self-efficacy proposes that determining an individual's perceived capability to perform successfully is fundamental to understanding an individual's behavior and performance across social settings. Individuals with higher Self-confidence are more likely to voice their thoughts and maneuver through social surroundings. Studies have also found that high Self-confidence corresponds to less Cognitive Anxiety. For example, in sport psychology, highly self-confident athletes seem to report lower levels of Cognitive Anxiety and better regulation of negative emotions, supporting the empirical separation of Self-confidence and Cognitive Anxiety.

Cognitive Anxiety, this factor represents recurring worries or negative thoughts experienced during social interactions. Cognitive Anxiety reflects the fear of being judged, criticized, or evaluated negatively by others, and is strongly linked to negative self-appraisals. Leary and Kowalski (1995) emphasized that individuals with high levels of social anxiety often experience intrusive negative thoughts and worry about how they are perceived, which suppresses confident Social Behavior. Rhein and Nanni (2022) similarly found that Thai university students' social anxiety is significantly associated with fear of negative evaluation an inherently cognitive characteristic of anxiety. Thus, isolating Cognitive Anxiety as a distinct factor from Self-confidence and Social Behavior is theoretically justified and allows for more precise assessment of this barrier to social functioning.

Social Behavior, this domain involves observable behavioral interactions including assertiveness, communication behaviors, and cooperation. Assertiveness is considered an essential social skill that allows people to develop mutually satisfying relations and to cooperate effectively with others. Those who demonstrate assertive and prosocial patterns of behavior tend to experience more self-respect, better quality of personal relationships, and better psychological health. It is by now well proven that assertiveness and related social skills can be enhanced (through

training) to facilitate positive successful social relations and to mitigate against social anxiety. For instance, Cantero-Sánchez et al. (2021) demonstrated that assertiveness training led to a significant improvement in the communication skills with a decrease in the social anxiety. And so, good, Social Behavior such as having good communication skills, listening actively and collaborating in a group become part of what we call interpersonal confidence. Without these behaviors, self-assurance becomes an unfulfilled social promise.

This theoretical framework supports the three-factor structure of the ICQ-Thai comprising Self-confidence, Cognitive Anxiety, and social anxiety. Together, these constructs represent a valid and culturally appropriate scale to measure Interpersonal Confidence in Thai University students. The aim of this study was to develop and validate of the Interpersonal Confidence Questionnaire Thai version (ICQ-Thai).

Materials and Methods

Participants

This study employed quantitative research design. The study population was 13,616 undergraduate-students between 18-23 years old studying at Kasetsart University, Sriracha Campus. The sample size was determined based on statistical and methodological recommendations for factor analysis. Given that the questionnaire contained 30 items, a minimum of 300 participants approximately 10 times the number of observed variables was considered necessary to ensure the reliability of confirmatory factor analysis (Bentler & Chou, 1987; Hair et al., 2019). Moreover, Comrey and Lee (1992) suggested that a sample size of 500 or more is considered very good for factor-analytic studies. Data were collected using cluster random Sampling, 528 respondents, that satisfied the criteria indicated as favorable to the adequacy and robustness. Among the respondents, 55.30% were female, 38.83% were male, and 5.87% were LGBTQ+. Most of the students were 20 years old (48.48%), others are 19 years old (24.05%), 21 years old (10.23%), 22 years old (7.20%), 18 years old (7.01%) and 3% were 23 years old.

Measurements

The study Thai version of the Interpersonal Confidence Questionnaire (ICQ-Thai), The research instrument was the Interpersonal Confidence Questionnaire Thai Version (ICQ-Thai), which was adapted and refined from the original Interpersonal Confidence Questionnaire developed by Novák (2017). Based on an extensive literature review, the ICQ-Thai was restructured to reflect the psychosocial characteristics of Thai university students and comprises three dimensions Self-confidence consisting of 12 items this dimension measures social self-efficacy and the ability to express oneself without fear of negative judgment (Ex. “I am open to changes”). Cognitive Anxiety consisting of 9 items this dimension assesses worry, fear of negative evaluation, and intrusive negative thoughts that interfere with social interaction (ex. “I fear sudden changes in plan”). Social Behavior consisting of 9 items this dimension captures observable behaviors such as assertiveness, communication skills, and participation in group activities (Ex. “I am usually sure that I have done the right thing”). All items were rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater interpersonal confidence, whereas higher scores on the Cognitive Anxiety subscale reflect higher levels of anxiety (reverse-scored when calculating

the overall ICQ-Thai score so that higher total scores consistently represent higher interpersonal confidence).

The instrument's development followed a meticulous back-translation protocol involving four independent experts two for forward translation from English to Thai and two for back-translation to English - ensuring linguistic and conceptual equivalence. Psychometric evaluation demonstrated excellent reliability upon lower limit 0.70 (Hair et al., 2014). Confirmatory factor analysis using LISREL 8.80 software confirmed the questionnaire's structural validity, examining both first-order and second-order factor structures.

Data collection procedure and ethics

Following approval from the Rajamangala University of Technology Isan, Thailand. (Approval No. HEC-01-68-040), the researcher began data collection. The researcher explained the study's objectives and procedures, provided instructions on completing the questionnaire, and then administered the self-administered questionnaires, which took approximately 10-15 minutes. All submitted questionnaires underwent quality control checks to ensure accuracy. Only fully completed questionnaires meeting quality standards were included in the subsequent statistical analysis.

Data analysis

This study employed Second-Order Confirmatory Factor Analysis was used to evaluate structural validity and reliability. The process was performed by using Lisrel software version 8.80. First-Order Confirmatory Factor Analysis (CFA) was performed to assess the measurement model and verify the factor structure of the ICQ-Thai. Each of the 30 observed items was tested for its loading on the respective latent factor—Self-confidence, Cognitive Anxiety, and Social Behavior. Model fit was evaluated using multiple indices, including χ^2/df, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI/NNFI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Goodness-of-Fit Index (GFI), and Adjusted Goodness-of-Fit Index (AGFI). Acceptable model fit was determined based on established criteria: χ^2/df < 3.0, CFI and TLI ≥ 0.90, RMSEA ≤ 0.08, and SRMR ≤ 0.08 (Kline, 2005; Hu & Bentler, 1999). Second-Order Confirmatory Factor Analysis (CFA) was conducted to examine whether the three latent factors could be explained by a single higher-order construct, Interpersonal Confidence. This hierarchical model was evaluated using the same fit indices as in Step 1. Standardized factor loadings, t-values, and squared multiple correlations (SMC) were inspected to confirm the adequacy of the hierarchical representation. Additionally, construct reliability (CR) and average variance extracted (AVE) were calculated to establish convergent validity, and the Fornell-Larcker criterion was applied to assess discriminant validity (Fornell & Larcker, 1981).

Results

There were 528 participants in the present study with an age range of 18 to 23 years. Overall ICQ level was moderate (M = 3.04, SD = 0.66). Subscale means (moderate range): Social Behavior (M = 3.31, SD = 0.62) > Self-confidence (M = 2.96, SD = 0.86) > Cognitive Anxiety (M = 2.89, SD = 0.87). Higher scores on Cognitive Anxiety indicate higher anxiety (negative factor), hence lower ICQ. In this study, the researchers classified the levels of interpersonal confidence by interpreting questionnaire scores based on equal intervals of the mean. This approach represents a study-specific criterion-referenced standard, supported

by the principle of using the mean and standard deviation for level classification, as suggested by Angsuchoti et al. (2011). (Table 1).

Psychometric evaluation demonstrated excellent reliability the ICQ-Thai demonstrated sound internal consistency. Cronbach's alpha coefficients were .86 for the Self-confidence subscale, .80 for Cognitive Anxiety, and .78 for Social Behavior, each exceeding the recommended upon lower limit .70 (Hair et al., 2014). These findings suggest that the items within each subscale measured their intended constructs reliably. In addition, an initial confirmatory factor analysis (CFA) supported the structural validity of the instrument, providing evidence for both the first-order and the higher-order (second-order) factor solutions.

Table 1

Means, Standard deviations, and Levels of Interpersonal Confidence

Interpersonal Confidence	$\bar{X}$	SD	Level
Self-confidence (CONFI)	2.96	0.86	Moderate
Cognitive Anxiety (ANXIE)	2.89	0.87	Moderate
Social Behavior (BEHAV)	3.31	0.62	Moderate
Total	**3.04**	**0.66**	**Moderate**

Before conducting the Confirmatory Factor Analysis (CFA), the researcher examined the preliminary assumptions and the adequacy of the data as follows:

1. Inter-item correlations ranged from 0.32 to 0.67, indicating an appropriate level of correlation among observed variables for factor analysis and the observed variables did not exhibit excessively high intercorrelations, thereby avoiding potential issues of multicollinearity.

2. Normality test: The skewness ranged from -1.18 to 0.51 and kurtosis ranged from -0.93 to 1.12 values of the variables were within acceptable ranges (-2 to +2 for skewness and -7 to +7 for kurtosis; Muthén & Kaplan, 1985), indicating that the data were approximately normally distributed and thus appropriate for CFA.

3. Sampling adequacy for factor analysis: The Kaiser-Meyer-Olkin (KMO) of Self-confidence had a value of 0.88, Cognitive Anxiety had a value of 0.85 and Social Behavior had a value of 0.73, the overall MSA value falls in the acceptable range (above .50) (Hair et al., 2014). confirming that the data were suitable for factor analysis.

The results of the second-order confirmatory factor analysis (CFA) were conducted to examine the construct validity of the Interpersonal Confidence Questionnaire, consisting of three factors and 30 items (Figure 1,2).

When considering the goodness fit, the results showed χ^2 = 328.232, df = 197, p = 0.051, χ^2/df = 1.666, RMSEA = 0.045, NFI = 0.973, NNFI = 0.975, CFI = 0.989, RMR = 0.034, SRMR = 0.035, GFI = 0.937, and AGFI = 0.902. Therefore, it can be concluded that the structural model of interpersonal confidence adequately explained the measurement characteristics or the reliability of the indicators in all respects (Kline, 2005) and demonstrated a good fit with the empirical data.

The results of the second-order confirmatory factor analysis of interpersonal confidence revealed that:

1. Self-confidence: The standardized factor loading of the latent variable was 0.722, with a

standard error of 0.143. The t-value for significance testing was t = 6.908, which was statistically significant at the .01 level. The squared multiple correlation (SMC) of the latent variable was 0.677.

2. Cognitive Anxiety: The standardized factor loading of the latent variable was 0.490, with a standard error of 0.050. The t-value for significance testing was t = 5.063, which was statistically significant at the .01 level. The squared multiple correlation (SMC) of the latent variable was 0.521.

3. Social Behavior: The standardized factor loading the latent variable was 0.680, with a standard error of 0.144. The t-value for significance testing was t = 8.238, which was statistically significant at the .01 level. The squared multiple correlation (SMC) of the latent variable was 0.462 (Table 2).

The construct reliability represents convergent validity, which refers to the proportion of the shared variance of all observed variables within the same latent variable. The value was 0.878, which is greater than .60 (Angsuchoti et al., 2011).

The average variance extracted is the average proportion of variance in the observed variables that is explained by the latent variable, compared to the variance due to measurement error. The value was 0.554, which means that the latent variable of interpersonal confidence could explain 55.40% of the variance across the three dimensions (Angsuchoti, et al., 2011).

Figure 1

Second-order confirmatory factor analysis model of the Thai Interpersonal Confidence Questionnaire (ICQ-Thai) (3 factors, 30 items).

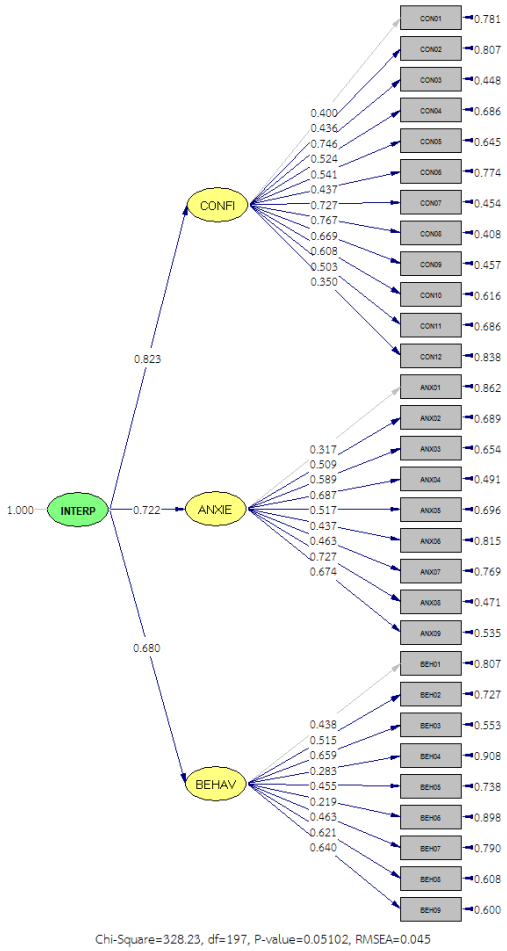


Figure 2

Correlated error terms

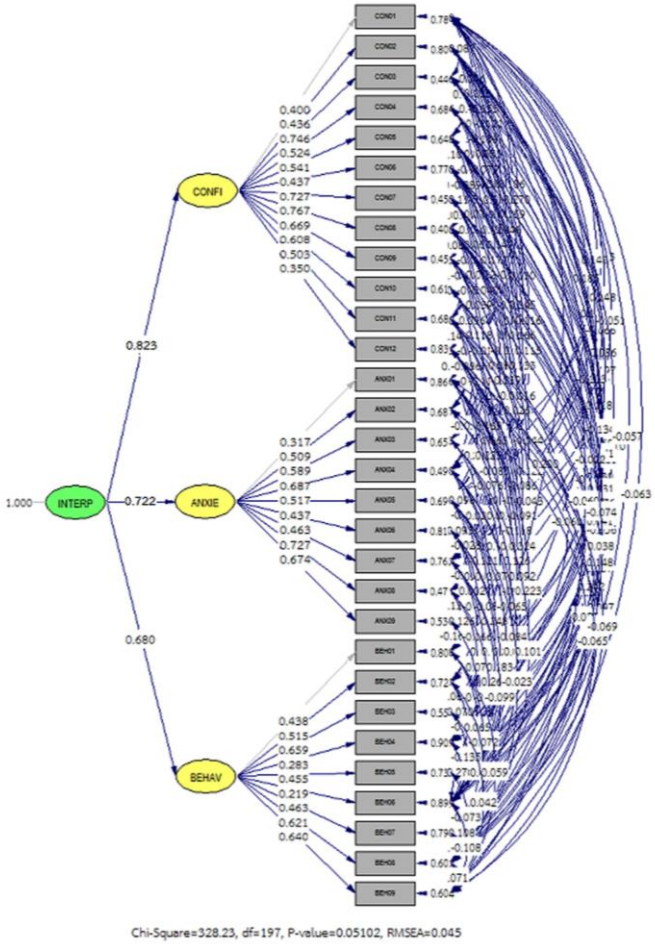


Table 2

Second-Order Confirmatory Factor Analysis Results (3 Factors)

Latent Variables / Constructs ICQ	(γ)	(SEγ)	t-value	SMC
1. Self-confidence	0.823	0.119	6.908**	0.677
2. Cognitive Anxiety	0.722	0.143	5.063**	0.521
3. Social Behavior	0.680	0.144	8.238**	0.462

(Construct reliability: ρ_c) = 0.878

(Average variance extracted: ρ_v) = 0.554

**$p < .01$

Discussion

The present study aimed to develop and validate the Thai version of the Interpersonal Confidence Questionnaire (ICQ-Thai). The findings confirmed that the ICQ-Thai demonstrated strong psychometric properties. Reliability analysis showed satisfactory internal consistency, with Cronbach's alpha coefficients exceeding the recommended threshold (0.86 for Self-confidence, 0.80 for Cognitive Anxiety, and 0.78 for Social Behavior). Confirmatory Factor Analysis (CFA) further supported the three-factor structure, with excellent model fit

indices (χ^2/df = 1.666, RMSEA = 0.045, CFI = 0.989, SRMR = 0.035).

This three-factor structure—Self-confidence, Cognitive Anxiety, and Social Behavior—was both theoretically grounded and empirically supported. The results align with previous research (Novák, 2017; Seppänen et al., 2021), which conceptualized interpersonal confidence as involving both positive self-beliefs and the reduction of anxiety in social situations. Moreover, the ICQ-Thai adaptation addressed specific cultural factors, such as kreng jai (consideration for others) and saving face (Bhattarachaiyakorn & Phettakua, 2023), that distinguish Thai communication patterns from Western contexts. This cultural sensitivity makes the ICQ-Thai a more accurate tool for evaluating interpersonal confidence among Thai university students.

The findings also reinforce theoretical perspectives. Bandura's (1977, 1982) concept of self-efficacy explains the centrality of Self-confidence in social functioning, while Leary and Kowalski's (1995) model highlights how Cognitive Anxiety undermines social interaction. Additionally, Cantero-Sánchez et al. (2021) demonstrated that assertiveness training reduces Social anxiety and increases social competence, supporting the inclusion of the Social Behavior factor. Together, these results validate the ICQ-Thai as both psychometrically robust and culturally appropriate.

Conclusion

This study developed and validated the Thai version of the Interpersonal Confidence Questionnaire (ICQ-Thai), which was found to demonstrate strong psychometric properties and good alignment with empirical data. Moreover, the instrument reflects cultural appropriateness within the Thai context, where emphasis is placed on social adjustment, group relationships, and conflict avoidance. Therefore, the ICQ-Thai is not only a psychometrically sound psychological instrument but also an example of adapting a questionnaire to align with cultural appropriateness an essential factor that should be considered in psychological and behavioral assessment research across diverse contexts.

Recommendation

1. Validate the ICQ-Thai in more diverse Thai populations (e.g., different age groups, regions, professions).
2. Explore longitudinal relationships between ICQ and academic performance/mental health outcomes.
3. Investigate specific cultural mediators (e.g., family influence, educational environment) of interpersonal confidence in Thailand.
4. Examine the instrument's sensitivity to change following interventions aimed at enhancing interpersonal skills.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

Authors' contributions

Chanwit Intarak led the study by conceptualizing the project and defining the research objectives, designing the methodology, collecting and analyzing the data, and preparing the initial draft of the manuscript.

Dollapha Pasokchat contributed to the research design, assisted with data collection,

participated in the data analysis, drafted or revised sections of the manuscript, verified the accuracy of the results, reviewed and approved the final version, and implemented revisions based on feedback from the advisor and subject-matter experts.

Manatsiri Khongrassame and Natthasit Suwannawat supported the research planning, conducted data processing and interpretation, and helped draft or revise the discussion and conclusion. The authors verified the language with the assistance of ChatGPT.

Acknowledgements

This study was successfully completed with the support and assistance of many individuals. The author would like to express sincere gratitude to Dr. Jenwit Wareebor for his invaluable guidance and advice throughout the research process. Appreciation is also extended to all informants and participants who generously devoted their time and cooperation to this study.

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