

Development and Validation of a Well-being Scale for Hybrid Workers in Thailand: A Mixed Methods Study

Soontaree Sookhanaphibarn* 

Faculty of Applied Arts, King Mongkut's University of Technology North Bangkok, Thailand

ABSTRACT

Background and Objectives: Hybrid work remains important in post-pandemic Thai organizations and may influence employee well-being through flexibility, work-life boundaries, communication patterns, and workplace relationships. Existing well-being measures provide useful foundations but were not developed specifically for hybrid workers in Thailand. This study examined the general state and PERMA-based components of well-being among hybrid workers in Thailand, developed a contextually informed scale, and evaluated its preliminary psychometric properties.

Methodology: A sequential exploratory mixed-methods design was employed. In Phase 1, 25 key informants were purposively selected from five industry groups, with five key informants from each group. Semi-structured online interviews were analyzed thematically using the PERMA framework, and the findings informed the operational definitions and item generation. In Phase 2, 414 employees working in hybrid arrangements in Thailand were recruited through nonprobability online volunteer sampling. The scale was reviewed for content validity by five experts and pilot-tested with 43 participants before administration to the main sample. Analyses included descriptive statistics, corrected item-total correlations, Cronbach's alpha, confirmatory factor analysis, and preliminary sample-based score classification using percentile ranks and standardized scores.

Results: The qualitative findings showed that hybrid workers' well-being experiences could be organized within the five PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Two contextual expressions were especially relevant to hybrid work: task-location fit and relationship divergence. The final scale consisted of 32 items. Content validity was acceptable, with IOC values ranging from 0.60 to 1.00. Corrected item-total correlations ranged from 0.429 to 0.870. Internal consistency reliability was acceptable to high across domains, with Cronbach's alpha coefficients ranging from 0.851 to 0.917. The Cronbach's alpha for the total scale was 0.960. Respondents reported a mean overall well-being score of

ARTICLE INFO

Article history:

Received 14 December 2025

Revised 9 August 2026

Accepted 14 August 2026

Keywords:

Employee well-being,
Hybrid work, PERMA,
Psychometric evaluation,
Work arrangement

4.22 (SD = 0.55). A DWLS second-order CFA treating the 32 Likert-type items as ordered categorical indicators yielded standardized item loadings ranging from 0.724 to 0.938. Standardized loadings of the five first-order PERMA domains on the higher-order well-being factor ranged from 0.894 to 0.938. The fit indices provided mixed evidence of model fit: scaled $\chi^2(459) = 1,912, p < .001$, scaled CFI = 0.960, scaled TLI = 0.957, scaled RMSEA = 0.088, 95% CI [0.084, 0.092], and SRMR = 0.054. Taken together, these findings provided qualified preliminary support for the proposed PERMA-based second-order factor structure. For descriptive purposes, respondents were grouped into lower-scoring, middle-scoring, and higher-scoring groups based on the sample's 25th and 75th percentile cutoffs (P25 and P75).

Discussions: The findings suggest that PERMA is a useful theoretical structure for understanding well-being among hybrid workers, while qualitative evidence helps contextualize item content for hybrid work in Thailand. Engagement and Relationships were especially salient in the qualitative findings.

Conclusions: The study provides preliminary psychometric evidence for the developed scale, which may be used cautiously as a descriptive and developmental tool for research and organizational well-being assessment among hybrid workers in Thailand. It should not be interpreted as a diagnostic or screening instrument, and further validation using independent and diverse samples is needed before broader organizational application.

**Corresponding author*

E-mail address: soontaree.s@arts.kmutnb.ac.th

Introduction

Hybrid work has become an important feature of contemporary work arrangements after the COVID-19 pandemic. It allows employees to combine office-based work with work performed outside the employer's premises, depending on job requirements, organizational policies, and individual circumstances. In Thailand, the institutional recognition of work performed outside the employer's premises was strengthened by the Labour Protection Act (No. 8) B.E. 2566 (2023), which added Section 23/1 to the Labour Protection Act B.E. 2541. It also provided a legal basis for work performed at home, at the employee's residence, or through information technology at any place, including provisions related to employees' right to disconnect after working hours (Labour Protection Act (No. 8), 2023). Although this legal development does not by itself indicate the prevalence of hybrid work, it reflects the growing need to manage work arrangements that extend beyond the traditional office setting.

Recent academic literature also suggests that flexible and hybrid work arrangements remain relevant in the post-pandemic workplace. At the regional level, flexible working has expanded across Southeast Asia, including Thailand and the Philippines, especially in sectors where digital technologies allow work to be performed across locations (Lajom & Sibunruang,

2024). In Thailand, recent qualitative research on hybrid workplaces has shown that hybrid work is associated with issues of work-life balance, engagement, professional identity, communication, and relationship management (Suengkamolpisut & Singhatong, 2026). These findings indicate that hybrid work should not be viewed only as a flexible work policy, but also as a work context that may shape employees' well-being in multidimensional ways.

Hybrid work can provide several benefits for employees, such as reduced commuting time, greater flexibility, and improved work-life balance (Choudhury et al., 2021; Kniffin et al., 2021). However, it may also create challenges, including blurred work-life boundaries, social isolation, communication difficulties, digital fatigue, and reduced informal interaction with colleagues (Hill et al., 2024; Telu & Kumar, 2025). These mixed effects suggest that employee well-being in hybrid work arrangements requires systematic assessment. A general measure of well-being may not fully capture how employees experience work when tasks, communication, relationships, and boundaries are distributed across office-based and remote work settings.

Well-being is a multidimensional construct that includes positive feelings, engagement, supportive relationships, a sense of meaning, and goal achievement. Among existing frameworks, the PERMA model proposed by Seligman (2011) provides a useful structure for understanding well-being through five domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. The PERMA framework has also been operationalized in existing measures such as the PERMA-Profiler (Butler & Kern, 2016). However, existing PERMA-based measures were not developed specifically for hybrid workers in Thailand. Therefore, it remains important to examine how the PERMA domains are expressed in the hybrid work context and how qualitative evidence from employees' actual experiences can inform item development.

In Thailand, existing mental well-being measures have provided useful foundations for assessing well-being in the Thai population, such as the Thai Mental Well-Being Scale (Pimthong et al., 2022). However, these instruments were not designed to assess well-being among employees working in hybrid arrangements. This gap supports the need for a scale that maintains the theoretical structure of PERMA while adapting item content to the lived experiences of hybrid workers in Thailand. Hybrid work may involve specific contextual expressions, such as the perceived fit between task characteristics and work location, as well as changes in professional and personal relationships. These issues do not necessarily represent new dimensions beyond the PERMA framework; rather, they may represent contextual expressions of existing PERMA domains in hybrid work. For this reason, a contextually informed PERMA-based scale is needed to describe well-being among hybrid workers and to provide preliminary psychometric evidence for its potential use in research and organizational management.

Therefore, this study had three objectives. First, it aimed to examine the general state and PERMA-based components of well-being among hybrid workers in Thailand. Second, it aimed to develop a well-being scale appropriate for hybrid workers in Thailand, informed by both the PERMA framework and qualitative findings. Third, it aimed to examine the preliminary psychometric evidence of the developed scale, including content validity, item discrimination, internal consistency reliability, confirmatory factor analysis, and preliminary sample-based score classification.

Review of Literature

Well-Being and the PERMA Framework

Well-being is a multidimensional construct that has been widely examined in psychology, public health, and organizational studies. Early work on subjective well-being emphasized life satisfaction, positive affect, and negative affect as key components of how individuals evaluate their lives (Diener, 1984; Diener et al., 2018). In the work context, well-being is also associated with important organizational outcomes, including job satisfaction, work engagement, performance, stress, absenteeism, and turnover intention (Warr & Nielsen, 2018). Therefore, the assessment of well-being is important not only for understanding employees' psychological functioning, but also for informing organizational practices that support sustainable work.

Among existing well-being frameworks, the PERMA model proposed by Seligman (2011) provides a useful multidimensional structure. The model consists of five domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Positive Emotion refers to positive feelings such as happiness, satisfaction, and optimism. Engagement refers to deep involvement, concentration, and energy in activities. Relationships refer to supportive and meaningful interpersonal connections. Meaning refers to a sense that one's activities are valuable and connected to broader life purposes. Accomplishment refers to progress, goal achievement, and a sense of competence. These five domains provide a broad framework for understanding well-being in both general life and work-related contexts.

PERMA-Based Measurement and Existing Instruments

The PERMA framework has been operationalized in existing measurement instruments. One widely used instrument is the PERMA-Profiler, which was developed to assess well-being across the five PERMA domains and additional indicators of overall well-being (Butler & Kern, 2016). The PERMA-Profiler is relevant to the present study because it shows how the PERMA model can be translated into measurable domains. However, existing PERMA-based measures are general well-being instruments and were not designed specifically for employees working in hybrid arrangements in Thailand.

In Thailand, existing mental well-being measures have provided useful foundations for assessing well-being in the Thai population, such as the Thai Mental Well-Being Scale (Pimthong et al., 2022). However, these instruments were not designed to assess well-being among employees working in hybrid arrangements. This gap supports the need for a scale that maintains the theoretical structure of PERMA while adapting item content to the lived experiences of hybrid workers in Thailand.

A key issue in scale development is that theoretical constructs should be clearly defined and translated into items that are meaningful for the intended target population (DeVellis, 2017). In addition, systematic scale development should include theoretical grounding, item generation, expert review, pilot testing, reliability analysis, and validity evidence appropriate to the stage of development (Boateng et al., 2018). Therefore, when applying the PERMA framework to hybrid workers, it is important not only to adopt the five theoretical domains, but also to examine how these domains are expressed in employees' actual work experiences.

Hybrid Work and Employee Well-Being

Hybrid work refers to work arrangements in which employees perform work both in office-based settings and outside the traditional workplace. Previous studies have shown that flexible and hybrid work arrangements may benefit employees by reducing commuting time, increasing autonomy, and supporting work-life balance (Choudhury et al., 2021; Kniffin et al., 2021). These benefits may contribute to Positive Emotion and Accomplishment by allowing employees to manage time, energy, and personal responsibilities more effectively.

However, hybrid work may also create challenges for well-being. These challenges include blurred boundaries between work and personal life, reduced informal communication, social isolation, digital fatigue, and difficulty maintaining engagement when work is distributed across locations (Hill et al., 2024; Telu & Kumar, 2025). These challenges are particularly relevant to the Engagement and Relationships domains of the PERMA framework. Engagement may be influenced by whether the work location is suitable for the type of task, while Relationships may be affected by reduced face-to-face interaction and changes in collegial support.

Recent regional and Thai evidence also suggests that flexible and hybrid work remain important in the post-pandemic workplace. Flexible working has expanded across Southeast Asia, including Thailand and the Philippines, particularly in sectors where digital technologies support work across locations (Lajom & Sibunruang, 2024). Recent qualitative research in Thai hybrid workplaces has also highlighted issues related to work-life balance, engagement, professional identity, communication, and relationship management (Suengkamolpisut & Singhatong, 2026). These findings support the need to examine well-being in hybrid work as a context-specific work experience rather than as a general employee well-being issue alone.

Contextualizing PERMA for Hybrid Workers

Although the PERMA model provides a useful theoretical structure, hybrid work may shape how the five domains are experienced. For example, Positive Emotion may be associated with reduced commuting burden and greater flexibility, but it may also be affected by stress from frequent online meetings. Engagement may depend on the fit between task characteristics and work location. Relationships may involve both collegial connection at work and personal relationships outside the workplace. Meaning may be connected to the perceived value of work and the ability to align work with personal life goals. Accomplishment may involve both work goal achievement and the ability to manage work-life demands under flexible arrangements.

For scale development, these contextual issues can be treated as expressions of the five PERMA domains rather than as entirely new dimensions outside the PERMA framework. This approach maintains theoretical consistency with PERMA while allowing item content to reflect the hybrid work context. In this study, the qualitative phase was therefore used to contextualize the PERMA domains, refine operational definitions, and generate items that were meaningful for hybrid workers in Thailand.

Preliminary Psychometric Evaluation in Scale Development

For a newly developed scale, psychometric evaluation should be interpreted according to the available evidence and the stage of scale development. Content validity, item discrimination, and internal consistency reliability provide important initial evidence that items are relevant, coherent, and appropriate for the intended construct (Boateng et al., 2018; DeVellis, 2017). Content validity can be examined through expert review, such as the item-objective

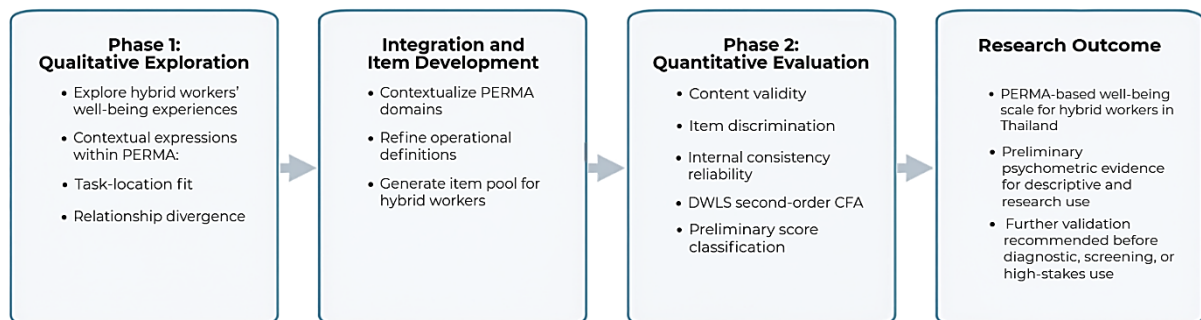
congruence method, to assess whether each item is consistent with its intended definition (Rovinelli & Hambleton, 1977). Internal consistency reliability can be examined using Cronbach's alpha, which provides evidence of the extent to which items within a domain are related to one another (Cronbach, 1951; Nunnally & Bernstein, 1994).

Confirmatory factor analysis (CFA) can also be used to examine whether the observed data support the proposed factor structure. In the present study, the items were treated as ordered categorical indicators, and a DWLS second-order CFA was used to examine whether the 32 items represented five first-order PERMA domains and whether these domains reflected a higher-order well-being factor. However, CFA findings should be interpreted cautiously and should not be treated as complete validation unless supported by additional evidence, such as convergent validity, criterion-related validity, discriminant validity, measurement invariance, and test-retest reliability. For this reason, the scale is presented as providing preliminary psychometric evidence for descriptive and research use, while further validation is needed before it is used for diagnostic, screening, or high-stakes organizational purposes.

The conceptual framework of this study is presented in Figure 1. The framework illustrates the sequential exploratory mixed-methods design used to develop and examine preliminary psychometric evidence for a PERMA-based well-being scale for hybrid workers in Thailand. Phase 1, the qualitative exploration, provided contextual understanding of hybrid workers' well-being experiences and informed the operational definitions and item generation for Phase 2, the quantitative evaluation. The framework also emphasizes that the scale is intended for descriptive and research use, with further validation recommended before diagnostic, screening, or high-stakes organizational applications.

Figure 1

Conceptual Framework of the Study



Research Methods

Research Design

This study employed a sequential exploratory mixed-methods design consisting of two phases (see Figure 1). Phase 1 was a qualitative study conducted to explore the well-being experiences of hybrid workers and to generate contextual indicators for scale development. Phase 2 was a quantitative study conducted to develop the measurement scale and examine its preliminary psychometric evidence. Because the scale was developed based on the PERMA framework, the qualitative findings were used to contextualize the five PERMA domains for hybrid workers in Thailand and to inform operational definitions, item wording, and item generation.

Phase 1: Qualitative Study**Key Informants**

The 25 key informants were purposively selected from five industry groups, with a predetermined equal allocation of five key informants from each group: information technology; finance and banking; manufacturing; education; government or state enterprises; and service businesses or other related sectors. This allocation was used to ensure the inclusion of perspectives from all five industry groups. The inclusion criteria were that the key informants had to be employed by an organization in Thailand, work under a hybrid working arrangement, have more than one year of hybrid work experience, be at least 20 years old, be able to communicate effectively in Thai, and provide informed consent to participate in an online interview.

Research Instrument

The qualitative instrument was a semi-structured interview guide developed based on the PERMA framework, comprising Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. The interview guide included questions about the key informants' experiences of hybrid work, perceived positive and negative effects on well-being, relationships, work meaning, goal achievement, organizational support, and suggestions for developing a well-being scale for hybrid workers. Expert review involved assessment of the alignment between the interview questions and the PERMA framework. The item-objective congruence (IOC) values for the interview guide ranged from 0.80 to 1.00.

Data Collection

Data were collected through individual in-depth interviews conducted via Zoom. Each interview lasted approximately 30–60 minutes. Before the interview, the key informants received information about the study objectives, voluntary participation, confidentiality, and their right to withdraw at any time. With the key informants' consent, interviews were audio-recorded and later transcribed for analysis. All identifying information was removed from the transcripts to protect confidentiality.

Data Analysis

The interview data were analyzed using thematic analysis. The analysis combined deductive coding based on the PERMA framework with inductive coding derived from the key informants' actual experiences. The purpose of this phase was to identify contextual expressions of well-being in hybrid work and to use these findings to refine operational definitions and generate questionnaire items for the quantitative phase. Trustworthiness was supported through systematic coding, repeated review of themes, and careful linkage between verbatim data, codes, sub-themes, and PERMA-based domains.

Phase 2: Quantitative Study**Population and Sample**

The target population consisted of employees working in hybrid arrangements in organizations in Thailand. The inclusion criteria were that participants had to be employed by an organization in Thailand, work under a hybrid working arrangement, have more than one month of hybrid work experience, be at least 20 years old, be able to read and respond to a Thai-language questionnaire, and provide informed consent to participate. The target sample

size was determined using Cochran's formula (Cochran, 1977) and recommendations for confirmatory factor analysis, resulting in a minimum target of approximately 400 participants. Participants were recruited through non-probability online volunteer sampling. No predetermined numerical quotas were established for the industry groups. A total of 433 responses were initially obtained. After checking the responses for completeness and eligibility, 414 eligible and complete responses were retained for analysis.

Instrument Development

The item development process was conducted in several steps. First, the PERMA framework was used as the theoretical foundation for defining the five domains of well-being: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Second, findings from Phase 1 were used to contextualize these domains for hybrid work in Thailand. In particular, the qualitative findings identified two contextual themes relevant to hybrid work well-being: task-location fit, referring to the perceived alignment between task type and work location, which informed items within the Engagement domain; and relationship divergence, referring to the differential effects of hybrid work on professional and personal relationships, which informed items within the Relationships domain. Third, an initial item pool was developed based on the theoretical framework, qualitative findings, and operational definitions. Fourth, the items were reviewed by five experts for content validity. Finally, the revised scale was pilot tested before being used in the main quantitative study.

The final scale consisted of 32 items rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were distributed across five PERMA-based domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. The scale included 6 items for Positive Emotion, 6 items for Engagement, 7 items for Relationships, 6 items for Meaning, and 7 items for Accomplishment.

Content Validity

Content validity was examined by five experts using the item-objective congruence (IOC) method. The IOC values of the 32-item scale ranged from 0.60 to 1.00, exceeding the minimum acceptable criterion of 0.50. This result indicated that all items were consistent with the intended operational definitions and were appropriate for further testing.

Pilot Study and Item Analysis

A pilot study was conducted with 43 participants who were not included in the main sample. Item discrimination was examined using corrected item-total correlations. The results showed that all 32 items had acceptable discrimination values, ranging from 0.429 to 0.870, exceeding the commonly recommended minimum criterion of 0.30. Therefore, all items were retained for the main study.

Following Nunnally and Bernstein (1994), Cronbach's alpha values of .70 or higher were considered acceptable. The reliability coefficients for the five domains were as follows: Positive Emotion = 0.863, Engagement = 0.893, Relationships = 0.865, Meaning = 0.851, and Accomplishment = 0.917. The Cronbach's alpha coefficient for the total scale was 0.960. These results indicated acceptable to high internal consistency reliability across the five domains.

Main Data Collection

Main data collection was conducted using an online questionnaire administered through Google Forms. The questionnaire included eligibility questions, demographic information, and the 32-item well-being scale. Participants were informed about the research objectives, voluntary participation, confidentiality, and their right to withdraw from the study. Only responses from participants who met the inclusion criteria, provided informed consent, and completed the questionnaire were included in the final analysis.

Data Analysis

Data were analyzed using jamovi software version 2.3 (The Jamovi Project, 2022). Descriptive statistics, item analysis, reliability analysis, confirmatory factor analysis, and preliminary sample-based score classification were conducted. Frequencies and percentages were used to describe demographic characteristics. Means, standard deviations, skewness, and kurtosis were used to examine the distribution of well-being scores.

Confirmatory factor analysis was conducted to examine the proposed PERMA-based structure of the scale. Because the 32 items were measured using a 5-point Likert scale, the items were treated as ordered categorical indicators. A DWLS second-order CFA was conducted. The model specified the 32 items as indicators of five first-order PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Overall well-being was specified as a second-order factor represented by the five PERMA domains. Model fit was evaluated using scaled chi-square, degrees of freedom, scaled CFI, scaled TLI, scaled RMSEA with its 95% confidence interval, and SRMR. The CFA results were interpreted as providing preliminary support for the proposed PERMA-based second-order factor structure, rather than as evidence that the scale has been fully validated.

A preliminary sample-based score classification was developed using standardized z scores and percentile ranks derived from the present sample. The 25th percentile ($P_{25} = -0.708$) and the 75th percentile ($P_{75} = 1.01$) were used, for descriptive purposes, to group respondents into lower-scoring, middle-scoring, and higher-scoring groups. The resulting score groups were intended for descriptive interpretation only and should not be regarded as clinical diagnostic categories, organizational risk categories, or universally applicable cutoff scores. The classification should be evaluated in independent samples before broader use.

Findings

The findings are presented in two phases. Phase 1 reports the qualitative findings used to contextualize the PERMA-based domains and inform item development. Phase 2 reports the quantitative findings, including participant characteristics, descriptive statistics, item quality, reliability, confirmatory factor analysis, and preliminary sample-based score classification.

Phase 1: Qualitative Findings

Thematic analysis of the interview data from 25 key informants showed that the experiences of hybrid workers could be organized within the five PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. The qualitative findings were consistent with the PERMA framework and provided contextual expressions of well-being in hybrid work. These findings were used to refine operational definitions and item wording for the quantitative scale.

Two contextual themes were particularly important for item development. The first was task-location fit, which reflected the perceived alignment between the type of task and the location where the task was performed. This theme was linked mainly to the Engagement domain. The second was relationship divergence, which reflected the different effects of hybrid work on professional and personal relationships. This theme was linked mainly to the Relationships domain. These findings were used to refine operational definitions and generate items that were relevant to the hybrid work context in Thailand.

Table 1

Qualitative Findings Used for Item Development

PERMA domain	Contextual expression from Phase 1	Role in item development
Positive Emotion	Hybrid work reduced commuting burden and increased flexibility, but frequent online meetings could create stress.	Items were developed to reflect satisfaction, relaxation, positive feelings, and stress reduction in hybrid work.
Engagement	Task-location fit was important; some tasks were better performed at home, while others required office-based interaction.	Items were developed to reflect concentration, energy, learning, creativity, and the perceived suitability of work arrangements.
Relationships	Relationship divergence was observed; family relationships could become stronger, while collegial relationships could become more distant.	Items were developed to reflect relationships with colleagues, sense of belonging, social support, and acceptance at work.
Meaning	The key informants perceived work meaning as connected to the value of work itself, contribution to others, and alignment with personal life goals.	Items were developed to reflect perceived work value, usefulness, personal goals, and meaningful contribution.
Accomplishment	Hybrid work supported some personal and work goals, but unstable systems, workload, and blurred boundaries could hinder goal attainment.	Items were developed to reflect goal achievement, career development, life planning, and satisfaction with work outcomes.

Phase 2: Quantitative Findings

Participant Characteristics

A total of 414 complete responses from eligible participants were included in the quantitative analysis. Participants were predominantly women ($n = 239$, 57.7%); half were aged 25–34 years ($n = 207$, 50.0%); and nearly three-quarters held a bachelor's degree ($n = 301$, 72.7%). Most participants had 1–5 years of hybrid work experience ($n = 256$, 61.8%). Participants were drawn from several industry sectors, with the largest proportion working in information technology ($n = 166$, 40.1%), followed by finance and banking ($n = 87$, 21.0%), manufacturing ($n = 61$, 14.7%), other service sectors ($n = 43$, 10.4%), healthcare and health-related sectors ($n = 42$,

10.1%), and government or state enterprises ($n = 15$, 3.6%). Detailed participant characteristics are presented in Table 2.

Table 2

Demographic Characteristics of the Phase 2 Sample ($N = 414$)

Characteristic	<i>n</i>	%
Gender		
Male	142	34.3
Female	239	57.7
LGBTQIA+	27	6.5
Not specified	6	1.4
Age		
Below 25 years	53	12.8
25–34 years	207	50.0
35–44 years	98	23.7
45–54 years	41	9.9
55 years or older	15	3.6
Education		
Below bachelor's degree	12	2.9
Bachelor's degree	301	72.7
Master's degree	100	24.2
Doctoral degree	1	0.2
Hybrid work experience		
Less than 1 year	120	29.0
1–5 years	256	61.8
6–10 years	31	7.5
11 years or more	7	1.7
Industry group		
Information technology	166	40.1
Finance and banking	87	21.0
Manufacturing	61	14.7
Healthcare and health-related sectors	42	10.1
Government or state enterprises	15	3.6
Other service sectors	43	10.4

Descriptive Statistics

Descriptive statistics were examined for the five PERMA-based dimensions and the overall well-being score. The mean scores of the five dimensions ranged from 4.08 to 4.29 on a 5-point scale. Positive Emotion showed the highest mean score ($M = 4.29$, $SD = 0.65$), followed by Meaning ($M = 4.23$, $SD = 0.56$), Relationships ($M = 4.20$, $SD = 0.57$), Accomplishment ($M = 4.18$, $SD = 0.58$), and Engagement ($M = 4.08$, $SD = 0.66$). The overall mean score was 4.22 ($SD = 0.55$).

Skewness and kurtosis values were examined to assess the distribution of the variables. At the dimensional level, skewness values ranged from -0.564 to -0.127, while kurtosis values ranged from -0.214 to 0.482. These values indicated that the data were within acceptable ranges for further analysis.

Table 3

Descriptive Statistics of Well-Being Dimensions (N = 414)

Dimension	M	SD	Skewness	Kurtosis
Positive Emotion	4.29	0.65	-0.564	-0.210
Engagement	4.08	0.66	-0.347	0.482
Relationships	4.20	0.57	-0.141	-0.214
Meaning	4.23	0.56	-0.197	0.156
Accomplishment	4.18	0.58	-0.127	-0.172
Overall well-being	4.22	0.55	-0.221	0.038

Instrument Quality

Content validity was examined before reliability analysis. The 32-item scale was reviewed by five experts using the item-objective congruence (IOC) method. The IOC values ranged from 0.60 to 1.00, indicating that all items met the content validity criteria and were retained for further testing.

After content validity assessment, item discrimination was examined in the pilot study using corrected item-total correlations. The corrected item-total correlations ranged from 0.429 to 0.870. Since all values exceeded the minimum criterion of 0.30, no item was removed after item analysis. Internal consistency reliability in the pilot study was then examined using Cronbach's alpha. The total scale showed high internal consistency reliability ($\alpha = 0.960$). The reliability coefficients for the five domains were also acceptable to high: Positive Emotion ($\alpha = 0.863$), Engagement ($\alpha = 0.893$), Relationships ($\alpha = 0.865$), Meaning ($\alpha = 0.851$), and Accomplishment ($\alpha = 0.917$).

The final scale consisted of 32 items distributed across the five PERMA-based domains. The items are presented in Table 4.

Table 4

Final Items of the PERMA-Based Well-Being Scale for Hybrid Workers (English Translation)

Domain	Item no.	Item wording
Positive Emotion	EMO-1	I feel satisfied and happy with hybrid work.
Positive Emotion	EMO-2	I feel relaxed and not stressed when working in a hybrid work arrangement.
Positive Emotion	EMO-3	Hybrid work helps me maintain a better balance in my life.
Positive Emotion	EMO-4	I feel proud of working in an organization that has a hybrid work arrangement.
Positive Emotion	EMO-5	I feel positive energy and optimism when working in my organization's hybrid work system.
Positive Emotion	EMO-6	I think that hybrid work helps reduce my stress.

Table 4*(Cont.)*

Domain	Item no.	Item wording
Engagement	ENG-1	I feel that I can concentrate well on my work when working in a hybrid work arrangement.
Engagement	ENG-2	I feel energized to work each day.
Engagement	ENG-3	I feel enthusiastic about completing my work.
Engagement	ENG-4	The work system encourages me to learn for career growth.
Engagement	ENG-5	The work system helps me use my full potential in my work.
Engagement	ENG-6	The hybrid work arrangement helps me think creatively and develop new ideas.
Relationships	REL-1	I think my organization has measures to support employee relationships in the hybrid work system.
Relationships	REL-2	I feel that I have good relationships with colleagues, even when working in a hybrid work arrangement.
Relationships	REL-3	I feel that I am part of the organization, even though I do not work at the office every day.
Relationships	REL-4	The work system gives me time to maintain good relationships with my family.
Relationships	REL-5	The work system helps me maintain good relationships with friends outside the workplace.
Relationships	REL-6	I am accepted by my colleagues when we work together.
Relationships	REL-7	I feel accepted by my supervisor for my abilities and work performance.
Meaning	MEA-1	I think that the flexibility of hybrid work helps make my work meaningful to me and aligned with my life goals.
Meaning	MEA-2	I think that my work creates value and is meaningful to me.
Meaning	MEA-3	I think that my work helps me achieve my personal goals and important values.
Meaning	MEA-4	I think that my work helps strengthen my motivation in life.
Meaning	MEA-5	I think that my work is valuable and contributes to the common good.
Meaning	MEA-6	I think that my work supports the success of the organization.
Accomplishment	ACC-1	I can set work goals and take concrete action to achieve them.
Accomplishment	ACC-2	I develop my expertise in order to achieve my work goals.
Accomplishment	ACC-3	I have ways to achieve my goals in both work and life.
Accomplishment	ACC-4	I have opportunities to receive training or career development to achieve my goals.
Accomplishment	ACC-5	I have opportunities for career growth.
Accomplishment	ACC-6	I can cope with obstacles at work and develop solutions that lead to successful work outcomes.
Accomplishment	ACC-7	I am satisfied with the success I have achieved while working in a hybrid work arrangement.

Note. The scale was developed and administered in Thai. The English wording is provided for reporting purposes only and should not be interpreted as an independently validated English-language version.

Confirmatory Factor Analysis

A second-order CFA using DWLS estimation was conducted to examine the proposed PERMA-based second-order factor structure of the scale. The 32 Likert-type items were treated as ordered categorical indicators. The model specified five first-order PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment, with overall well-being specified as a higher-order factor underlying the five domains.

The model converged. The standardized item loadings on their intended first-order domains ranged from 0.724 to 0.938. The standardized loadings of the five first-order PERMA domains on the higher-order well-being factor ranged from 0.894 to 0.938.

The fit indices provided mixed evidence of model fit: scaled $\chi^2(459) = 1,912$, $p < .001$, scaled CFI = 0.960, scaled TLI = 0.957, scaled RMSEA = 0.088, 95% CI [0.084, 0.092], and SRMR = 0.054. The scaled CFI and TLI, together with the SRMR, were within commonly used ranges, whereas the scaled RMSEA exceeded commonly used cutoff values for model fit. Taken together, these findings provide qualified preliminary support for the proposed PERMA-based second-order factor structure but should be interpreted as preliminary rather than conclusive evidence of structural validity.

Table 5

DWLS Second-Order CFA Results for the 32-Item PERMA-Based Well-Being Scale

Index / Parameter	Result
Scaled χ^2	1,912
df	459
p	< .001
Scaled CFI	0.960
Scaled TLI	0.957
Scaled RMSEA	0.088
95% CI for scaled RMSEA	0.084–0.092
SRMR	0.054
Standardized item loadings	0.724–0.938
Standardized second-order loadings	0.894–0.938

Using the sample-based P25 and P75 cutoffs, 104 respondents (25.1%) were in the higher-scoring group, 201 (48.6%) were in the middle-scoring group, and 109 (26.3%) were in the lower-scoring group (Table 6).

Table 6*Preliminary Sample-Based Classification of Well-Being Scores (N = 414)*

Score group	Percentile criterion	Z-score criterion	Total score range	Mean score range	n	%
Higher	Above P75	> 1.01	153-160	4.78-5.00	104	25.1
Middle	P25-P75	-0.708 to 1.01	123-152	3.84-4.75	201	48.6
Lower	Below P25	< -0.708	32-122	1.00-3.81	109	26.3

Note. This classification is preliminary and specific to the present sample. The resulting score groups should be interpreted descriptively and should not be regarded as clinical diagnostic categories, organizational risk categories, or universally applicable cutoff scores.

Discussions

This study developed and examined preliminary psychometric evidence for a PERMA-based well-being scale for hybrid workers in Thailand. The findings should be understood as initial evidence from a sequential exploratory mixed-methods study. The qualitative phase provided contextual understanding of how hybrid workers experienced well-being, while the quantitative phase examined content validity, item discrimination, internal consistency reliability, confirmatory factor analysis, and preliminary sample-based score classification. This design is consistent with the view that scale development should combine a clear theoretical foundation, empirical item generation, and systematic psychometric evaluation (Boateng et al., 2018; DeVellis, 2017).

The qualitative findings showed that the experiences of hybrid workers could be organized within the five PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. This supports the usefulness of the PERMA framework as a multidimensional structure for understanding well-being, as proposed by Seligman (2011) and further operationalized in the PERMA-Profiler by Butler and Kern (2016). However, the findings also showed that hybrid work has specific contextual features that should be considered when developing a scale. The two most salient contextual expressions were task-location fit and relationship divergence. These findings suggest that the PERMA framework can provide the theoretical structure of the scale, while qualitative data from hybrid workers can help adapt the content of the items to the actual work context.

Task-location fit was closely related to the Engagement domain. The key informants' reports of concentration, energy, and work involvement depended partly on whether the task matched the work location. Some tasks could be completed effectively at home, whereas other tasks required office-based interaction or collaboration. This finding is consistent with research showing that flexible and hybrid work arrangements can support autonomy and work-life balance, but they also require suitable task design, communication structures, and boundary management (Choudhury et al., 2021; Kniffin et al., 2021). It is also consistent with the Job Demands–Resources model, which suggests that engagement and well-being depend on the balance between work demands and job resources, such as autonomy, social support, role clarity, and adequate technological support (Bakker & Demerouti, 2007; Bakker et al., 2023). Therefore, engagement in hybrid work should not be interpreted only as an individual

psychological state, but also as a result of the fit between task characteristics, work location, and organizational support.

Relationship divergence was another important contextual finding. Hybrid work appeared to affect professional and personal relationships in different ways. Some key informants described benefits such as having more time with family or greater flexibility in daily life, while relationships with colleagues could become more distant when informal interaction and face-to-face communication were reduced. This finding is consistent with studies indicating that remote and hybrid work can have dual effects on well-being, including both increased flexibility and risks of isolation, communication difficulties, and blurred work-life boundaries (Charalampous et al., 2019; Hill et al., 2024). Within organizations in Thailand, interpersonal expectations such as harmony, respect, seniority, and informal support may shape how employees experience workplace relationships (Ackaradejruangsri et al., 2023; Komin, 1991; Vora & Kainzbauer, 2020). Thus, the Relationships domain in this scale needed to reflect not only collegial connection, but also broader social support involving family and significant others in daily life.

The quantitative findings provided initial support for the quality of the developed scale. The content validity results showed that all 32 items were judged by experts to be consistent with the intended operational definitions. This is consistent with scale development recommendations that emphasize expert review and content validity as essential steps before psychometric testing (Boateng et al., 2018; Rovinelli & Hambleton, 1977). The corrected item-total correlations were also within acceptable ranges, indicating that the items were sufficiently related to the scale. The internal consistency reliability coefficients were acceptable to high across the five domains and the total scale, which is consistent with conventional reliability standards (Cronbach, 1951; Nunnally & Bernstein, 1994). These results suggest that the items are coherent and appropriate for measuring well-being among hybrid workers in the present sample. Nevertheless, reliability alone is not sufficient to establish full validity; therefore, the scale should be interpreted as having preliminary psychometric support rather than complete validation.

The descriptive statistics showed that Positive Emotion had the highest mean score and Engagement had the lowest mean score among the five domains. This pattern may reflect the dual nature of hybrid work. On one hand, hybrid work can reduce commuting burden, increase flexibility, and support positive feelings, which is consistent with studies showing benefits of flexible work arrangements for work-life balance (Choudhury et al., 2021; Hill et al., 2024). On the other hand, maintaining engagement may require more than flexibility. Employees may need clear work structures, suitable task allocation, communication support, opportunities for learning, and a work system that allows them to use their potential. Therefore, the relatively lower mean score for Engagement should not be interpreted as a problem in itself, but as an area that organizations may need to monitor and support when implementing hybrid work arrangements.

Although Engagement showed the lowest mean score among the five domains, the DWLS second-order CFA indicated that the five PERMA domains had high standardized loadings on the higher-order well-being factor, ranging from 0.894 to 0.938. This finding suggests that the five domains functioned together as indicators of overall well-being among hybrid workers. The comparatively lower mean score for Engagement may be interpreted alongside the qualitative finding that task-location fit was a salient contextual expression of well-being in hybrid work.

Nevertheless, the CFA results should not be interpreted as indicating that any single domain alone defines overall well-being.

The DWLS second-order CFA provided preliminary but qualified support for the proposed PERMA-based second-order factor structure. The standardized item loading ranged from 0.724 to 0.938, while the standardized second-order loadings ranged from 0.894 to 0.938. However, the fit indices provided mixed evidence of model fit. The scaled CFI, scaled TLI, and SRMR values met commonly used criteria, whereas the scaled RMSEA exceeded commonly used cutoff values for model fit. Taken together, these findings should be interpreted as preliminary evidence supporting the proposed factor structure rather than as evidence that the scale has been fully validated.

The preliminary sample-based score classification was developed to describe the distribution of well-being scores among hybrid workers in the present sample. For descriptive purposes, respondents were grouped into lower-scoring, middle-scoring, and higher-scoring groups using the 25th and 75th percentiles of the sample score distribution (P25 and P75) as cutoffs. This classification may be useful for descriptive interpretation in research and organizational contexts. However, it is specific to the present sample and should not be treated as a clinical diagnostic classification, an organizational risk classification, or a source of universally applicable cutoff scores. The lower-scoring group should therefore be understood as the lowest-scoring group within the present sample, not as a clinically or organizationally defined risk group. Further studies with independent and more diverse samples are needed before these cutoffs can be generalized for broader organizational use.

Practical Implications

The findings suggest several practical implications. First, organizations may cautiously use the scale as a descriptive tool to examine patterns of well-being across the five PERMA domains among employees working in hybrid arrangements. Second, the finding on task-location fit suggests that organizations should consider allowing flexibility in work location based on task requirements rather than relying only on fixed hybrid schedules. Third, the finding on relationship divergence highlights the importance of maintaining collegial connection in hybrid work, such as through periodic in-person team activities, structured communication channels, and opportunities for informal interaction. However, these implications should be considered preliminary. Both the scale and its preliminary sample-based score classification require further validation before they are used as organizational standards or for high-stakes decision-making.

Limitations and Future Research

The study has several limitations. First, the quantitative sample was recruited through non-probability online volunteer sampling, and no predetermined numerical quotas were established for the industry groups. Although the sample size ($N = 414$) met the target sample size and exceeded a commonly cited general guideline for CFA and structural equation modeling of at least 200 cases (Kline, 2016), the findings may not fully represent all hybrid workers in Thailand. The sample achieved was unevenly distributed across industry groups, with the largest proportions from information technology (40.1%) and finance and banking (21.0%), and may underrepresent employees in other manufacturing, service, and emerging hybrid-work sectors. Although industry group and length of hybrid work experience were recorded, position level and

weekly hybrid work patterns were not assessed; therefore, comparisons across position levels and weekly hybrid work patterns could not be examined.

Second, the data were self-reported and cross-sectional. Therefore, the findings may be affected by response bias and cannot be used to infer causal relationships. Future studies should consider incorporating multi-source data, longitudinal designs, or additional indicators of well-being.

Third, the psychometric evidence should be interpreted as preliminary. Although the study examined content validity, item discrimination, internal consistency reliability, the factor structure using DWLS second-order CFA, and preliminary sample-based score classification, the factor structure was evaluated only through CFA in a single sample; exploratory factor analysis and cross-validation in an independent sample were not conducted. Convergent validity was not examined against an established PERMA-based measure, such as the PERMA-Profiler, and criterion-related validity was not assessed using external criteria. In addition, the DWLS second-order CFA provided preliminary but qualified support for the proposed factor structure because the fit indices showed mixed evidence of model fit, with the scaled RMSEA exceeding commonly used cutoff values for model fit. Therefore, additional validation studies are needed before stronger claims can be made regarding the use of the scale across broader organizational contexts or for consequential decision-making.

Future research should examine the scale using independent and more diverse samples, conduct exploratory and confirmatory factor analyses with separate samples, and assess additional reliability and validity evidence, including composite reliability, convergent validity with existing PERMA-based measures, criterion-related validity, discriminant validity, measurement invariance across demographic and organizational groups, and test-retest reliability.

Conclusions

This study developed and examined preliminary psychometric evidence for a 32-item PERMA-based well-being scale for employees working in hybrid arrangements in Thailand. Using a sequential exploratory mixed-methods design, the qualitative phase provided contextual understanding of hybrid workers' well-being experiences, while the quantitative phase examined content validity, item discrimination, internal consistency reliability, confirmatory factor analysis, and preliminary sample-based score classification.

The qualitative findings indicated that hybrid workers' well-being experiences could be organized within the five PERMA domains: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment. Two contextual expressions were especially relevant to the hybrid work context: task-location fit and relationship divergence. These findings helped contextualize the PERMA framework for hybrid workers and informed the development of items that reflected both work-related and relational aspects of well-being.

The quantitative findings provided preliminary evidence supporting the developed scale. The scale demonstrated acceptable content validity, satisfactory item discrimination, and acceptable to high internal consistency reliability. The DWLS second-order CFA provided preliminary but qualified support for the proposed PERMA-based second-order factor structure, with standardized item loadings ranging from 0.724 to 0.938 and standardized second-order loadings ranging from 0.894 to 0.938. However, because model fit showed mixed evidence and

additional validity evidence was not examined, the findings should be interpreted as preliminary psychometric evidence rather than as evidence that the scale has been fully validated.

Overall, the developed scale may serve as a useful starting point for assessing well-being among hybrid workers in Thailand. It may help researchers and organizations describe well-being across the five PERMA domains and highlight potential areas where employee support may be beneficial, particularly in relation to engagement and workplace relationships in hybrid work arrangements. However, the scale should be used as a descriptive and developmental tool rather than as a diagnostic or screening instrument.

Further research is needed to strengthen the psychometric evidence of the scale. Future studies should examine the scale with independent and more diverse samples, conduct exploratory and confirmatory factor analyses with separate samples, compare the scale with existing PERMA-based measures such as the PERMA-Profiler, and assess criterion-related validity, discriminant validity, measurement invariance across demographic and organizational groups, and test–retest reliability.

Author Contributions

SS: Conceptualization, methodology, validation, investigation, formal analysis, data curation, writing – original draft preparation, writing – review and editing, project administration, and funding acquisition.

Declaration of Generative AI in the Writing Process

During the preparation of this manuscript, the author used ChatGPT (OpenAI), Claude (Anthropic), and Grammarly to assist with language editing, polishing of the draft, and improvement of clarity, grammar, and readability. These tools were not used to generate research data, conduct statistical analyses, fabricate references, or make final scholarly judgments. The author reviewed and revised all AI-assisted outputs as necessary and takes full responsibility for the content of the manuscript.

Ethics

This study received ethical approval from the Ethics Review Board of Rangsit University (COA No. RSUERB2025-091, approved 1 May 2025). All procedures followed relevant ethical guidelines. Participants were informed about the study objectives, voluntary participation, confidentiality protection, and their right to withdraw from the study at any time. Informed consent was obtained from all participants before data collection. No personally identifiable information was reported in the findings.

Funding

This research was funded by Faculty of Applied Arts, King Mongkut's University of Technology North Bangkok.

References

- Ackaradejruangsri, P., Mumi, A., Rattanapituk, S., & Pakhunwanich, P. (2023). Exploring the determinants of young inclusive leadership in Thailand: Research taxonomy and theoretical framework. *Journal of the Knowledge Economy*, 14(4), 3696–3723.
<https://doi.org/10.1007/s13132-022-01017-7>

- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
<https://doi.org/10.1108/02683940710733115>
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023). Job demands-resources theory: Ten years later. *Annual Review of Organizational Psychology and Organizational Behavior*, 10, 25–53.
<https://doi.org/10.1146/annurev-orgpsych-120920-053933>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6, 149.
<https://doi.org/10.3389/fpubh.2018.00149>
- Butler, J., & Kern, M. L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1–48.
<https://doi.org/10.5502/ijw.v6i3.526>
- Charalampous, M., Grant, C. A., Tramontano, C., & Michailidis, E. (2019). Systematically reviewing remote e-workers' well-being at work: A multidimensional approach. *European Journal of Work and Organizational Psychology*, 28(1), 51–73.
<https://doi.org/10.1080/1359432X.2018.1541886>
- Choudhury, P., Foroughi, C., & Larson, B. (2021). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal*, 42(4), 655–683.
<https://doi.org/10.1002/smj.3251>
- Cochran, W. G. (1977). Sampling techniques (3rd ed.). John Wiley & Sons.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. <https://doi.org/10.1007/BF02310555>
- DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). Sage Publications.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575.
<https://doi.org/10.1037/0033-2909.95.3.542>
- Diener, E., Oishi, S., & Tay, L. (2018). Advances in subjective well-being research. *Nature Human Behaviour*, 2(4), 253–260. <https://doi.org/10.1038/s41562-018-0307-6>
- Hill, N. S., Axtell, C., Raghuram, S., & Nurmi, N. (2024). Unpacking virtual work's dual effects on employee well-being: An integrative review and future research agenda. *Journal of Management*, 50(2), 752–792. <https://doi.org/10.1177/01492063221131535>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., Bamberger, P., Bapuji, H., Bhawe, D. P., Choi, V. K., Creary, S. J., Demerouti, E., Flynn, F. J., Gelfand, M. J., Greer, L. L., Johns, G., Keesebir, S., Klein, P. G., Lee, S. Y., ... van Vugt, M. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*, 76(1), 63–77. <https://doi.org/10.1037/amp0000716>
- Komin, S. (1991). *Psychology of the Thai people: Values and behavioral patterns*. National Institute of Development Administration.
- Labour Protection Act (No. 8), B.E. 2566 (2023). *Royal Thai Government Gazette*, 140(20A), 56–59.
- Lajom, J. A. L., & Sibunruang, H. (2024). The rise of flexible working in Southeast Asia: Insights from Thailand and the Philippines. In X. W. Chan, S. Shang, & L. Lu (Eds.), *Work-life research in the Asia-Pacific: Implications for justice, equity, diversity, and inclusion* (pp. 23–45). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-52795-1_2
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Pimthong, S., Suwanwong, C., Surakarn, A., Chiangkhong, A., Sumalrot, T., & Khunakorncharatphong, A. (2022). Development and validation of the Thai mental well-being scale. *Heliyon*, 8(4), e09296. <https://doi.org/10.1016/j.heliyon.2022.e09296>

- Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research*, 2, 49–60.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Suengkamolpisut, W., & Singhatong, S. (2026). Leading across boundaries: Adaptive leadership and employee well-being in Thailand's hybrid workplace. *Organization Management Journal*, 23(2), 209–230. <https://doi.org/10.1108/OMJ-08-2025-2669>
- Telu, S., & Kumar, S. (2025). Towards a sustainable future: A comprehensive review of employee well-being in hybrid work settings. *Management & Sustainability: An Arab Review*, 4(3), 407–430. <https://doi.org/10.1108/MSAR-10-2024-0182>
- The Jamovi Project. (2022). *jamovi* (Version 2.3) [Computer software]. <https://www.jamovi.org>
- Vora, D., & Kainzbauer, A. (2020). Humanistic leadership in Thailand: A mix of indigenous and global aspects using a cross-cultural perspective. *Cross Cultural & Strategic Management*, 27(4), 665–687. <https://doi.org/10.1108/CCSM-01-2020-0008>
- Warr, P., & Nielsen, K. (2018). Wellbeing and work performance. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being* (pp. 685–706). DEF Publishers.