JP3I (Jurnal Pengukuran Psikologi dan Pendidikan Indonesia)
DOI: http://dx.doi.org/10.15408/jp3i.v15i1.47083
http://journal.uinjkt.ac.id/index.php/jp3i

Psychometric Properties of Indonesian Job-related Affective Well-being Scale: Examining Factor Structure Through CFA and ESEM

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Abstract

Job Affective Well-Being Scale (JAWS) is a psychological instrument used to measure emotional conditions in the context of work. However, research on the psychometric properties of JAWS in the Indonesian context remains limited. This study aims to test the construct validity of JAWS among 410Indonesian workers (mean = 34.98; SD = 9.51)using a competing models strategy. This study compares three approaches: Confirmatory Factor Analysis (CFA), Exploratory Structural Equation Modelling (ESEM), and Set-ESEM. The results of the model comparison analysis indicated that the Modified 4-Factor Set-ESEM model was the best, balancing statistical accuracy and parsimony and accommodating natural cross-loadings among items within the same valence. The evaluation of measurement invariance across genders confirmed the instrument'sstability at the configurational and metric levels, as well as partial scalar invariance. The final JAWS Indonesian version model with the Set-ESEM model shows that this instrument is valid, reliable, and fair in measuring affective well-being at work, and supports its use for research and organisational intervention purposes in Indonesia.

Keywords: exploratory structural equation modelling, job-related affective well-being scale, psychometric validation, Indonesian workers

Abstrak

Skala Job Affective Well-Being (JAWS) merupakan instrumen psikologis yang digunakan untuk mengukur kondisi emosional dalam konteks pekerjaan. Namun, penelitian yang mengevaluasi properti psikometrik JAWS dalam konteks Indonesia masih terbatas. Studi ini bertujuan untuk untuk menguji validitas konstruk JAWS pada 410(mean = 34.98; SD = 9.51) pekerja Indonesia dengan menerapkan strategi model kompetisi (competing models strategy). Penelitian ini membandingkan tiga pendekatan: Confirmatory Factor Analysis (CFA), Exploratory Structural Equation Modeling (ESEM), dan Set-ESEM. Hasil analisis perbandingan model ditemukan bahwa model Set-ESEM 4-Faktor Modified terbukti sebagai model terbaik yang menyeimbangkan ketepatan statistik dan prinsip parsimoni, serta mampu mengakomodasi cross-loadings alami antar aitem dalam valensi yang sama. Evaluasi invariansi pengukuran lintas gender mengonfirmasi stabilitas instrumen pada tingkat konfigural dan metrik, serta invariansi skalar parsial. Model akhir JAWS versi Indonesia dengan model Set-ESEM menunjukkan bahwa instrumen ini valid, reliabel, dan adil dalam mengukur kesejahteraan afektif di tempat kerja, serta mendukung penggunaannya untuk keperluan penelitian dan intervensi organisasi di Indonesia.

Kata kunci: *exploratory structural equation modeling, Job-related Affective Well-Being Scale, validasi psikometrik, pekerja Indonesia*

Introduction

The development of the concept of affect in psychology, particularly in organisational behaviour, demonstrates a significant transformation from merely subjective emotional experiences to a central component in understanding individual dynamics in the workplace. Affect, as an umbrella term, encompasses emotions, moods, and evaluative subjective feelings that can be both dispositional and situational (Russell, 2003). Within the cognitive tradition, Lazarus emphasised that affect, particularly emotions, emerges from cognitive appraisal processes of personally significant events. Emotions are not automatic reactions but rather meaningful responses closely linked to individual coping strategies when facing stress (1991, Biggs et al., 2017).

In the realm of occupational psychology, affect functions as a response to work-related stress, bridging the relationship between organisational stressors and work behaviour, and includes individual affective dispositions (positive/negative affectivity) as predispositional factors influencing the perception of and reaction to the work environment (Spector & Goh, 2001). Moreover, everyday workplace events trigger affective reactions that directly impact attitudes and behaviours (Weiss & Cropanzo, 1996). Employees with high positive affect are more likely to be engaged and have a strong desire to contribute to their roles within the organisation (Ramdhani et al., 2017), showing willingness to grow, be productive, creative, and actively collaborate in team settings (Datar, 2022). In contrast, employees with negative affect are at risk of experiencing burnout and psychological health issues, making them more prone to counterproductive work behaviour (Zhang et al., 2018). In addition, affective experiences in the workplace are closely linked to broader indicators of employee well-being, such as quality of work-life and work-life balance, which have been shown to significantly influence job satisfaction and overall psychological functioning (Ogunola, 2022).

Pioneering instruments in this domain include the Job Affect Scale (JAS) developed by Brief et al. (1988), which assesses a wide range of discrete emotions in the workplace. Subsequently, several instruments were developedand commonly used to measure affect in work contexts, including the Job-related Affective Well-being Scale (JAWS) developed by Van Katwyk et al. (2000), the Job-related Affective Well-being Measure developed by Warr (1990), and the Positive and Negative Affect Schedule (PANAS) developed by Watson et al. (1988). Although affect measurement has been extensively developed in psychology, most available instruments do not fully capture the complexity of emotions in work contexts. For instance, PANAS only measures two basic dimensions,positive and negative affect,without considering situational contexts such as the work environment. The emotions measured are general and do not reflect the affective dynamics arising from job pressure, organisational social interactions, or emotional workload. Warr's Job-related Affective Well-being Measure adopts a circumplex model of emotion (valence and arousal), yet it tends to oversimplify workplace emotional experiences into broad categories such as "happy" or "anxious," failing to capture specific emotions relevant in modern work situations, such as frustration due to organisational injustice or feeling appreciated by colleagues. In essence, these instruments do not specifically measure work-related emotions but rather general aspects of mental health. Furthermore, both instruments have limitations in terms of temporal flexibility and sensitivity to cultural differences in the workplace. For these reasons, the Job-related Affective Well-being Scale (JAWS) developed by Van Katwyk et al. (2000) is considered the most appropriate instrument for measuring affect in work contexts. This scale is specifically designed to assess emotions in the workplace and covers a broader and more contextual spectrum of emotions. It has also demonstrated high consistency in measuring affect across various sectors and organisational cultures (Hamzah & Nordin, 2022; Heuvel et al., 2015; Malik & Noreen, 2015).

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Table 1. Overview of Psychometric Evidence for the Job-Related Affective Well-Being Scale

Researcher(s)	Methodological Analysis	Location & Sample size	Psychometric Outcomes
(Van Katwyk et al., 2000)	Study 1: Multidimensional scaling of 56 affective statements Study 2: Dimensional ratings of affect statements Study 3: Scale administration & correlational analysis with job stressors, job satisfaction, and physical symptoms	United States / Various work samples: - Study 1: 51 employees - Study 2: 100 employees - Study 3: 114 full-time university employees	JAWS has a robust two-dimensional structure (pleasure-displeasure and arousal), as shown by a better-fitting two-dimensional (stress = 0.140) compared to a one-dimensional solution (stress = 0.218), excellent internal consistency (Cronbach's α = .95 for the total scale and α = .80–.90 for the subscales), and strong construct and criterion-related validity, evidenced by substantial correlations with job satisfaction (r = .73), positive affect (r = .61), negative affect (r = −.53), and work stressors and strains (r ranging from −.34 to −.60).
(Uncu et al., 2007)	Descriptive cross-sectional survey; Pearson correlation; hierarchical regression	Bursa, Turkey; 202 primary health care general practitioners (out of 274 invited; 74% response rate)	Internal consistency: Total JAWS α = 0.93; HPHA α = 0.91; HPLA α = 0.89; LPHA α = 0.82; LPLA α = 0.85; Total Positive Emotions α = 0.94; Total Negative Emotions α = 0.90. Correlation between total JAWS and DASS total: r = −0.52 ($p < 0.01$). Associations supported criterion-related/nomological validity with depression, anxiety, and stress scores.
(Fox et al., 2012)	Two studies; Exploratory Factor Analysis (EFA); Confirmatory Factor Analysis (CFA); reliability; correlation and hypothesis testing	USA; employed students (Sample 1: N = 515; Sample 2: N = 262)	JAWS scales showed excellent reliability (Positive α = .93; Negative α = .90). CFA supported discriminant validity between OCB and CWB. Positive and negative emotions showed systematic relations with CWB and OCB, reinforcing the affective model underlying JAWS-type measures.
(Morrissy et al., 2013)	Cross-sectional survey; descriptive statistics; correlation analysis; multiple regression to test depression as predictor of job-related affective well-being	Australia; nurses (N > 200)	JAWS showed good to excellent internal consistency (α = .95), and strong evidence of criterion and predictive validity, as depression was strongly negatively correlated with affective well-being and significantly predicted it in regression analyses. These results indicate that the scale reliably measures work-related affect and is sensitive to clinically meaningful differences in psychological distress among nurses
(Heuvel et al., 2015)	Quasi-experimental	Netherlands; employees from	JAWS scale showed good internal consistency (α> .80) and was

	pretest–posttest control group design; repeated-measures analyses; reliability analysis	multiple organisations (N ≈ 119; ≈ 60 intervention, ≈ 59 control)	sensitive to change following the job crafting intervention. Associations with changes in job resources and self-efficacy supported construct/nomological validity.
(Malik & Noreen, 2015)	Cross-sectional survey; correlational analysis (Pearson's r); moderation analysis	Pakistan; teachers from schools, colleges, and universities; N = 210	JAWS showed good internal consistency (α≈ .81). Occupational stress correlated negatively with affective well-being (r ≈ −.17, p < .05). Perceived organisational support moderated the stress–well-being relationship, supporting criterion-related and nomological validity
(Hadadian & Sayadpour, 2018)	Descriptive-correlational, cross-sectional survey; Pearson correlation; Structural Equation Modeling (SEM) to test mediation	Tehran, Iran; Employees of Tehran Municipality; N = 217	JAWS showed good internal consistency (Cronbach's α = 0.72). JAWS correlated negatively with toxic leadership and job stress. SEM results supported the theoretical model: toxic leadership increased job stress, and job stress significantly reduced job-related affective well-being, indicating partial mediation. This provides reliability and criterion/nomological validity evidence for JAWS in an Iranian organisational context.
(Hamzah & Nordin, 2022)	Correlational, cross-sectional survey; Pearson correlation; Structural Equation Modeling (SEM) with bootstrapping for mediation analysis	Malaysia; Public university; Academic staff; N = 110	JAWS used with two subscales (Positive and Negative Emotion). Reported internal consistency from prior validation: α = .94 (Positive), α = .88 (Negative). In this sample, JAWS showed strong, theory-consistent correlations with work engagement (Positive: r = .55; Negative: r = −.44; overall JAWS: r = .63, all p < .001) and significantly mediated the relationship between perceived supervisor support and work engagement, supporting criterion-related/nomological validity in a higher education context
(Mihalache & Mihalache, 2022)	Two-wave longitudinal survey; CFA; reliability analysis; regression / moderated models (change-score approach)	Europe; employees from multiple organisations; matched sample of several hundred respondents	JAWS showed good internal consistency (CR > .80), supported factor structure via CFA, and clear sensitivity to organisational support during the COVID-19 pandemic, with changes in well-being and affective commitment systematically shaped by personality traits.
(Stan, 2022)	Cross-sectional survey; correlational analysis; multiple regression / path-	Romania; teachers (N = 284)	JAWS showed excellent internal consistency (α= 0.95), indicating consistent measurement of teachers' emotional experiences at work. The scale also demonstrated good

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	type models; reliability analysis		validity, as its scores were negatively related to burnout and neuroticism and positively related to technology-related teaching skills and adaptive coping strategies. This pattern of results suggests that the scale reliably and meaningfully captures teachers' job-related emotional well-being in online teaching contexts.
(Jo & Koh, 2023)	Cross-sectional survey; point-biserial correlation analysis between hazard exposure (binary) and JAWS scores; reliability analysis (Cronbach's alpha)	South Korea; ROK Navy; Ship officers (n = 146) and Submarine officers (n = 98); Total N = 244	JAWS showed high internal consistency (α = 0.89 for positive affect; α = 0.92 for negative affect). Mean JAWS ≈ 70. Significant negative correlations between multiple hazards (air pollution, noise, vibration, thermal discomfort, lack of personal space, etc.) and JAWS scores (r ≈−0.17 to −0.35), supporting criterion-related/nomological validity in this sample.

Several studies in Indonesia have examined the role of affect and well-being in work contexts (Sari et al., 2025; Jabid et al., 2019; Khairana et al., 2024; Maulida & Shaleh, 2018; Rahardjo & Fitness, 2013; Ramdhani et al., 2017). Unfortunately, research on affect measurement tools adapted to the Indonesian language and culture remains limited. Most prior research using the Job-related Affective Well-being Scale (JAWS) has applied a two-factor model (positive and negative affect) (Van Katwyk et al., 2000). However, recent studies suggest that work affect can be more accurately represented through more complex models that classify affect based on both valence (positive–negative) and arousal level (high–low), leading to the exploration of a four-factor model (Warr, 1990). A cross-cultural adaptation study by Basinska et al. (2014) reported that the two-factor structure of JAWS does not always yield optimal model fit, suggesting the need for testing alternative models (Basińska et al., 2014). In the Indonesian context, to date, there is still a lack of research that systematically compares the model fit of the two-factor and four-factor structures of JAWS. Therefore, there is an empirical gap in the literature for a deeper examination of the factor structure of JAWS, particularly within the Indonesian cultural context, which features unique emotional dynamics at work, such as collectivist values, strong hierarchy, and the influence of social relationships on workplace affect. The adaptation process of measurement tools must be conducted to ensure the equivalence of the new questionnaire in terms of function and characteristics, mirroring those of the original (Epstein et al., 2015).

In addition to establishing factorial validity, cross-cultural adaptation of psychological instruments also requires evidence that the scale operates equivalently across key demographic groups, such as gender, to ensure fair and meaningful comparisons (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000). This issue is particularly relevant for affective constructs, as previous research has shown that men and women may differ in emotional experience, affect intensity, and emotion regulation, including in work-related contexts (Gong et al., 2018; Lim, 2016). Without establishing measurement invariance, observed differences in scores may reflect measurement bias rather than true differences in the underlying constructs. Therefore, testing measurement invariance across gender is a necessary step to confirm that the Indonesian version of JAWS measures job-related affective well-being in a conceptually equivalent and unbiased manner for both male and female employees. Accordingly, this study aims to examine the factor structure of the Indonesian version of the Job-related Affective Well-being Scale (JAWS) by comparing the two-factor and four-factor models, to provide evidence of its

psychometric validity and reliability, and to test measurement invariance across gender in order to ensure the equivalence and fairness of the instrument for group comparisons.

Methods

This study aims to evaluate the psychometric properties of the Indonesian version of the JAWS measurement tool. The research procedure followed the guidelines and steps outlined in the International Test Commission's Test Adaptation Guidelines (2017). The stages of the adaptation include:

1. **Pre-condition stage.** At this stage, the researchers reviewed several instruments commonly used to measure affect in the work context, including the Job-Related Affective Well-Being Scale (JAWS), Warr's Job-Related Affective Well-Being Measure, and the Positive and Negative Affect Schedule (PANAS). Through this review, the researchers found that Warr's Job-related Affective Well-being Measure not only assesses affect but also aspects of mental health, whereasPANAS primarily measures affect in a general context. In contrast, JAWS focuses on measuring affective responses to workplace situations and has demonstrated good consistency when adapted into various languages.Furthermore, the researchers requested permission to use and adapt JAWS by contacting Paul E. Spector, the corresponding author of the article titled Using the Job-Related Affective Well-Being Scale (JAWS) to Investigate Affective Responses to Work Stressors (Journal of Occupational Health Psychology, 2000), via email.
2. **Translation stage.** After obtaining permission to use the original scale, the researchers proceeded to the language adaptation stage by conducting forward translation and backward translation. Translators were selected based on several criteria, including proficiency in both English and Indonesian, educational background in psychology, understanding of the cultural context of the target population, and familiarity with the construct being measured. The forward translation process, which involved translating the scale into Indonesian, was carried out independently by two translators who did not know each other. They were selected for their high competence in both languages and adequate psychological knowledge to minimise potential misinterpretation. Prior to the translation, the translators were provided with information about the research objectives, operational definitions of each variable, and the characteristics of the target sample, to help them better understand the translation context. The results of the two forward translations were then discussed with an expert who holds a Master's degree in Psychology, is proficient in English, and is familiar with the construct being measured. This discussion led to a consensus version called the forward translation synthesis.

   The next stage was the backward translation, which involved translating the synthesised forward translation back into English. The purpose of this step was to ensure that the Indonesian translation did not deviate from the original scale's meaning. The backward translation was performed by two different translators who had not participated in the forward translation process, did not know each other, and were not given access to the original version of the scale. They only received the synthesised forward translation as the basis for their work. The results of the backward translation were then discussed with another expert, who had similar qualifications as the expert in the forward synthesis stage, to produce a backward translation synthesis. This expert was different from the one involved in the forward synthesis stage. In total, the translation process involved six translators selected based on specific criteria: sufficient understanding of both the source and target languages, familiarity with the relevant culture, knowledge of the test content or construct, and an understanding of basic principles of psychological measurement. Technically, all translators were Indonesian citizens with a minimum IELTS score of 7.0 or TOEFL iBT score of 80, held a degree in psychology, and had at least two years of experience living in an English-speaking country. Each translator worked independently without any cross-translator discussion or intervention to maintain objectivity throughout the process.

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3. **Translation-review stage.** At this stage, a panel of experts was involved to assess the equivalence of the translated version. The researchers collaborated with three experts with backgrounds in Industrial and Organisational Psychology as well as practitioners in the field of Human Resources (HR). These experts evaluated the forward translation, backward translation, and the synthesised version of the scale. They were provided with information regarding the research topic, the rationale for the translation process, and their role as expert reviewers, including completing a consent form and a form outlining their understanding of each construct definition. The evaluation was conducted using two types of forms: (1) a language comparison form to assess the comparability of terms and the similarity of meaning between the original version and the back-translated version, using a 7-point scale (Sperber, 2004), and (2) a content validity form to evaluate the relevance, importance, and clarity of each item, using a 4-point scale (Haynes et al., 1995; Rubio et al., 2003). Content validity scores were calculated using the Item-level Content Validity Index (I-CVI), which is the proportion of experts rating the item as valid,and the Scale-level Content Validity Index (S-CVI), which is the average of all I-CVIs (Polit & Beck, 2006).
4. **Readability-testing stage.** This stage involved 10 workers from diverse occupational backgrounds. The respondents were asked to review the final draft of the questionnaire by marking each item they found difficult to understand, confusing, or not aligned with the situations, habits, and work culture in Indonesia by circling the letter "T" (No). Conversely, if an item was considered clear, easy to understand, and culturally appropriate, respondents circled the letter "Y" (Yes), and could add comments if necessary. After completing the questionnaire, a focus group discussion (FGD) was conducted to further explore the clarity of instructions, comprehension of item content, cultural relevance, and visual aspects of the questionnaire, such as font size, typeface, and layout

Furthermore, the content validity assessment using the Item Content Validity Index (I-CVI) showed that all items received a score of 1 (Table 2). The Scale Content Validity Index (S-CVI) also yielded a score of 1, which exceeds the recommended minimum threshold of 0.90 (Polit et al., 2007). Therefore, it can be concluded that all items in the translated version of the JAWS scale demonstrate good semantic equivalence and meet content validity standards, making them suitable for use in subsequent research contexts. Additionally, the readability test results indicated that the items in the final draft of the scale were easy to understand, and thus no revisions were necessary.

Table 2. Expert Reviewer Assessment Results

Comparability Mean Score		**Similarity Mean Score**		**I-CVI**	**S-CVI**
Total	Range	Total	Range		
1.80	1.00 – 2.33	1.75	1.00 – 2.33	1	1

Note: Summary of the evaluation results from the three expert reviewers.

Sources: Personal Data

After conducting content validity and response process tests, this study obtained ethical approval from the Health Research Ethics Committee of the Faculty of Medicine and Health Sciences, Lambung Mangkurat University (No. 051/KEPK-FKIK ULM/EC/VI/2025).

Participants

The study involved 410 participants from diverse occupational backgrounds in formal sector, ranging in age from 18 to 64 years (Mean = 34.98; SD = 9.51), see the details on table 3. To determine the minimum sample size for this study, we refer to SEM guidelines, which recommend a ratio of 5:1 or 10:1 per parameter to obtain sufficiently reliable estimates (Bentler & Chou, 1987; Brown, 2015; Ding et al., 1995). In the CFA model in this study, there are estimated to be 46 free parameters, which are then multiplied by 5 to yield 230 and by 10 to yield 460. Furthermore, a simulation study of the ESEM model shows that a very large sample size is needed to obtain stable model results and accurate parameter estimates, especially when the factor structure is well-defined, as in Set-ESEM(Marsh et al.,

2009, 2014). This means that the number of 410 participants in the study is still within an acceptable range and meets the minimum sample size requirement.

Table 3. Demographic Characteristics of Participants

Category	Frequency	Percent (%)
Gender		
Male	226	55.12
Female	184	44.87
Marital Status		
Married	286	69.75
Divorced	10	2.44
Single	114	27.80
Educational Level		
Doctorate (Ph.D.)	34	8.29
Master's Degree (M.A./M.Sc.)	129	31.46
Bachelor's Degree (B.A./B.Sc.)	178	43.41
Diploma	12	2.92
Senior High School	57	13.90
Employment Status		
Part-time Employee	31	7.56
Contract Employee	59	14.39
Permanent Employee	320	78.05

Sources: Personal Data

Intruments

The Job-related Affective Well-being Scale (JAWS) is a multidimensional instrument that integrates two primary dimensions of emotion, pleasure, and arousal, forming four subdimensions (Table4). The first two subdimensions reflect positive emotions, namely High Pleasurable High Arousal (HPHA) and High Pleasurable Low Arousal (HPLA). The HPHA subdimension includes affection such as ecstatic, enthusiastic, excited, energetic, and inspired, while HPLA represents emotions such as satisfied, content, at ease, relaxed, and calm. Conversely, the other two subdimensions represent negative affections, namely Low Pleasurable High Arousal (LPHA) and Low Pleasurable Low Arousal (LPLA). LPHA captures emotions such as furious, angry, frightened, anxious, and disgusted, whereas LPLA reflects emotions such as depressed, discouraged, gloomy, fatigued, and bored. Responses to the scale are given using a 5-point Likert scale, namely: 1 (never), 2 (rarely), 3 (occasionally), 4 (quite often), and 5 (very often).

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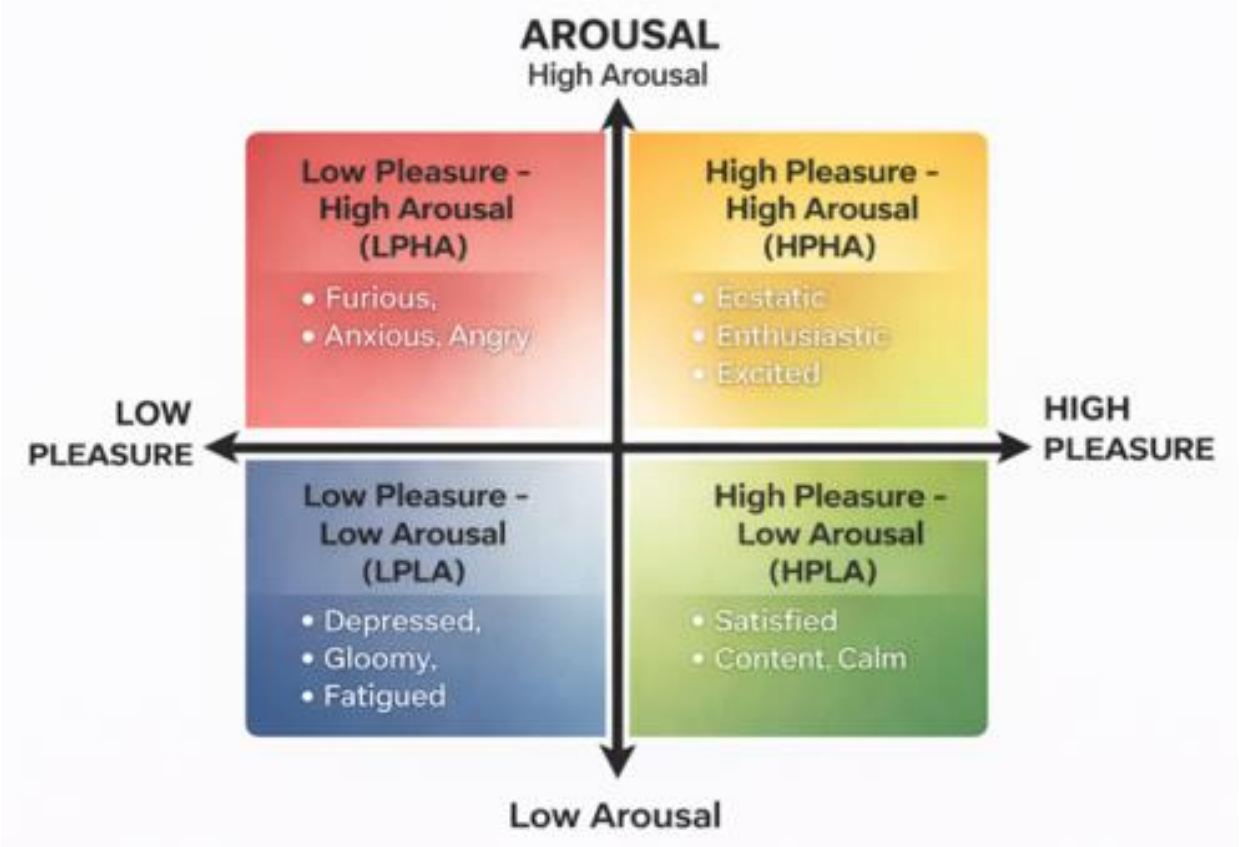

Sources:adapted from Van Katwyk et al. (2000).

Figure 1. The Conceptual Framework of the Job-related Affective Well-being Scale (JAWS) based on the Circumplex Model of Affect

Table 4. Blueprint JAWS Indonesian Version

Dimension	Total Item	Example Original Version	Example of Translated Items (In Indonesia)
High Pleasure High Arousal	5	My job made me feel ecstatic.	*Pekerjaan saya membuat saya merasa senang*
High Pleasure Low Arousal	5	My job made me feel at ease.	*Pekerjaan saya membuat saya merasa nyaman.*
Low Pleasure High Arousal	5	My job made me feel furious.	*Pekerjaan saya membuat saya merasa geram.*
Low Pleasure Low Arousal	5	My job made me feel fatigued.	*Pekerjaan saya membuat saya merasa lelah.*

Sources: Personal Data.

Data Collection

All data were collected online using a convenience sampling approach. This study employed a cross-sectional design, capturing data from respondents at a single point in time. Prospective participants were informed about the study's objectives and provided their informed consent before accessing the questionnaire items.

Data Analysis

The study statistically examined the internal validity of the theoretically proposed model using factor analysis. Based on previous findings of model inconsistency, this study applies a competing model comparison strategy from van Zyl and Klooster (2022) that aims to find a model that meets the criteria of a model that fits the data through a comparison of CFA (as a restrictive baseline), ESEM, and Set-ESEM models(Marsh et al., 2014, 2020).

The model fit indices for CFA, ESEM and Set-ESEM in this study included chi-square (χ^2), root mean square error of approximation (RMSEA), standardised root mean square residual (SRMR), comparative fit index (CFI), and Tucker–Lewis Index (TLI) (Brown, 2015; Wang & Wang, 2020). The cutoff criteria for model fit indices were RMSEA <0.05, CFI and TLI >0.95, and SRMR <0.05,indicating an excellent fit (Hu & Bentler, 1999).The analysis was performed using Mplus software version 8.6

Results and Discussion

Results

Confirmatory Factor Analysis (CFA) and Exploratory Structural Equation Modelling (ESEM) were conducted to evaluate the factor structure of the Job-related Affective Well-being Scale (JAWS) as developed by Van Katwyk et al. (2000). Based on the theoretical framework, the JAWS scale was tested using several structural models: a CFA two-factor model, a CFA four-factor model (Spector & Goh, 2001; Van Katwyk et al., 2000; Fox et al., 2012; Mihalache & Mihalache, 2022), an ESEM two-factor model and ESEM four-factor model. CFA, Bifactor, ESEM, and Set-ESEM testing in this study used MLR or Robust Maximum Likelihood estimators to ensure that parameter estimates remained accurate and valid even when the data did not meet the normality assumption (Brown, 2015; Muthén & Muthén, 2015; Wang & Wang, 2020).For the ESEM and Set-ESEM models, we used Geomin oblique rotation to enable correlations between latent factors while minimising cross-loading complexity(Asparouhov & Muthén, 2009; Marsh et al., 2014).

Based on Table 5, the first model's two-factor correlated model of JAWS did not meet the model fit index criteria. Although this model is in line with that proposed by Van Katwyk et al. (2000), we also tested the four-correlated factor model of JAWS based on Warr et al. (1990), which found that the results were also not a good fit and that factors 3 and 4 were indicated to overlap because they had an inter-factor correlation >0.85. Additionally, the two-factor and four-factor bifactor models were evaluated to examine the potential presence of a general affective well-being factor alongside the specific dimensions. It was found that the model fits the data for a four-factor bifactor model with one pair of residual correlations (LPHA3 and LPHA4). Subsequently, to furtherexplore the factor structure, the analysis was continued using Exploratory Structural Equation Modelling (ESEM) and Set-ESEM approaches.This was done to overcome the limitations of CFA and to gain a deeper understanding of JAWS's internal structure in the context of workers in Indonesia. ESEM and Set-ESEMoffer advantages in identifying items that empirically contribute to multiple factors simultaneously, as well as in clarifying the latent structure underlying the Job-related Affective Well-being Scale (JAWS).

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Table 5. Model Competing Fit Index (JAWS)

Model	χ2 (df)	RMSEA [90% CI]	CFI	TLI	SRMR	AIC	BIC
CFA Model							
1. 2-Factor Correlated CFA	1085.610 (169)	0.115 [0.109, 0.122]	0.801	0.776	0.061	16690.381	16935.367
2. 4-Factor Correlated CFA	766.131 (164)	0.095 [0.088, 0.101]	0.869	0.849	0.055	16182.944	16448.010
Bifactor Model							
1. 2 Factor Correlated Bifactor	675.682 (149)	0.093 [0.086,0.100]	0.886	0.854	0.045	16063.585	16388.894
2. 4 Factor Correlated Bifactor	537.810 (144)	0.082 [0.074, 0.089	0.915	0.887	0.041	15878.227	16223.616
3. 4 Factor Correlated Bifactor (Modified)	406.778 (143)	0.067 [0.059, 0.075	0.943	0.924	0.038	15696.868	16046.273
ESEM Model							
1. 2-Factor Correlated ESEM	1033.583 (151)	0.119 [0.113, 0.126]	0.809	0.759	0.054	16691.913	17009.189
2. 4-Factor Correlated ESEM	430.952 (116)	0.081 [0.073, 0.090]	0.932	0.888	0.027	15782.435	16240.277
3. 4-Factor Correlated ESEM (Modified)	301.104 (115)	0.063 [0.054, 0.072]	0.960	0.933	0.022	15603.551	16065.410
Set-ESEM Model							
1. 4 Factor Correlated Set-ESEM	529.079 (148)	0.079 [0.072, 0.087]	0.917	0.894	0.044	15837.586	16166.910
2. 4 Factor Correlated Set-ESEM (Modified)	398.874 (147)	0.065 [0.057, 0.072]	0.945	0.929	0.041	15661.925	15995.266

Note: χ2 = chi-square, df = degree of freedom, TLI = Tucker–Lewis index, CFI = Comparative Fit Index, SRMR = Standardised Root Mean Square Residual, RMSEA = Root Mean Square Error of Approximation. AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion

Sources: Personal Data.

The results of the two-factor correlated ESEM showed an increase in the model fit index, but it was not very significant. This indicates that this measurement tool is not optimal when using a two-factor model. Therefore, we also tested the four-factor correlated ESEM model, which showed quite interesting results. This model partially fits because several fit indices meet the cut-off criteria.So we modified the indices for the LPHA4 and LPHA3 items, which resulted in a significant improvement in the ESEM four-factor correlated model fit index, and the fit can be categorised as acceptable. Although the 4-factor ESEM showed a fairly adequate fit index, this model indicated excessive complexity (over-parameterisation). Therefore, the analysis continued by testing the Set-ESEM model to identify a parsimonious model.

The4-factor correlated Set-ESEM model shows a less-than-optimal fit index, similar to the 4-factor correlated ESEM model. Therefore, we also conducted Modification Indices, revealing a substantial residual correlation between item LPHA3 ('disgusted') and LPHA4 ('frightened'). The fit index was adequate and fell within the acceptable fit category. It appears that both the modified 4-factor ESEM model and the modified Set ESEM model produced satisfactory fit indices.

Table 6. Comparing JAWS CFA and ESEM

Model Comparison	Δχ2	Δdf	p-value	ΔCFI	ΔRMSEA	ΔAIC	ΔBIC	Decision
Proposed Model vs. Baseline								
4-Factor Set-ESEM (Mod) vs. 4-Factor CFA	-367.257	-17	<.001	0.076	-0.030	-521.091	-452.744	Accept Set-ESEM
Alternative Structure								
4-Factor Set-ESEM (Mod) vs. 4-Factor Bifactor (Mod)	-7.904	4	<.001.	0.002	0.002	-34.943	-51.007	Accept Set-ESEM
Parsimonyvs. Complexity								
4-Factor Set-ESEM (Mod) vs. 4-Factor ESEM (Mod)	97.77	32	<.001	-0.015	-0.002	58.374	-70.322	Retain Set-ESEM (Best Parsimony)

Sources: Personal Data.

To obtain the optimal model using the data, we followed the model comparison guidelines of van Zyl and Klooster (2022). In addition, when selecting the optimal model, the principle of parsimony is important.Firstly, Set-ESEM shows significantly superior fit compared to the basic CFA model ($\Delta\chi^2$ = 367.257, $\Delta df = 17$, $p < 0.001$; $\Delta BIC = -452.744$). Second, when compared to the alternative Bifactor structure, Set-ESEM is also superior because it produces equivalent statistical fit ($\Delta\chi^2 = -7.904$, $\Delta df = 4$, $p < 0.001$) but with better model efficiency ($\Delta BIC = -51.007$).

Finally, in a comparison test with the full ESEM, the Set-ESEM was definitively established as the final model. Although the full ESEM marginally had a higher fit, the practical differencein error was negligible ($\Delta RMSEA = 0.002$). Furthermore, Set-ESEM offers a much more parsimonious structure (retaining 32 additional degrees of freedom) and avoids overfitting, as evidenced by a substantial decrease in the BIC penalty value ($\Delta BIC = -70.144$). This proves that the 4-Factor Set-ESEM (Modified) model isthe optimal structure and adheres to the principle of parsimony compared to the full ESEM model.

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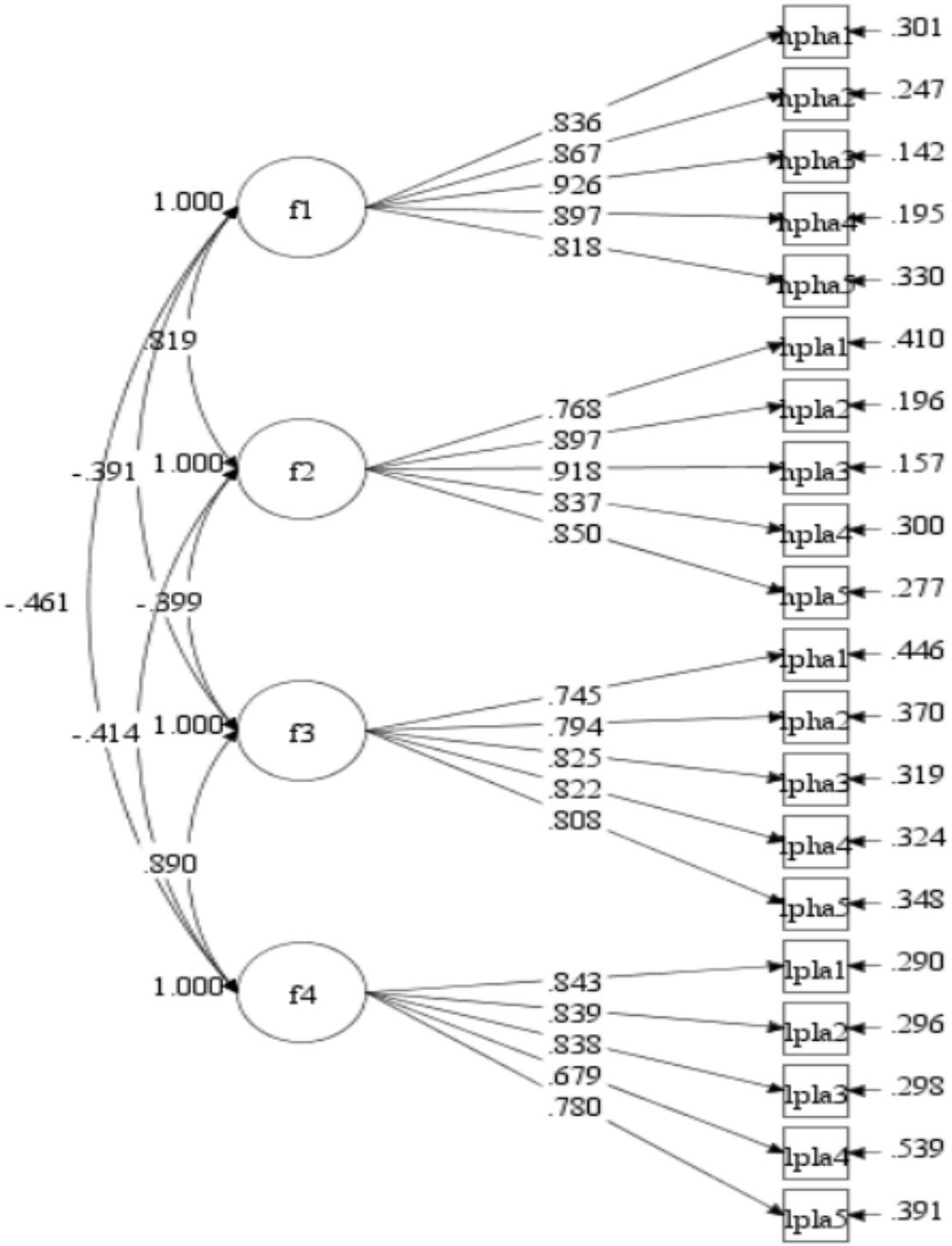
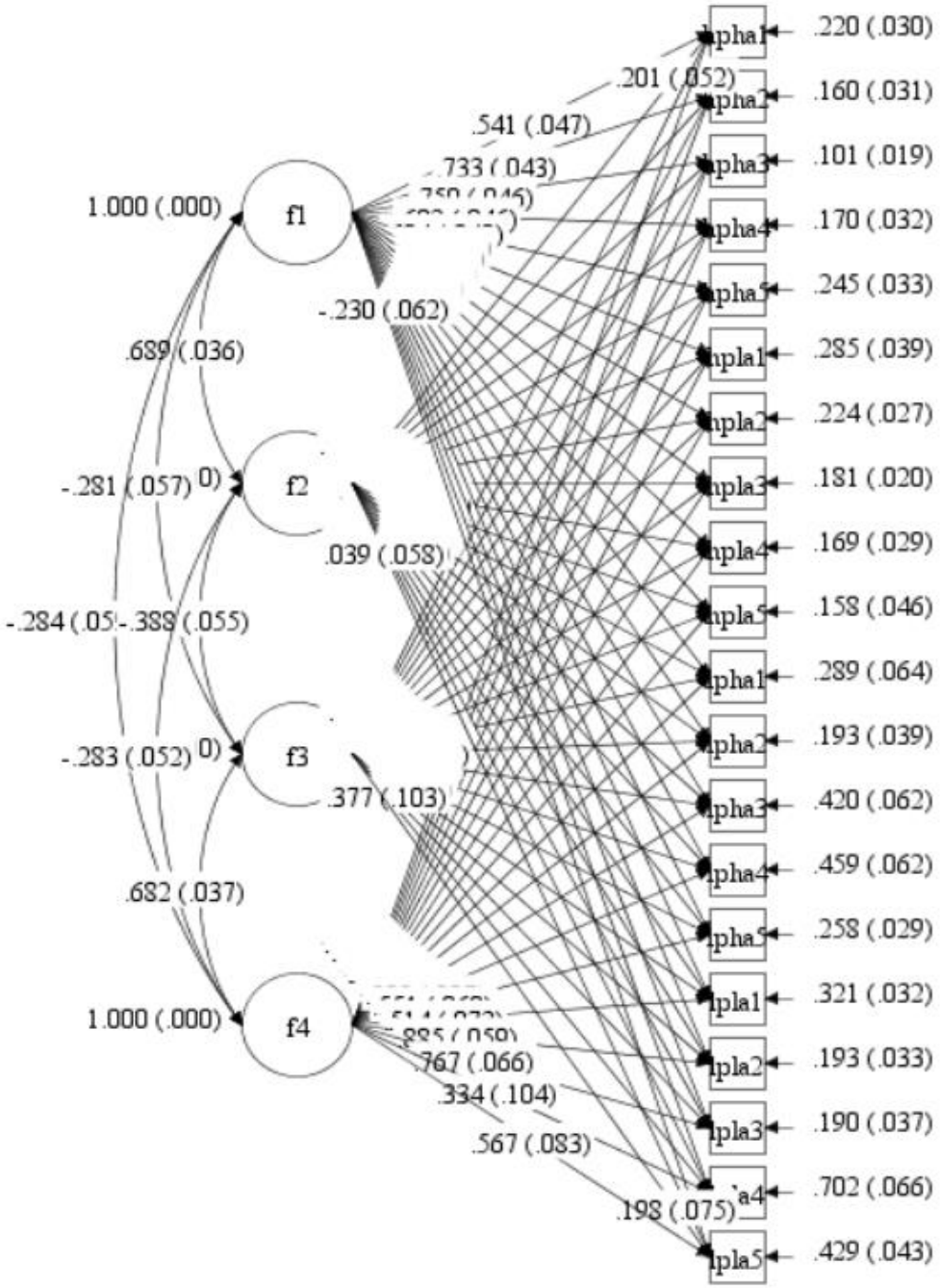


Sources: Personal data.

Figure 2. CFA Model Four-Factor Measurement Model of JAWS (Before ESEM)



Sources: Personal data.

Figure 3. ESEM Model Four-Factor Measurement Model of JAWS

The composite reliability analysis for the JAWS Set-ESEM model yielded a CR of 0.918, which is adequate per the guidelines of Fu et al. (2022). Additionally, regarding the convergent validity of the JAWS scale as a whole, an Average Variance Extracted (AVE) value of 0.720 was obtained. In other words, the JAWS measurement instrument has adequate internal consistency and convergent validity.

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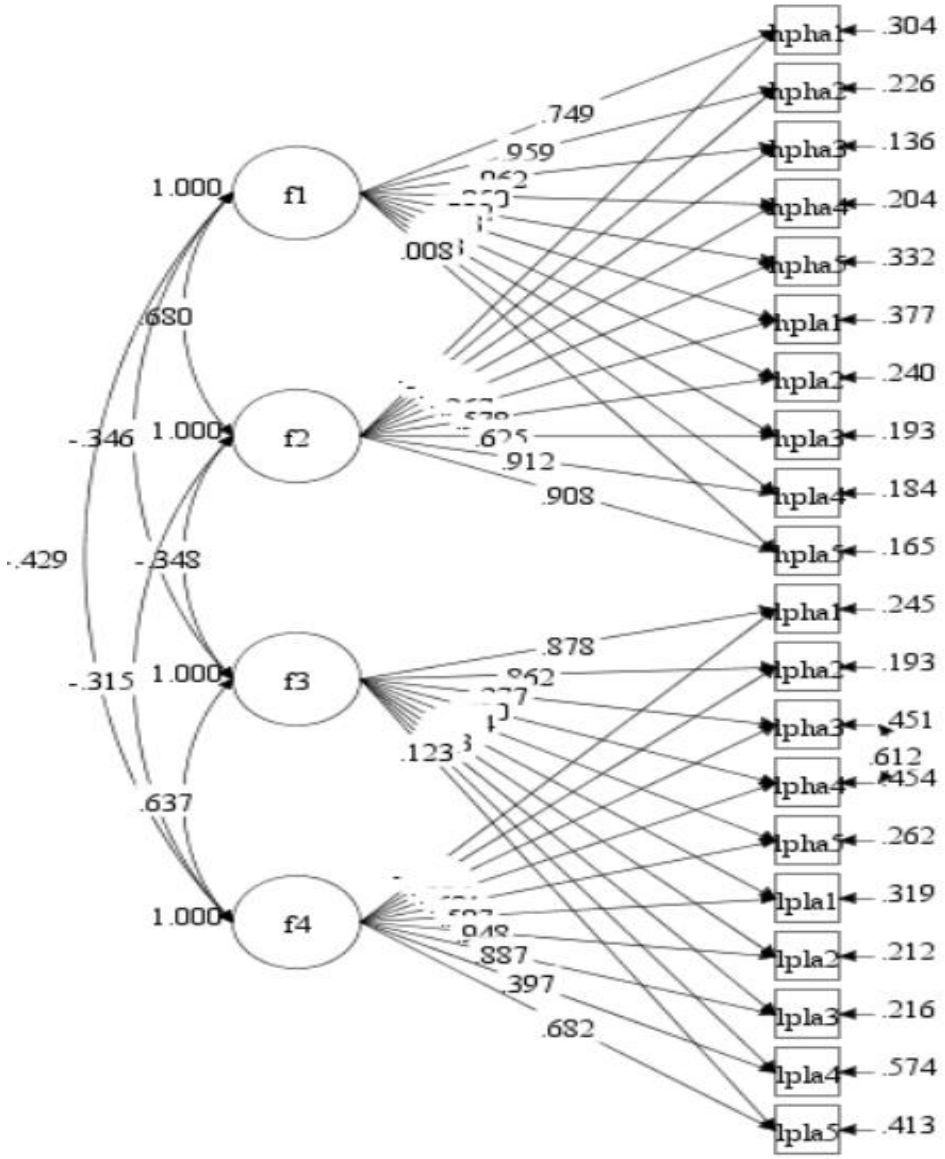
Furthermore, to maintain the theoretical precision of the Circumplex Model, CR and AVE evaluations were also conducted at the dimensional level. The High Pleasure High Arousal (HPHA) factor showed good reliability, with an Average Variance Extracted (AVE) of 0.748 and a Composite Reliability (CR) of 0.936. Similarly, the Low Pleasure Low Arousal (LPLA) factor met the standard criteria, with an AVE of 0.533 and a CR of 0.841. Meanwhile, the High Pleasure Low Arousal (HPLA) and Low Pleasure High Arousal (LPHA) factors produced AVE values slightly below the 0.50threshold, at 0.490 and 0.377, respectively. However, the composite reliability (CR) values for both factors remain high, at 0.809 for HPLA and 0.712 for LPHA. Referring to the criteria of Fornell and Larcker (1981), which state that convergent validity is still acceptable as long as the CR value is higher than 0.60. Thus, all dimensions in the JAWS scale are declared to have adequate composite reliability and convergent validity.



Sources: Personal data.

Figure 4. Set-ESEM Modified Final Model JAWS

Table 7. Reliability JAWS Indonesian Version

Construct	CR	AVE
Overall JAWS Scale	0.91	0.72
F1	0.93	0.74
F2	0.80	0.49
F3	0.71	0.37
F4	0.84	0.53

Note: F1 = HPHA, F2 = HPLA, F3 = LPHA, F4 = LPLA

Sources: Personal Data.

Table 8. Standardized Factor Loading Model Set-ESEM Modified of JAWS

Item	Dimension			
	F1	**F2**	**F3**	**F4**
HPHA1	**0.74**	0.11	-	-
HPHA2	**0.95**	-0.12	-	-
HPHA3	**0.96**	-0.04	-	-
HPHA4	**0.85**	0.06	-	-
HPHA5	**0.78**	0.05	-	-
HPLA1	0.58	**0.26**	-	-
HPLA2	0.36	**0.57**	-	-
HPLA3	0.34	**0.62**	-	-
HPLA4	-0.01	**0.91**	-	-
HPLA5	0.00	**0.90**	-	-
LPHA1	-	-	**0.87**	-0.01
LPHA2	-	-	**0.86**	0.05
LPHA3	-	-	**0.37**	0.44
LPHA4	-	-	**0.42**	0.39
LPHA5	-	-	**0.23**	0.69
LPLA1	-	-	0.30	**0.59**
LPLA2	-	-	-0.10	**0.94**
LPLA3	-	-	-0.00	**0.88**
LPLA4	-	-	0.32	**0.39**
LPLA5	-	-	0.12	**0.68**

Sources: Personal Data.

The results of the multi-group analysis on the final Set ESEM model across groups are presented in Table 8.Astepwise multi-group confirmatory factor analysis (MG-CFA) was conducted by testing configural, metric, and scalar invariance (Vandenberg & Lance, 2000). First, the configural invariance, which freely estimated all parameters across groups, demonstrated acceptable model fit (CFI = 0.936; RMSEA = 0.073; p-value of $\chi 2$ = 0.243). RMSEA value of 0.080 is still accepted as an adequate fit indicator, this configurational invariance indicating that the basic factor structure was consistent across groups (Brown, 2015; Vandenberg & Lance, 2000).

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Second, the metric invariance model, which constrained factor loadings to be equal across groups, resulted in negligible changes in model fit indices.The metric invariance model (Table 9), which constrainsfactor loadings to be equal across groups, resulted in very small changes in the model fit indices (ΔCFI = -0.001; ΔRMSEA = -0.003). These changes are much smaller than the recommended thresholds ofΔCFI ≤ 0.01 and ΔRMSEA ≤ 0.015 (Chen, 2007). This indicates that the relationships between items and their underlying constructs are consistent across groups, supporting the result of metric invariance. Finally, for scalar invariance, initial testing indicated non-invariance at the intercept for item HPHA1. Consequently, a partial scalar invariance model was established by relaxing the intercept constraint for item HPHA1. This modified model showed satisfactory changes in fit indices (ΔCFI = -0.002; ΔRMSEA = -0.001),meeting the criteria for acceptable invariance. Thus, despite the specific variation in item HPHA1, the instrument generally demonstrates strong cross-group validity, allowing for meaningful latent mean comparisons.

Table 9. Gender Measurement Invariance Testing

	Model Fit Indices					**Model Comparison**		
	df (Δdf)	**p-value of χ2**	**CFI**	**RMSEA**	**SRMR**	**ΔCFI**	**ΔRMSEA**	**ΔSRMR**
Final Model Set ESEM(Modified)								
Configural Invariance	294(32)	0.243	0.936	0.073	0.045			
Metric Invariance	326 (47)	0.116	0.935	0.070	0.055	-0.001	-0.003	-0.010
Scalar Invariance	341 (15)	0.087	0.933	0.069	0.055	-0.002	-0.001	0.000

Note: χ2 = chi-square, TLI = Tucker–Lewis index, CFI = Comparative Fit Index,, SRMR = Standardized Root Mean Square Residual, RMSEA = Root Mean Square Error of Approximation.

Sources: Personal Data.

Discussion

This study aims to evaluate the model structure of the Job-related Affective Well-being Scale (JAWS) measurement tool among workers in Indonesia. The results of the analysis of competing models confirm that JAWS is not rigid in the context of workers. Starting from the CFA approach, the results did not meet the adequate fit index. Then, we used a more comprehensive approach to explain the complexity of JAWS through 4-factor ESEM and Set-ESEM. Interestingly, both models fit the acceptable fit index categories (Brown, 2015; Browne & Cudeck, 1992; Hu & Bentler, 1999; MacCallum et al., 1996). These findings are also supported by Van Katwyk et al. (2000)'sexplanation that a person's affect structure is dynamic. Therefore, the failure of the CFA model can be explained by the fact that multidimensional psychological instruments often have substantial natural cross-loadings (Marsh et al., 2009, 2014, 2020). Forcing items to load on only one factor in CFA can sometimes result in parameter-estimation bias and be inflexible.

Although in this study we attempted to compare the models, we also sought the simplest model. Although the 4-factor ESEM obtained a better fit than the Set-ESEM. We assessed that the Set-ESEM model was the best. This is evidenced by the superiority of Set-ESEM over pure ESEM in terms of parsimony and interpretiveclarity(Marsh et al., 2020).Furthermore, it cannot be denied that pure ESEM can improve model fit, but this approach often experiences over-parameterisation due to estimating cross-loadings that are not theoretically relevant (e.g., between constructs with opposite valences) (Alamer, 2022; Morin et al., 2020).Hence, the JAWS construct with the Set-ESEM model is the best solution for improving interpretive clarity by limiting cross-loadings between different item sets

(negative vs. positive valence), resulting in a cleaner factor structure and a more precise construct definition without sacrificing data accuracy.

The presence of significant cross-loading within a single valence (e.g., between the High Pleasure-High Arousal and High Pleasure-Low Arousal dimensions) is not an indication of item weakness, but rather an accurate reflection of the nature of human emotions and feelings. Theoretically, there is something called the Affective Circumplex, in which affect does not operate in isolated, discrete categories, but rather in a circular continuum (Yik et al., 2011). The boundaries between 'excitement' (HPHA) and 'comfort' (HPLA) are often blurred (fuzzy boundaries). For example, employees who feel high arousal at work almost certainly also feel elements of comfort or basic satisfaction (pleasure). It is rare for individuals to feel very enthusiastic without also feeling comfortable with their work. The same is true when it comes to negative feelings such as gloom (LPHA) and anxiety (LPLA), which have a reciprocal relationship with each other. In addition to the circumplex model, the patterns (cross-loadings) found in this study can also be explained through the Theory of Constructed Emotion(Barrett, 2006, 2017). This theory posits that emotions are not clearly separated biological entities (natural kinds) but rather concepts constructed by the brain with fuzzy boundaries. In self-reports, respondents often find it difficult to distinguish between closely related feelings, such as enthusiasm (HPHA) and comfort (HPLA), due to conceptual overlap in how these affective experiences are processed. Furthermore, these findings are in line with the Hierarchical Model of Affect proposed by Watson and Clark (1992), which states that although there are specific emotions, all positive affects share a common variance (shared variance) underlying General Positive Affect. Therefore, items in the HPHA and HPLA clusters will naturally correlate with each other because they are both manifestations of a broader dimension of positive affectivity. Furthermore, Carneiro et al. (2023) explained that items with positive emotional meanings can be associated with more than one emotional indicator, because the experience of well-being in the workplace usually overlaps with positive valence, such as positive feelings that can arise simultaneously with varying levels of arousal. Therefore, empirically or basedoncross-loading statistics, this item can be justified because it essentially captures the same positive emotional aspects, but with different nuances of arousal.

The stability of the final model cannot be achieved without residual correlation between LPHA3 and LPHA4. This residual correlation reflects the psychological reality of workers, where feelings of "disgust" and "fear" often co-occur as an integrated aversive response to a toxic or stressful work environment. This is supported by the findings of Krasikova et al. (2013), which indicate that toxic leadership tends to have destructive effects, including the emergence of fear and disgust in the work environment. In addition, when there is a culture of seniority in the work environment, it can also give rise to simultaneous feelings of fear and disgust towards a monotonous environment (Kunze & Menges, 2017). Methodologically, because these two contents have a reciprocal relationship, it is possible that the order of items in the psychological scale influences the response scheme and has the potential to create error correlations between items that are located close to each other (Şahin et al., 2021). This is in line with the explanations by Brown (2015) and Byrne (2016) regarding the principles of parsimony and theoretical congruence, where modifications to the measurement model are kept to a minimum so that the validation results can still be directly compared with previous research findings.

Furthermore, we also examined convergent validity and composite reliability in the final model. According to Cheung et al. (2024) and Hair et al. (2020), all AVE and CR coefficients indicate that the four factors demonstrate acceptable convergent validity and composite reliability for each factor. The results showed that the final model four Set-ESEM in this study met these criteria, thus providing further evidence for the robustness and psychometric soundness of the four-factor solution.

The results of the multi-group analysis confirm the stability of the JAWS structure across genders, with particularattentionto the scalar level. The model proved to be fully invariant at the configurational and metric levels, indicating that the factor structure and factor loadings have equivalent meanings for men and women. However, at the scalar level, an inequality was found in the intercept for item HPHA1 ('ecstatic'/extremely happy), with the female group having a significantly higher intercept.

This may indicate that women tend to be more expressive and intense inresponse to happy emotions than men. This is in line with the literature on gender differences in emotional expression, which shows that women have higher emotional expressivity, especially for positive emotions with high intensity (high arousal), compared to men who tend to have more restrictive display rules (Chaplin, 2015; Deng et al., 2016)Since the non-invariance was limited to a single item while others remained stable, the assumption of partial scalar invariance is satisfied. This indicates that comparisons between groups oflatent means are statistically meaningful and not biased by measurement artefacts (Cheung & Rensvold, 2002).

Overall, the final four-factor Set-ESEM structure of JAWS strikes a balance amongparsimony, validity, reliability, and measurement fairness for assessing affective dimensions in the workplace. The use of this instrument opens the possibility of developing more precise affect-based interventions toimproveemployee well-being across various sectors.

Nevertheless, this study has some limitations, including that the sample is predominantly composed of formal-sector workers. This may limit the generalizability of the results, particularly to informal workers, workers in rural areas, or sectors with significantly different working conditions. Additionally, the final model included specific data-driven modifications, particularly the inclusion of acorrelation between the residuals of items LPHA3 and LPHA4. Although these adjustments were supported by theoretical rationale regarding the co-occurrence of negative emotions, post-hoc modifications carry an inherent risk of capitalising on chance characteristics of the current sample (overfitting). Therefore, cross-validation of the Set-ESEM structure on an independent sample is strongly recommended to ensure model stability. Furthermore, external validity was not examined in this study because the data collection process did not involve a measurement scale similar to the PANAS (Positive Affect Negative Affect Schedule). Replication of the model in other samples will be an important step to test the stability of this factor structure and to involve other variables to test evidence based on their relation to other variables. Despite these limitations, this study provides a robust initial validation of the Indonesian version of JAWS, opening avenues for further research into evidence-based relations to other variables in organisational psychology.

Conclusion

This study aimed to investigate the factor structure of the Job-related Affective Well-being Scale (JAWS) within the cultural and linguistic context of Indonesian workers. The findings demonstrate that the Modified 4-Factor Set-ESEM model provides the most accurate and parsimonious representation of workplace affect, outperforming both the restrictive CFA and the over-parameterised pure ESEM approaches. Furthermore, the multi-group analysis confirmed that the Indonesian version of JAWS is robust across gender. While configural and metric invariance were fully supported, partial scalar invariance was established due to the higher intercept of item HPHA1 ('ecstatic') in the female group. Despite this specific variation, the instrument remains valid for conducting meaningful latent mean comparisons between male and female employees. Overall, this study provides strong evidence that the Indonesian JAWS is a reliable and valid tool for assessing employee well-being, offering a nuanced framework for future research and organisational interventions.

Based on the findings and limitations of this study, it is recommended that future research replicate the study with a more diverse population, including both formal- and informal-sector workers, as well as individuals from varied socio-demographic backgrounds. This is essential to test the consistency and generalizability of the scale's factor structure. Future studies are also encouraged to adopt a longitudinal approach to examine the stability of work-related affect over time and to test longitudinal measurement invariance to determine whether the scale's structure remains stable amid long-term changes. From a practical perspective, this scale has potential as an assessment tool for work-related affective well-being, usable by human resource practitioners and industrial-organisational psychologists.

It can serve as a foundation for designing policies or interventions toimproveemployee well-being and productivity in a more targeted, evidence-based manner.

Acknowledgment

The author would like to express sincere appreciation to the Ministry of Higher Education, Science, and Technology for the financial support provided through the 2025 BIMA Grant under the Regular Fundamental Research Scheme. This support has been highly valuable in implementing this research. Gratitude is also extended to the Lembaga Penelitian dan Pengabdian Pada Masyarakat Universitas Lambung Mangkurat, as well as to all parties who have contributed to this research.

Conflict of Interest

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

Authors Contribution

SKTF conceptualized the study, supervised the research process, and led the manuscript preparation. MAS and AHN contributed to the study design, data collection, and data analysis. MUT and RR were responsible for literature review, data management, and manuscript drafting. R contributed to data interpretation, critical revision, and final approval of the manuscript. All authors have read and approved the final version of this manuscript and agree to be accountable for all aspects of the work.

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Appendix

Instrument (Original Version)

Job-related Affective Well-being Scale, JAWS

Below are a number of statements that describe different emotions that a job can make a person feel. Please indicate the amount to which any part of your job (e.g., the work, coworkers, supervisor, clients, pay) has made you feel that emotion in the past 30 days.

Please check **one** response for each item that best indicates how often you've experienced each emotion at work over the past 30 days.	Never	Rarely	Sometimes	Quite often	Extremely often
1. My job made me feel angry.					
2. My job made me feel anxious.					
3. My job made me feel at ease.					
4. My job made me feel bored.					
5. My job made me feel calm.					
6. My job made me feel content.					
7. My job made me feel depressed.					
8. My job made me feel discouraged.					
9. My job made me feel disgusted.					
10. My job made me feel ecstatic.					
11. My job made me feel energetic.					
12. My job made me feel enthusiastic.					
13. My job made me feel excited.					
14. My job made me feel fatigued.					
15. My job made me feel frightened.					
16. My job made me feel furious.					
17. My job made me feel gloomy.					
18. My job made me feel inspired.					
19. My job made me feel relaxed.					
20. My job made me feel satisfied.					

Instrument (Indonesian Version)

Job Related Affective Well Being Scale (JAWS)

HPHA: 10, 11, 12, 13, 18

HPLA: 3, 5, 6, 19, 20

LPHA: 1, 2, 9, 15, 16

LPLA: 4, 7, 8, 14, 17

Instruksi

Tunjukkan seberapa besar hal-hal dalam pekerjaan Anda (misal, tugas, rekan kerja, Atasan, klien) membuat Anda merasakan emosi berikut dalam 30 hari terakhir. Jawablah setiap pernyataan di bawah ini dengan memilih salah satu angka yang menggambarkan tingkat persetujuan atau ketidaksetujuan Anda dengan pernyataan tersebut. Terdapat 5 pilihan jawaban untuk masing-masing pernyataan dengan rentang pilihan "tidak pernah" (angka 1), "jarang" (angka 2), "kadang-kadang" (angka 3), "cukup sering" (angka 4), hingga "sangat sering" (angka 5).

No.	Pernyataan	Pilihan Jawaban				
		Tidak pernah	Jarang	Kadang-kadang	Cukup sering	Sangat sering
1.	Pekerjaan saya membuat saya merasa marah.	1	2	3	4	5
2.	Pekerjaan saya membuat saya merasa cemas.	1	2	3	4	5
3.	Pekerjaan saya membuat saya merasa nyaman.	1	2	3	4	5
4.	Pekerjaan saya membuat saya merasa bosan.	1	2	3	4	5
5.	Pekerjaan saya membuat saya merasa tenang.	1	2	3	4	5
6.	Pekerjaan saya membuat saya merasa damai.	1	2	3	4	5
7.	Pekerjaan saya membuat saya merasa tertekan	1	2	3	4	5
8.	Pekerjaan saya membuat saya merasa kecil hati.	1	2	3	4	5
9.	Pekerjaan saya membuat saya merasa muak	1	2	3	4	5
10.	Pekerjaan saya membuat saya merasa senang	1	2	3	4	5
11.	Pekerjaan saya membuat saya merasa penuh energi	1	2	3	4	5
12.	Pekerjaan saya membuat saya merasa antusias	1	2	3	4	5
13.	Pekerjaan saya membuat saya merasa penuh semangat	1	2	3	4	5
14.	Pekerjaan saya membuat saya merasa lelah.	1	2	3	4	5
15.	Pekerjaan saya membuat	1	2	3	4	5

http://journal.uinjkt.ac.id/index.php/jp3i

	saya merasa takut.					
16.	Pekerjaan saya membuat saya merasa geram.	1	2	3	4	5
17.	Pekerjaan saya membuat saya merasa suram	1	2	3	4	5
18.	Pekerjaan saya membuat saya merasa terinspirasi	1	2	3	4	5
19.	Pekerjaan saya membuat saya merasa rileks.	1	2	3	4	5
20.	Pekerjaan saya membuat saya merasa puas	1	2	3	4	5