Measurement of Employee Well-being Using Reflective-Formative Model

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Abstract

**Background:** Employee well-being has become a part of occupational safety & health. Measuring employee well-being is very important to evaluate the instruments of employee well-being and measurement model holistically. This research purposed to identify and confirm dimensions that contribute significantly to employee well-being and examine the reliability and validity of employee well-being according to its formative model. **Methods:** The survey consisted of 89 items according to the well-being questionnaire for 426 employees in coal mining as respondents with five domains. Measurements used partial least squares - structural equation modelling (PLS-SEM) with the SmartPLS 4.1.1. Measurement and analysis are carried out in two steps; the first step uses a reflective model, and the results are used in the second stage as a formative model to measure employee well-being globally. **Result and Conclusion:** The HCS-HS-WEE-WPC-WPE domain contributes significantly to employee well-being and is identified according to first-order reflective and second-order formative models. **Contribution:** This research contributes to discovering a measurement model for employee well-being with two orders: first-order reflective and second-order formative. This research also makes a practical contribution to organizations and companies in measuring and knowing employee well-being as material for carrying out interventions.

**Introduction**

Total Worker Health is a practice and guideline that has integrated well-being into implementing occupational safety and health to increase employee well-being [1], [2], [3]. Well-being is a positive concept that captures many factors contributing to employees’ health and quality of life [4], [5]. Employee well-being can increase motivation and productivity [6], [7]. Well-being is essential to create a healthy and safe environment and improve employee well-being. One model of employee well-being is subjective measurement [8] Using reflective-formative models [9]–[11]. well-being is an integrated concept in total worker health that will improve workplace safety and occupational health [12]. Dennerlein et al. [3], integrating occupational and health can improve employee well-being by eliminating accidents and maintaining occupational safety and health. [13] has measured employee well-being with a reflective-formative model. Measurements were taken [13] with a subjective approach. [14] introduces an objective approach to complement the measurement of workplace well-being. Subjective and objective measurement of employee well-being involves individual evaluation of happiness, life satisfaction, health, and work opportunities [15].

Measurement of employee well-being is still a debate regarding the best approach chosen. One of the debates is mainly on the theoretical level of importance and essential dimensions related to employee well-being, so it is considered that existing instruments are inadequate [16]. The development and validation of employee well-being measurements of various scales have been successfully carried out, but there is still no standard used as the most appropriate instrument [13], [16]. Measurement of employee well-being is difficult to do independently because of the dependence of relationships between dimensions [17]. The results of measuring employee well-being have also been unable to highlight that their validity is a formative construction and generally still uses reflective models[13]. Measures of employee well-being mostly look at individual abilities rather than socio and organizational well-being [18]. Based on the results of existing measurements, no standard form of employee well-being measuring has been found [16]. This weakness is caused by relationships between dimensions that have not been accurately defined and measurements considered not yet standard [13], [17].

From several previous studies, researchers consider it necessary to develop and measure employee well-being models that can be seen from various aspects. Research on employee well-being is significant to determine the factors that improve employee well-being from an objective and subjective point of view so that the employee feels safe, healthy, and secure[19]. Researchers consider that the construct component is one of the things that need to be studied to improve the employee's well-being. Loveridge et al. [20] develop well-being measurement protocols by designing interdisciplinary mixed methods from various work environments. In this research, the results of employee well-being measurement can be used by organizations and companies to design interventions as needed because well-being measurement is a holistic concept[1], [21], [22]. We developed this research by holistically measuring the employee's well-being, which Chari et al. (2022) developed because this construct is very complex and easy to implement. Researchers measure work well-being with a reflective-formative approach[23]. This research aims to identify and confirm dimensions that contribute significantly to employee well-being and examine the reliability and validity of employee well-being according to its formative nature.

**Literature Review**

The workplace environment dramatically influences the employee and is a significant investment in the work. Workers often face stressful environmental conditions that reduce their well-being [24]. Employees are usually less involved in the employee, so a more comprehensive approach needs to be taken, especially from the leadership, to create well-being. [25]. Organizations should improve the well-being of employees to increase productivity and reduce absenteeism due to work accidents[26], [27]. The employee's well-being is closely related to experience and daily life in the family and organizational environment [28]. Batat [29] said experience and evaluation are indicators that can improve the employee's well-being. Home, community, and society must also be considered externally and internally [30]. Other matters related to employee well-being have also been summarised in the well-being questionnaire, such as work environment, workplace, and work experience evaluation[19]. Considering that the employee's well-being is one of the organization's goals Adler & Seligman, [31]. Implementing it requires organizational commitment[32]. Organizational support will help produce a work environment that will increase employee well-being [10]. Reflective-formative models show strong predictive rates[9]. Previous measurements viewed the employee's well-being with a reflective model, as said by Khatri & Gupta [13], which develops with two reflective-formative orders. Developing questions globally becomes a tool that measures the employee's well-being globally [15]. One formative calculation should measure multicollinearity among formative components[33]. Reflective-formative research can highlight construct validity using structural validity[10].

**Materials & Research Method**

**Steps of research.**

There are four steps in this research (Figure 1). The first step is a literature review research related to employee well-being, compiling a work well-being questionnaire instrument consisting of 5 (five) domains and collecting data. This research used questionnaires from total worker health consisting of Home, community, and Society (HCS), Health Status (HS), Workplace Environment and Experience (WEE), workplace Policies and Culture (WPC), Workplace environment and safety climate (WPE) [19]. The second step in this research is to measure the reliability and validity of all employee well-being indicators. The permitted limits are skewness and kurtosis limits < 2.00 and < 7.00, outer loading < 0.400 deletions, outer loading between 0.400 to 0.700 retained if the average variance extracted (AVE) > 0.500, outer loading >0.700 retained. The Cronbach alpha, Rho\_A, and Rho\_C must be >0.700, and the value of Rho\_A is between the Cronbach alpha and Rho\_C. To find out that the questionnaire was valid, the researcher used discriminant validity measurements with Fornell-Larcker and the ratio of heterotrait-monotrait (HTMT)< 0.85 [34]. The third step in the research is to identify formatively measured elements that are not redundant in the variance matrix of the observed variables and must be equal to all unidentified variables in the model or latent constructs. The approach in this research is to choose one reflective indicator and a reflective measurement construct as the outcome variable [35]. Employee well-being global (EWBG) is one measure of employee well-being - (I feel complete well-being in my workplace), which is applied globally to help address the issue of identity loss and validation objectives. Suggest including global measurements that summarise the critical aspect ot the construction [35]. The measurement step in formative is to calculate the value of the path coefficient with a limit >0.700, outer loading >0.500, T\_value>1.645, and P\_value <0.005[11]. Step 4 is to discuss the results and conclude. The steps of this research can be seen in Figure 1 below.

**Step.2**

**Step.1**

Fornell-Larcker Criterion

A latent variables square root of AVE should be greater than correlations between it and any all other

The ratio of Heterotrait-Monotrait Ratio (HTMT) <0.850

Reliable?

Valid?

Hypotheses Testing

T\_value >1.645 / P\_va;lue <0.005

Supported/Not

Convergent Validity and Internal Reliability

1. Skewness <2.000, Kurtosis <7.000 in the absolute Value
2. Outer loading <0.400 delete, ≥0.400 but <0.700 retain if AVE>0.500, >0.700 retain indicator
3. Average Variance Extracted (AVE)>0.500, Cronbach apha – Rho\_A – Rho\_C >0.700, Rho\_A value between Cronbach's alpha and Rho\_C is a good indication of reliability

Literature Review On Wellbeing and Total Worker Health (TWH)

Questionaire Arrangement Well-being Questionaire

Data Collection

Well-being Questionaire Global

Redundancy Analysis Path Coefficient

>0.700

Reliable?

Valid?

Hypotheses Testing

Outer Loading >0.500, t-Value >3.500, p\_va;lue <0.005

No

No

No

Yes

No

Yes

Supported?Not

Result & Discussion

Conclusion

Yes

Yes

Yes

No

No

**Step.3**

**Step.4**

**Figure 1. Steps of research**

**Population and Sample**

The population in this research is the employees of the coal mining industry in Indonesia, which amounts to 23,857 people, and 3,121 people are foreign workers. Four hundred twenty-six respondents who were randomly selected from the population answered that they completed the questionnaires according to the requirements. The number of respondents has met the data adequacy test using G.power and Danielsoper calculator at probability level 0.05. In this research two, a step design was used. The first researcher used a well-being questionnaire to identify the dimensions of worker well-being as a holistic construction related to work and the workplace using reflective Structural Equation Modeling (SEM). All constructs of the well-being questionnaire are analyzed, and only valid and realistic constructs and indicators will be used in the second stage[13]. The second step is determining the reliability and validity of employee well-being factors with formative properties by adding Global Employee Well-being indicators. The theoretical proposal for measuring energy well-being is shown in Figure 2 below:

Employee Wellbeing (EWB)

Health Status (HS)

Employee Wellbeing Global (EWBG)

Home, community, Society (HCS)

Work evaluation and experience (WEE)

Workplace policies and culture (WPC)

Workplace physical environment and safety climate (WPE)

Satisfaction (job, wage,benefits,advancent), Support (supervisor, coworker) , job (security,autonomy), time paucity, meaningful work, work-related (positive, negative, fatigue), job engagement.

Overall (health, stress), days of poor (physical health, mental health, chronic helath conditions, insomnia, physical activity, tobacco use, alcohol, risky drinking, healthy diet, sleep hours, limitations (work, cognitive functioning), productivity, work related injury, injury consequence

Management trust, health culture at work, supportive work culture, work to non work conflict, non work to work conflict, avaibility of job benefits, workplace flexibility.

Work related (sexual harassment, physical violence), discrimination, overall workplace safety, physical environment satisfaction, workplace safety climate.

Support (outside of work, activities outside of work), life satisfaction, financial insecurity.

**Figure 2. Theoretical Measures of Employee Well-being**

H1. Health status is a significant measure of employee well-being

H2. Home, community, and society is a significant measure of employee well-being

H3. Workplace evaluation and experience is a significant measure of employee well-being

H4. Workplace policies and culture are a significant measure of employee well-being

H5. The workplace's physical environment and safety climate are significant measures of employee well-being.

H6. Employee well-being is reflective first order, formative second order

**Research procedures and instruments**

Researchers collect data from June 2023 to December 2023 in three steps. First, the respondents have explained the research goals; the second step is the respondent agreeing by filling out the consent form; and the third step is the respondent filling out the questionnaire in one sitting. Eighty-nine items of instruments were used [19]. This research uses a well-being questionnaire with five well-being domains in 426 respondents from four mining sites in Indonesia. The number of respondents is sufficient according to the data adequacy test using the G\*Power program[34]. Researchers keep the identity of the respondent secret.

**Result**

The results of measuring employee well-being are divided into two steps—the reflective measurement to determine the significance of HCS-HS-WEE-WPC-WPE on employee well-being. The second step is formative model measurement after adding global indicators.

**Characteristic of respondents**

Table 1 describes the characteristics of respondents; this research had 426 respondents. The number of female participants was minimal (1.42% female and 98.58% male). Respondents with an age range of 18-29 years were most represented (48.35%), while 30-44 years old (44.60%), age range 45 to over 55 years (7.05%), number of full-time(73.03%) and part-time (26.95%). Most participants (85.37%) completed high school (14.63% had a bachelor’s degree or higher). Income from participants in the range of US$ 3500-US$5000/year (74.19%), US$ 5001-6500/year (12.36%), US$ 6501-8000/year (12.36%), and greater than US$ 8000/year (6.45%). Most respondents are married (63.50%) and unmarried (36.50%).

Table 1. Demographic Profile of Respondents

| Characteristics | Category | Number of Samples (n) | Percentage (%) |
| --- | --- | --- | --- |
| Work Arrangement | Standard Work Arrangement | 420 | 98.59 |
|  | Contract Worker | 6 | 1.41 |
| Part-time – full time | Full-time | 298 | 73.03 |
|  | Part-time | 110 | 26.97 |
| Duration of Job | < 1 year | 172 | 41.14 |
|  | 1-5 year | 144 | 34.44 |
|  | 6-10 year | 58 | 13.87 |
|  | 10-20 year | 24 | 5.74 |
|  | >20 year | 20 | 4.78 |
| Age | 18-29 year | 206 | 48.35 |
|  | 30-44 year | 190 | 44.60 |
|  | 45-55 year | 28 | 6.57 |
|  | >55 year | 2 | 0.46 |
| Education | Senior High School | 322 | 85,37 |
|  | Diploma | 28 | 6.60 |
|  | Bachelor’s or higher | 34 | 8.01 |
| Ethnic | Asia | 348 | 84.87 |
|  | others | 62 | 15.13 |
| Sex | Male | 418 | 98.58 |
|  | Female | 6 | 1.42 |
| Income | US$3.500 – US$5.000/year | 276 | 74.19 |
|  | US$5.001 – US$6.500/year | 46 | 12.36 |
|  | US$6.501 – US$8.000/year | 26 | 6.98 |
|  | >US$ 8.000/year | 24 | 6.45 |
| Marital Status | Married | 268 | 63.50 |
|  | Never married | 154 | 36.50 |

***Convergent Validity and Internal Consistency Reliability***

The measurement in this step is by measuring the value of skewness and kurtosis. In this research, all indicators of employee well-being are at the limit of allowable values, with a maximum skewness value of 0.845 and a maximum kurtosis of 1.288. AVE, Rho\_a, and Rho\_c values are within the permissible limit, namely the Average Variance Extracted value (AVE) > 0.500, Cronbach Alpha > 0.700, Rho\_a > 0.700, and Rho\_c > 0.700 Where the value of Rho\_a is between Cronbach’s alpha as the lower bound and Rho\_c as the upper bound indicating all constructs are valid and reliable. Considerations for retaining or deleting items with values between 0.4-0.7 depending on their effect on AVE>0.50. Table 2 below describes the results of convergent validity and internal consistency reliability after modification.

Table 2. Internal Consistency Reliability and Convergent Validity

| constructs | Item Code | item | Outer loadings | AVE | Cronbach alpha | Rhoa\_a | Rho\_c |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |
| HCS | HCS1 | Life Satisfaction | 0.857 | 0.521 | 0.708 | 0.799 | 0.809 |  |
|  | HCS2 | Financial Insecurity | 0.673 |  |  |  |  |  |
|  | HCS3 | Support outside of work | 0.768 |  |  |  |  |  |
|  | HCS4 | Activities outside of work | 0.554 |  |  |  |  |  |
| HS | HS1 | Overall Health | 0.735 | 0.508 | 0.861 | 0.868 | 0.891 |  |
|  | HS3 | Chronic Health Condition | 0.660 |  |  |  |  |  |
|  | HS6 | Overall Stress | 0.644 |  |  |  |  |  |
|  | HS11 | Risky drinking | 0.675 |  |  |  |  |  |
|  | HS12 | Healthy diet | 0.817 |  |  |  |  |  |
|  | HS13 | Sleep hours | 0.671 |  |  |  |  |  |
|  | HS18 | Work Related Injury | 0.815 |  |  |  |  |  |
|  | HS19 | Injury Consequence | 0.663 |  |  |  |  |  |
| WEE | WEE1 | Job | 0.804 | 0.532 | 0.817 | 0.834 | 0.869 |  |
|  | WEE2 | Wage | 0.785 |  |  |  |  |  |
|  | WEE3 | Benefits | 0.796 |  |  |  |  |  |
|  | WEE4 | Advanced | 0.778 |  |  |  |  |  |
|  | WEE5 | Supervisor | 0.657 |  |  |  |  |  |
|  | WEE6 | Coworker | 0.505 |  |  |  |  |  |
| WPC | WPC1 | Management trust | 0.762 | 0.607 | 0.903 | 0.909 | 0.924 |  |
|  | WPC2 | Health culture at work | 0.890 |  |  |  |  |  |
|  | WPC3 | Supportive work culture | 0.823 |  |  |  |  |  |
|  | WPC4 | Work to non-conflict | 0.759 |  |  |  |  |  |
|  | WPC5 | Non-work-to-work conflict | 0.889 |  |  |  |  |  |
|  | WPC6 | Availability of job benefits | 0.816 |  |  |  |  |  |
|  | WPC7 | Programs at work | 0.519 |  |  |  |  |  |
|  | WPC8 | Workplace flexibility | 0.710 |  |  |  |  |  |
| WPE | WPE1 | Work-related sexual harassment | 0.770 | 0.502 | 0.795 | 0.797 | 0.856 |  |
|  | WPE2 | Work-related physical violence | 0.753 |  |  |  |  |  |
|  | WPE3 | Discrimination | 0.642 |  |  |  |  |  |
|  | WPE4 | Overall workplace safety | 0.772 |  |  |  |  |  |
|  | WPE5 | Physical environment satisfaction | 0.761 |  |  |  |  |  |
|  | WPE6 | Workplace safety | 0.514 |  |  |  |  |  |

The selected indicators are valid and reliable based on the results of outer loading, Average variance Extracted, Cronbach alpha, rho\_a, and Rho\_c measurements. All indicators of home, community, and society are retained. There are eleven indicators of health status delation. Nine indicators were deleted due to outer loading<0.400, and two were deleted though outer loading value>0.400 but AVE <0.500. Indicators deleted in Health Status are days poor (physical, mental health), insomnia, poor mental health, physical activity, tobacco use, alcohol consumption, sleep at work, and limitations (cognitive function, work, and work productivity). Six work evaluation and experience indicators were retained, and eight were deleted. These indicators are job (security, autonomy), time scarcity, meaningful work, work-related (positive, negative, fatigue), and job engagement. All indicators of workplace policies and culture are retained. Workplace bullying is one indicator of the workplace environment and safety climate that has been deleted because outer loading <0.400.

Discriminant of Fornel-larcker

Table 3 describes the validity of discriminants according to the fornell-larcker criteria. According to traditional discriminant validity assessment methods, the external charge of an indicator on a construct must be higher than all its cross charges with other constructs. In addition, the square root of each construct’s AVE must be higher than its highest correlation with different constructs. All constructs were valid in this research based on the fornel-larcker criterion[36]. The discriminant validity measurement of the five constructs HCS-HS-WEE-WPC-WPE is 0.722-0.713-0.729-0.779-0.708, which is valid because this value has higher cross charges than the other construct.

Table 3. Discriminant of fornel-larcker

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | HCS | HS | WEE | WPC | WPE |
| HCS | **0.722** |  |  |  |  |
| HS | 0.044 | **0.713** |  |  |  |
| WEE | -0.093 | -0.296 | **0.729** |  |  |
| WPC | -0.013 | -0.268 | 0.576 | **0.779** |  |
| WPE | -0.033 | -0.324 | 0.605 | 0.633 | **0.708** |

*Note: Diagonal Values are the square root of AVE, off-diagonals are correlation coefficients*

**Heterotrait-Monotrait Ratio (HTMT)**

Table 4 explains discriminant validity using a heterotrait-monotrait ratio (HTMT) with a value of < 0.850, indicating discriminant validity. The measurement discriminant validity with HTMT of all five HCS-HS-WEE-WPC-WPE constructs is valid <0.850 because all of the result measurements <0.850

Table 4. Heterotrait-Monotrait Ratio (HTMT)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | HCS | HS | WEE | WPC | WPE |
| HCS |  |  |  |  |  |
| HS | 0.087 |  |  |  |  |
| WEE | 0.155 | 0.337 |  |  |  |
| WPC | 0.074 | 0.306 | 0.675 |  |  |
| WPE | 0.088 | 0.384 | 0.753 | 0.728 |  |

**Hypotheses Testing**

Table 5 describes the results of significance measurements based on the T\_value > 1.645 P\_value < 0.005, which shows that all constructs are affected significantly. Based on the results of the summary of hypotheses testing, hypotheses testing in Table 5 that’s hypotheses 1 – hypothesis 5 supported that home, community, society, health status, work evaluation and experience, workplace policies and culture, workplace environment, and safety climate significantly affect the employee well-being. The T\_value and P\_value are at>1.645 and 0.005 in all constructs, so all hypotheses are accepted. The complete results of the hypothesis measurement can be seen in Table 5.

Table 5. Hypotheses Testing

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hypotheses | Patsch | Std.Beta | Std.Error | T\_value | P\_value | Bias | interval | | R2 Adjusted | f2 | VIF | Decision |
| 5.00% | 95.00% |
| H1 | EWB -> HCS | -0.070 | 0.118 | 10.593 | 0.002 | 0.040 | -0.169 | 0.15 | 0.003 | 2.005 | 1.000 | supported |
| H2 | EWB -> HS | -0.557 | 0.046 | 12.065 | 0.000 | -0.004 | -0.622 | -0.468 | 0.309 | 0.450 | 1.000 | supported |
| H3 | EWB -> WEE | 0.801 | 0.021 | 37.446 | 0.000 | -0.001 | 0.761 | 0.832 | 0.641 | 1.792 | 1.000 | supported |
| H4 | EWB -> WPC | 0.862 | 0.016 | 52.853 | 0.000 | 0.000 | 0.826 | 0.882 | 0.742 | 2.887 | 1.000 | supported |
| H5 | EWB -> WPE | 0.828 | 0.017 | 47.596 | 0.000 | 0.000 | 0.798 | 0.853 | 0.684 | 2.177 | 1.000 | supported |

Note: p ≤ 0.05 (1-tailed test)

**Analysis of Redundancy**

The formative measurements model's primary flaw is that it can not achieve statistical identification without additional data. The covariance matrix of observed variables' non-redundant elements must be more significant than or equal to the total of the model’s unknown parameters and latent constructs to identify formative measurable constructs. The approach in this research is to choose one reflective indicator and reflective measurement construct as the result variable[35]. One measure of the well-being of employees is Employee Well-being Global (EWBG) – “I feel complete well-being in my work.” It is applied globally to address the lack of identification and support validation goals. Khatri & Gupta [13] recommend adding a global metric summarising the main contraction points. The validity of formative indicators is indicated by the relationship between them and the overall size, assuming that the overall measure is a valid criterion.

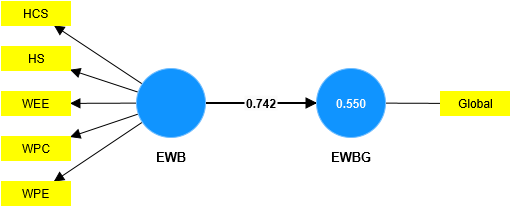


Figure 3. Analysis of Redundancy

This analysis yields the result in Figure 3 that the patch coefficient is 0.724, the recommended threshold of 0.700 [34]. This research supports the construct convergent validity that employee well-being is a first-rate formative construct reflective with the five dimensions HCS-HS-WEE-WPC-WPE. Employee well-being is a formative construct supporting research results.

**Measurement Formative Evaluations of Model**

Table 6 describes significance measurement results based on Convergent validity, t\_value, and p\_value results after using global employee well-being (EWBG) indicators to analyze formative measures.

Table 6. Measurement Formative Evaluations of Model

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Construct | Item | VIF | Std.Beta (Convergent Validity) | Outer Weight | Outer Loading | Std.Error | t\_value | p\_value |
|  |
| EWB | HCS | 1.012 | 0.742 | 0.146 | 0.701 | 0.069 | 4.953 | 0.002 |  |
|  | HS | 1.141 |  | 0.258 | 0.712 | 0.048 | 10.638 | 0.000 |  |
|  | WEE | 1.786 |  | 0.475 | 0.882 | 0.008 | 109.855 | 0.000 |  |
|  | WPC | 1.856 |  | 0.256 | 0.788 | 0.030 | 26.245 | 0.000 |  |
|  | WPE | 1.995 |  | 0.326 | 0.839 | 0.018 | 46.566 | 0.000 |  |

Based on the results of the summary of hypotheses testing in Table 6, it is obtained that the convergent validity of 0.742, t\_value, and p\_value is at a value of >1.645 and <0.005 on all constructs so that all hypotheses are accepted[37]. Hypotheses 1 – Hypothesis 5, namely HCS-HS-WEE-WPC-WEE, Significantly affect the employee's well-being. Hypothesis 6 accepted that employee well-being is reflective first order, formative second order.

**Discussion**

This research has utilized structural equation modelling to perform structural validation and different formative indicator modelling criteria to form a formative construct. Based on the results of reflective model measurements, it was found that H1 was accepted, and health status is a significant measure of well-being. H2 accepted that Home, community, and society are substantial measures of well-being. H3 accepted that work evaluation and experience are a considerable measure of well-being. H4 accepted that workplace policies and culture are significant measures of well-being. H5 accepted workplace physical and safety climate as a considerable measure of well-being. Employee well-being was identified in this research as a valuable construct for characterizing the concept’s nature and demonstrating its applicability as a formative construct.

The measurement results produce a five-domain HCS, HS, WEE, WPE, and WPC structure. The employee well-being of the model was evaluated using different parameters. It consisted of five first-order reflective constructs, leading to second-order formative constructs. Evaluate multiple parameters from the checklist provided by Fleuren et al. [38], who view employee well-being as a formative second-order and first-order reflective construct. This research is important and unique because it identifies the variations in every dimension of the employee well-being construct, including a range of well-being factors and identifying those that connect. Anything left out has the potential to alter the construction.

Furthermore, these dimensions are conceptually distinct and do not exhibit high correlation or cooperation since they represent various facets of the construction of employee well-being. This research has utilized structural equation modelling to utilize structural validity and different formative indicator modelling criteria to form a formative construct. This paper can highlight employee well-being as a suitable form to clearly describe the nature of the concept and its validity as a formative construct. The research also establishes the potential importance of various construct components by telling the relative weights of the indicators in the model. The research results can also be continued by intervening to improve the employee's well-being. Future studies are expected to look at the impact of interventions before and after they are carried out. The integration of occupational safety and health and employee well-being on the TWH concept can be used to enhance and become a force to encourage a deeper understanding of worker safety, health, and performance conditions, as well as employee well-being. This research is the first to measure employee well-being using the NIOSH well-being questionnaire with reflective-formative measurements.

**Managerial Implications**

The research offers a comprehensive model on which to base measures of employee well-being. Therefore, organizations can use these five employee well-being factors to get the right picture and conditions of employee well-being in the workplace. Organizations must focus on the five dimensions of employee well-being, especially in a work environment that often occurs among employees. This research implies that if organizations want to improve employee well-being, it is crucial to focus on job engagement and job satisfaction[26], [39], [40]. In this case, organizations can carry out various interventions based on the results of measurements and interviews and from the results of the evaluation of previous interventions to increase the level of job engagement and job satisfaction. Empirical theories and studies have emphasized the role of employee resources that can be built to improve employee well-being [1]. In this context, various employee resources can be strengthened with occupational interventions that can provide the potential to face job demands without sacrificing job engagement and job satisfaction levels[41].

Furthermore, necessary interventions can be designed to prevent the employee from physical and mental exhaustion. Further, organizations must ensure that the employee gets all the extrinsic and intrinsic benefits and rewards for their work that will increase job satisfaction and achievement. In addition, it is recommended that organizations recognize and value human resources to improve their resources[4]. This research has highlighted critical well-being-related findings that contribute to theory and practice.

**Limitations and Recommendations For Future Research.**

The research’s findings are limited in usefulness because they focus on factors that influence well-being. Other researchers may test these variables on other work that requires positive emphasis. In addition, it is necessary to conduct studies before and after the intervention is carried out. Future researchers may also research work-related factors such as job stress, organizational commitment, and other dimensions of employee well-being. In addition, cross-cultural and cross-country comparisons can be made to analyze the employee's well-being. Responses in the research were drawn from self-reported questionnaires, thus increasing the likelihood of common method variances. In addition, this research is based on individual observations that could alter over time due to the potential influence of a person's psychosomatic mental state.

**conclusion**

The HCS-HS-WEE-WPC-WPE construct contributes significantly to employee well-being and is identified according to its formative nature. This research contributes to the theory that measuring employee well-being has two steps: the reflective model in the first order and the formative model in the second. Organizations and practitioners can use this research to measure employee well-being holistically. This research has utilized structural equation modelling to perform structural validation and different formative indicator modelling criteria to form a formative construct. These formative measurements demonstrate global testing. The research offers a comprehensive model on which to base measures of employee well-being. Therefore, organizations can use these five employee well-being factors to get the right picture and conditions of employee well-being in the organizational or company environment.

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**Conflict of interest**

The authors declare that there is no conflict of interest.

Data Availability

Data available during the research and data requests through the authors

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