

A Comparison of the Psychometric Properties of the Ikigai-9 Between Emerging Adults in India and the United Kingdom

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Abstract

Ikigai is a Japanese concept referring to one's reason for living, which is linked to improved quality of life, happiness, and reduced psychological distress. The Ikigai-9 was developed and validated in Japanese before being translated and validated into English. However, its psychometric properties have not been explored in an Indian context, despite its roots in Indian tradition. This study assessed the psychometric properties of the English version of Ikigai-9 in emerging adults, evaluated measurement invariance across gender in an Indian sample and between Indian and United Kingdom samples, and compared levels of ikigai, wellbeing, psychological distress, and behavioral coping strategies across countries. A cross-sectional psychometric study was conducted among 966 emerging adults ($N_{\text{India}} = 743$; $N_{\text{United Kingdom}} = 223$), aged 18 to 29 years (India: $M_{\text{age}} = 22.25$, $SD_{\text{age}} = 2.85$; UK: $M_{\text{age}} = 24.61$, $SD_{\text{age}} = 4.03$), including both genders (females_{India} = 467; females_{United Kingdom} = 124). Confirmatory factor analysis supported a three-factor model of the Ikigai-9, aligning with the original Japanese version rather than a unidimensional model. The scale demonstrated adequate equality across gender and cultures, good internal consistency ($\alpha = .774$, $\omega = .776$), and convergent, divergent, and predictive validity. Notably, Indian participants reported higher well-being and psychological distress compared to their United Kingdom counterparts. These findings indicate that the Ikigai-9 is psychometrically robust in both Indian and United Kingdom samples, and the discussion highlights the potential for ikigai-oriented interventions to enhance mental health by strengthening one's sense of purpose in life.

INTRODUCTION

Ikigai is a term of Japanese origin that is comprised of the words: “iki”, meaning “to live”, and “gai”, meaning “reason”, which together broadly refers to one's *reason for living or purpose in life* (Sartore et al., 2023). In practice, ones' ikigai is built through small, cumulative experiences (Mogi, 2017), such as engaging in hobbies and leisure pursuits (Kono & Walker, 2019; Kumano, 2012), enjoying daily rituals and nourishment (Kamino et al., 2023), and investing time in ones' family and/or community (Kemp, 2022). Though an everyday term in Japanese culture, much of our extant understanding of ikigai stems from the reflections of Mieko Kamiya (1966), who established how even individuals with severe leprosy could find meaning in their lives. Today, some describe Kamiya as the “Mother of Ikigai” (Kemp, 2022, pp. 25)

Within Japanese cohorts, cross-sectional and longitudinal research has consistently associated low levels, or an absence of ikigai, with an increased risk of all-cause (Nakanishi et al., 2005; Sakata et al., 2002; Tanno et al., 2009), cardiovascular-specific (Sone et al., 2008), and cancer-specific mortality (Wakai et al., 2007), as well as unemployment, poor educational attainment, social disconnection, and severe pain (Okuzono et al., 2022; Sone et al., 2008; Yasukawa et al., 2018). Conversely, those with heightened ikigai report better quality of life and happiness (Hajek et al., 2024; Roepke et al., 2014; Stickley et al., 2025; Zilioli et al., 2015), faster post-surgery recovery time (Smith & Zautra, 2004), and a willingness to engage in social interactions (Seko & Hirano, 202).

Despite such a compelling narrative of how having access to multiple sources of ikigai consistently contributes to positive outcomes, a key limitation of this literature is that it often relies on the categorical measurement of ikigai. Here, the tendency to assess ones' ikigai through a single yes or no question (e.g., "Do you have ikigai in your life?") not only reduces measurement variance (i.e., restricting individuals from professing varying degrees of ikigai), but owing to the language-dependant nature of the concept, reduces the viability of replicating findings outside of Japanese contexts. This is of particular importance in the West, where there exists a growing interest into the incorporation of Eastern-rooted philosophies for professional- and health-related outcomes (Kemp, 2022), and where ikigai, specifically, is frequently misinterpreted as a means of identifying future vocations (Winn, 2025), with an emphasis on extrinsic (e.g., financial), over intrinsic (e.g., ability to make a difference) factors (Kemp, 2022).

To overcome this measurement limitation, Imai et al. (2012) developed the Ikigai-9; a nine-item measure of one's reason for being across three dimensions: (1) optimistic and positive emotions toward life (3 items, e.g., "I often feel that I am happy"), (2) active and positive attitudes toward the future (3 items, e.g., "I would like to learn something new or start something"), and (3) acknowledgment of one's existence having meaning (3 items, e.g., "I feel that I am contributing to someone or society"). Respondents rate each statement on a five-point scale (1 = Does not apply to me, 5 = Applies to me a lot) with higher total scores indicating greater levels of ikigai. The scale has good reliability (Cronbach's $\alpha = .87$) and has since been translated and validated into English (Fido et al., 2019), French (Vandroux & Auzoult, 2022), Turkish (Belice et al., 2022), German (Hajek et al., 2024), and Columbian Spanish (Vinaccia et al., 2026). In line with data derived from Japanese cohorts, higher levels of ikigai were found to predict lower stress and depression in British samples, even after controlling for baseline demographics (Fido et al., 2019; Wilkes et al., 2022).

Moreover, much of our extant understanding of ikigai, and the sources thereof, is derived from samples of older adults and their experiences overcoming illness, surgery, and age. However, there is also value in understanding ikigai through emerging adulthood, a period of life that refers to the developmental stage between ages 18 and 29, which is marked by significant change and exploration wherein individuals evaluate their life possibilities and – in some cases - make lasting choices about love, work, and worldviews (Arnett, 2000). This period is, however, also considered high risk for developing various psychiatric disorders due to high levels of stress and uncertainty (Brito & Soares, 2023), with 40% affected by mood disorders, anxiety disorders, and substance use disorders; higher than in any other age range (Arnett et al., 2014). Interwoven within such developmental indices are cultural components that significantly shape perceptions and experiences of well-being, emotional expression, social support systems, and coping strategies (Gautam et al., 2024). Thus, there remains a need to further the application and understanding of ikigai within other cultures and contexts, importantly including India, owing to ikigai being rooted in Indian traditions such as Purushartha, Ayurveda, Yoga, and the Ashrama system, which emphasize balance, harmony, and spiritual growth to enhance well-being in later life (Ashok, 2025).

The Current Study

Taken together, this study aimed to (a) assess the psychometric properties of the English version of Ikigai-9 (Fido et al., 2019) among emerging adults in India; (b) examine measurement invariance across Indian and UK samples to assess bias when comparing groups; and (c) compare indices of ikigai, well-being, and psychological distress between Indian and UK samples. The findings likely have direct implications for targeted health and education interventions, particularly in the design of culturally responsive programs that address the unique emotional and social support needs identified in the study. By addressing these specific needs, such interventions have potential to enhance ikigai among emerging adults, potentially contributing to mitigating the risk of developing mental health complications.

METHODS

Participants

Based on MacCallum et al.'s (1999) guidelines for factor analyses ($n > 500$), 762 participants from India and 227 participants from the UK responded to an online survey hosted via Google Forms and circulated across social media platforms between September and December 2025. Nineteen responses from the India sample and four from the UK sample were excluded because they fell outside the specified age range, leaving a final sample of 966 participants. Of these, 743 participants were from India ($M_{\text{age}} = 22.25$, $SD_{\text{age}} = 2.85$), comprising males ($n = 276$, 37.1%) and females ($n = 467$, 62.9%). The remaining 223 participants were from the UK ($M_{\text{age}} = 24.61$, $SD_{\text{age}} = 4.03$), including males ($n = 99$, 44.4%) and females ($n = 124$, 55.6%) and fluent in English. All participants provided informed consent digitally, participated voluntarily, had confidentiality assured, and received no compensation for their participation.

Materials

1. Ikigai-9 (Fido et al., 2019; Imai et al., 2012): The scale's detailed description is provided in the Introduction section.

2. Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995): The DASS-21 consists of 21 items and assessed depression (7-items; e.g. "I felt down-hearted and blue"), anxiety (7-items; e.g. "I was worried about situations in which I might panic and make a fool of myself"), and stress (7-items; e.g. "I tended to over-react to situations"). Each item was rated on a 4-point Likert scale (0 = did not occur to me, 3 = occurred to me a lot), with higher scores reflecting greater presence of each trait. In the present study, internal consistency was good to excellent in both Indian ($\alpha = .798$ to $.870$; $\omega = .801$ to $.873$) and UK samples ($\alpha = .868$ to $.930$; $\omega = .870$ to $.931$).

3. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS; Stewart-Brown et al., 2009): The WEMWBS consists of 14 items and assessed psychological functioning and emotional well-being (e.g., "I've been feeling optimistic about the future"). Each item was rated on a 5-point Likert scale (1 = none of the time, 5 = all of the time) over the last two weeks, with higher total scores indicating greater well-

being. In the present study, internal consistency was good to excellent in both Indian ($\alpha = .893$; $\omega = .894$) and UK samples ($\alpha = .930$; $\omega = .931$).

4. The Behavioral Emotion Regulation Questionnaire (BERQ; Kraaij & Garnefski, 2019): The BERQ consists of 20 items and measured the behavioral strategies that participants engaged in to regulate their emotions across seeking social support (4-items; e.g. “I look for someone who can support me”), seeking distraction (4-items; e.g. “I engage in other, unrelated activities”), actively approaching (4-items; e.g. “I do whatever is required to deal with it”), ignoring (4-items; e.g. “I move on and pretend that nothing happened”), and withdrawal (4-items; e.g. “I withdraw”). Each item was rated on a 5-point Likert scale (1 = almost never or never, 5 = almost always or always), with higher scores indicating greater strategy use. In the present study, internal consistency was acceptable to excellent in both the Indian ($\alpha = .762$ to $.867$; $\omega = .768$ to $.868$) and UK samples ($\alpha = .839$ to $.928$; $\omega = .845$ to $.930$).

Procedure

This study received ethical approval from the Office of the Institute Ethics Committee (No./MGMC&H/IEC/JPR/2025/4956, dated 09/09/2025) and was conducted according to the Declaration of Helsinki. After providing informed consent, participants completed the Ikigai-9, DASS-21, WEMWBS, and BERQ (all in English) in a randomized order to reduce order effects. All questions were set to ‘Request Response’ to attenuate missing values. Afterwards, participants were debriefed.

Analytic Strategy

Data were analyzed using IBM SPSS Statistics (version 22.0) and IBM AMOS (version 22.0). First, descriptive statistics were examined, including distribution, outlier, and multicollinearity analyses. Second, confirmatory factor analysis (CFA) was conducted to assess construct validity of the Ikigai-9 in the Indian sample against the unidimensional factor proposed by Fido et al. (2019) and the three-factor model proposed by Imai et al. (2012) using the fit indices and associated parameters of relative chi-square values between 3 and 5; the Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), and Tucker–Lewis Index (TLI), all exceeding .90; Root Mean Square Error of Approximation (RMSEA), below .08 (90% confidence intervals); and Standardized Root Mean Square Residual (SRMR), under .08 (Bentler, 1990; Byrne, 2019; Collier, 2020; Hu & Bentler, 1999; MacCallum et al., 1996). Third, convergent and divergent validity were assessed by correlating total Ikigai-9 score and its subscales scores with variables such as well-being, depression, anxiety, stress, and behavioural emotion regulation strategies, using Pearson correlation coefficients. We hypothesized that ikigai would be positively associated with well-being and adaptive behavioural emotion regulation strategies, supporting convergent validity, and negatively associated with depression, anxiety, stress, and maladaptive behavioural emotion regulation strategies, supporting divergent validity of the Ikigai-9. Fourth, measurement invariance (MI) was assessed through four hierarchical steps: configural invariance, metric invariance, scalar invariance, and strict invariance across male and females within

Indian sample, as well as across the Indian and UK samples before examining differences in the study variables between the two countries. The fit evaluation criteria included: ΔCFI less than .010, $\Delta RMSEA$ less than .015 and $\Delta SRMR$ of .030 (for metric invariance) or .015 (for scalar or residual invariance) (Cheung & Rensvold, 2002; Chen, 2007; Putnick & Bornstein, 2016). Finally, hierarchical regression analyses evaluated predictive validity and ANCOVA was used to examine cross-cultural differences across study variables, while controlling for age and gender. Effect sizes were interpreted according to Cohen's (1998) guidelines (small = .01, medium = .06, large = .14).

RESULTS

Preliminary Analysis

Skewness values ranged from - 1.170 to - 0.027 and kurtosis values ranged from - 1.044 to 0.557, both within the recommended range of ± 2 for skewness and ± 10 for kurtosis (Collier, 2020), indicating univariate normality. Multivariate normality was assessed using Mardia's kurtosis for nine variables, with the threshold calculated as $v*(v + 2)$ (Mikkonen et al., 2022; Mikkonen et al., 2020). The obtained value (9.507) was below the threshold (99), indicating multivariate normality. Mahalanobis distance analysis identified no multivariate outliers (Collier, 2020). Harman's single-factor test, a method for identifying potential bias in survey data, was performed using principal axis factoring with an unrotated factor on all items, accounted for 22.44% of the total variance, less than the cut-off of 50% (Howard et al., 2024). Multicollinearity was absent in our data, with variance inflation factor (VIF) values of < 2 and tolerance values $> .90$ within recommended cut-offs (Kim, 2019). A few participants obtained the minimum possible score (3%), and reached the maximum score (1.2%), both of which are substantially below the recommended 15% threshold indicating absence of floor and ceiling effects (Lim et al., 2015).

Confirmatory Factor Analysis

CFA was performed to examine the construct validity of the Ikigai-9 in our Indian sample. First, in line with Fido et al.'s (2019) suggestion that the Ikigai-9 is a unidimensional construct, a single-factor model was performed, revealing a poor fit ($\chi^2/df = 319.753/27$, GFI = .907, AGFI = .845, TLI = .714, CFI = .785, RMSEA = .121, 90% CI [.109, .133], SRMR = .074). Consequently, a three-factor model consistent with the original Japanese conceptualization (Imai et al., 2012), was tested, demonstrating a substantial fit improvement ($\chi^2/df = 132.258/24$, GFI = .961, AGFI = .928, TLI = .881, CFI = .921, RMSEA = .078 [.065-.091], SRMR = .048), despite the TLI remaining below the recommended cut-off. Thus, modification indices were examined to identify areas of localized misfit, which indicated that Item 1 ("I often feel that I am happy") showed a strong association with Factor 2 (Active and Positive Attitudes Toward One's Future); suggesting that allowing a cross-loading of Item 1 on Factor 2 would improve model fit. Accordingly, this modification was tested, evidencing a significant improvement in model fit indices ($\chi^2/df = 88.213/23$, GFI = .974, AGFI = .948, TLI = .925, CFI = .952, RMSEA = .062, 90% CI [.048, .070], SRMR = .039; see Table 1). Conceptually, Item 1 ("I often feel that I am happy") appears to indicate not

only “optimistic and positive emotions regarding life” (Factor 1) but also “active and positive attitude toward one’s future” (Factor 2; see Fig. 1). The standardized factor loadings for the three-factor model ranged from .489 (Item 4) to .738 (Item 2), all exceeding the recommended cutoff of .40 (Santor et al., 2011; see Table 2). All estimates fell within the 95% confidence intervals and did not include zero, indicating statistical significance ($p < .001$). The squared multiple correlations ranged from .239 (Item 4) to .545 (Item 2), all exceeding the minimum acceptable value of $> .20$ (Hooper et al., 2008) (see Table 2).

Table 1
Model Fit Indices for the Ikigai-9 Scale Among the Indian Sample (n = 743)

Model Fit	χ^2/df	CMIN/DF	GFI	AGFI	CFI	TLI	RMSEA 90% CI	SRMR
Unidimensional	319.75/27***	11.843	.907	.845	.785	.714	.121 [.109, .133]	.074
Original Three Factor Model	88.213/23***	3.835	.974	.948	.952	.925	.062 [.048, .070]	.039
Note: GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation (90% confidence interval); SRMR = Standardized Root Mean Square Residual.								

Table 2
Standardized Factor Loadings and R² Values for the Three-Factor
Model of the Ikigai-9 Scale

Items	λ	R ²
Factor 1: Optimistic and positive emotions toward life		
Ikigai-1	.571	.326
Ikigai-4	.489	.239
Ikigai-7	.693	.480
Factor 2: Active and positive attitudes toward the future		
Ikigai-3	.580	.336
Ikigai-6	.665	.442
Ikigai-9	.646	.417
Factor 3: Acknowledgment of one’s existence having meaning		
Ikigai-2	.738	.545
Ikigai-5	.493	.243
Ikigai-8	.673	.453

Internal Consistency

Internal consistency was assessed using Cronbach's α and McDonald's ω . Reliability scores for the overall Ikigai-9 ($\alpha = .774$, $\omega = .776$) which reduced slightly across Factor 1 ($\alpha = .609$, $\omega = .612$), Factor 2 ($\alpha = .657$, $\omega = .674$), and Factor 3 ($\alpha = .661$, $\omega = .668$). With the exception of two item pairs, all inter-item correlations fell within the acceptable range of .15 to .85 (Paulsen & BrckaLorenz, 2017), and the average inter-item correlations were within the recommended range of .15 to .50 (Clark & Watson, 1995). Additionally, all corrected item–total correlations exceeded .30, indicating adequate item discrimination (Nunnally & Bernstein, 1994; see Supplementary Table S1).

Convergent and Divergent Validity

The results of the Pearson correlation coefficient are shown in Table 3. The results indicate that the overall ikigai score and its three subscales are positively correlated with well-being, adaptive behavioural emotion regulation strategies including actively approaching, seeking distraction, and seeking social support which demonstrate adequate convergent validity. In contrast, negative correlations with depression, anxiety, and stress, as well as with maladaptive strategies such as withdrawal and ignoring, suggest divergent validity for the Ikigai-9.

Table 3
Descriptive Statistics and Pearson Correlations Among Study Variables Within the Indian Sample (n = 743)

Factor 1	Factor 1	Factor 2	Factor 3	Ikigai_9	M	SD
	1				9.16	2.76
Factor 2	.354 ^{***}	1			11.70	2.60
Factor 3	.496 ^{***}	.399 ^{***}	1		9.52	2.87
Ikigai_9	.792 ^{***}	.733 ^{***}	.819 ^{***}	1	30.38	6.43
Well-being	.593 ^{**}	.447 ^{***}	.558 ^{***}	.683 ^{***}	45.46	9.83
BERQ_SS	.112 ^{**}	.116 ^{**}	.263 ^{***}	.212 ^{***}	12.04	4.16
BERQ_AA	.358 ^{***}	.366 ^{***}	.385 ^{***}	.473 ^{***}	13.43	3.93
BERQ_SD	.243 ^{***}	.356 ^{***}	.204 ^{***}	.339 ^{***}	13.08	3.61
BERQ_IG	-0.042	-0.012	-0.013	-0.029	8.02	5.19
BERQ_WD	-.196 ^{***}	-0.031	-.110 ^{**}	-.146 ^{***}	8.79	4.39
DASS_D	-.394 ^{***}	-.282 ^{***}	-.298 ^{***}	-.416 ^{***}	8.31	4.82
DASS_S	-.309 ^{***}	-.176 ^{***}	-.159 ^{***}	-.274 ^{***}	11.88	4.10
DASS_A	-.293 ^{***}	-.218 ^{***}	-.199 ^{***}	-.302 ^{***}	12.57	3.91
Note: ***Correlation is significant at the 0.001 level, **Correlation is significant at the 0.01 level, M = Mean, SD = Standard Deviation, Factor 1 = Optimistic and positive emotions toward life, Factor 2 = Active and positive attitudes toward the future, Factor 3 = Acknowledgment of one's existence having meaning, BERQ = Behavioral Emotion Regulation Questionnaire, SS = Seeking Social Support, AA = Actively Approaching, SD = Seeking Distraction, IG = Ignoring; WD = Withdrawal; DASS = Depression Anxiety Stress Scales, D = Depression, S = Stress, A = Anxiety.						

Measurement Invariance

MI was used to examine whether the Ikigai-9 measured the same latent construct across gender within Indian sample as well as across Indian and UK samples, including configural, metric, scalar, and strict invariance. As a prerequisite, unidimensionality within each group was examined. Given that the Indian sample demonstrated unidimensionality, CFA was also conducted on the UK sample and within the Indian sample across gender to verify the factor structure. For the UK sample, the three-factor model fit the data well ($\chi^2/df = 56.13/24$, GFI = .947, AGFI = .901, TLI = .924, CFI = .950, RMSEA = .078, 90% CI [.051, .104], SRMR = .065). Similarly, both male ($\chi^2/df = 44.753/23$; GFI = .965; AGFI = .932; TLI = .938; CFI = .960; RMSEA = .059 [.032, .084]; SRMR = .041) and female ($\chi^2/df = 74.122/23$, GFI = .964, AGFI = .930, TLI = .902, CFI = .937, RMSEA = .069 [.052, .087], SRMR = .049) groups in the Indian sample showed

acceptable model fit, supporting configural invariance. Changes in fit indices remained within recommended cut-offs ($\Delta\text{CFI} < .010$, $\Delta\text{RMSEA} < .015$, $\Delta\text{SRMR} < .030$ for metric invariance and $< .015$ for scalar or residual invariance; Cheung & Rensvold, 2002; Chen, 2007; Putnick & Bornstein, 2016) supporting metric, scalar, and strict invariance across gender within the Indian sample and across countries. However, between countries, the change in CFI ($\Delta\text{CFI} = -.057$) did not meet the accepted threshold (see Table 4). Of note, Putnick and Bornstein (2016) note most MI tests emphasize achieving configural, metric, and scalar invariance, and deem strict invariance unnecessary.

Table 4
Measurement Invariance Across Gender (Indian Sample) and Across Countries (India vs. UK)

	CFI	ΔCFI	RMSEA 95% CI	ΔRMSEA	SRMR	ΔSRMR
Across Gender (Indian Sample)						
Configural	.947	-	.046 [.036, .057]	-	.041	-
Metric	.947	.000	.043 [.034, .053]	-.003	.045	.004
Scalar	.941	-.006	.043 [.034, .053]	.000	.055	.010
Strict	.937	-.004	.041 [.033, .050]	-.002	.060	.005
Across Countries (India vs UK)						
Configural	.930	-	.055 [.047, .063]	-	.048	-
Metric	.928	-.002	.053 [.045, .061]	-.002	.048	.000
Scalar	.920	-.008	.053 [.045, .060]	.000	.052	.004
Strict	.863	-.057	.064 [.058, .071]	.011	.052	.000
Note: CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation (90% confidence interval); SRMR = Standardized Root Mean Square Residual.						

Predictive Validity

Eighteen hierarchical regression analyses were performed, nine per sample, to examine the predictive validity of total Ikigai-9 (step 2) over and above age and gender (step 1) against the four well-being variables of well-being, anxiety, depression, and stress, and the five behavioural regulation strategies of ignoring, seeking social support, actively approaching, withdrawal, and seeking distraction. Gender was coded 1 (male) and 2 (female). In step 1, age and gender significantly predicted well-being, depression, ignoring strategy, actively approaching strategy, and withdrawal strategy in the Indian sample, but not in the UK sample. In step 2, Ikigai was a significant predictor of well-being (positively), depression (negatively), ignoring strategy (negatively), actively approaching strategy (positively), and withdrawal strategy (negatively); accounting for an additional 42%, 16%, 0%, 21%, and 1% of the variance in the Indian sample, and 55%, 3%, 7%, 19%, and 13% in the UK sample. Furthermore, age and gender significantly emerged as predictors of anxiety and stress in both samples. After introducing the ikigai in

the second step, it significantly negatively predicted anxiety and stress, which accounted for an additional 8% and 7% of the variance, respectively, in the Indian sample and 8% and 9% of the variance, respectively, in the UK sample. Moreover, in the hierarchical regression analysis with seeking social support as the criterion variable, age and gender were not significant predictors in the Indian sample, whereas they were significant predictors in the UK sample. Upon entering, ikigai in the subsequent step, it appeared as a significant predictor (positive) of seeking social support strategy, explaining an additional 4% of variance in the Indian sample and 12% in the UK sample. Finally, age and gender did not significantly contribute to predicting the use of a distraction strategy in either sample. When ikigai was introduced in the second step, it accounted (positively) for an additional 11% and 3% of the variance in the Indian and UK samples, respectively.

Cross-Cultural Difference

Ten ANCOVAs were performed to assess cross-cultural differences in ikigai, well-being, depression, anxiety, stress, and behavioral emotion regulation strategies, while controlling for age and gender. Statistical assumptions were met, including correlations between dependent variables and covariates being $< .80$, and all dependent variables being normally distributed (skewness and kurtosis within ± 2 and ± 10 , respectively). Findings indicated no significant cross-cultural difference in ikigai ($F [1, 962] = 0.14, p = .706$), stress ($F [1, 962] = 2.90, p = .089$), ignoring strategy ($F [1.962] = 3.34, p = .06$), actively approaching strategy ($F [1.962] = 3.79, p = .05$), or seeking social support ($F [1, 962] = .013, p = .908$) between the Indian and UK samples (partial η^2 s < 0.2). In contrast, there were significant cross-cultural differences for well-being ($F [1.962] = 6.49, p < .01$), anxiety ($F [1.962] = 39.21, p < .001$), depression ($F [1.962] = 5.94, p < .05$), withdrawal strategy ($F [1.962] = 5.77, p < .05$), and seeking distraction strategy ($F [1.962] = 9.66, p < .01$). Specifically, the Indian sample reported a greater level of well-being, anxiety, and depression, whereas the UK sample exhibited a greater tendency to engage in withdrawal and seeking distraction strategies. All effect sizes were negligible to small, except for anxiety, which showed a small-to-moderate effect size.

DISCUSSION

The present study examined the psychometric properties of the English version of the Ikigai-9 (Fido et al., 2019) among emerging adults in India, with particular focus on assessing measurement invariance between Indian and UK samples and the comparison of levels of ikigai, well-being, and psychological distress across these groups.

Within our Indian sample, a CFA showed superior model fit of the Ikigai-9 to the original three-dimensional structure proposed by Imai et al. (2012) within their Japanese sample, compared to the unidimensional structure preferred in both Fido et al.'s (2019) UK and Belice et al.'s (2022) Turkish samples. Specifically, the three factors of: *optimistic and positive emotions toward life*, *positive attitudes toward one's future*, and *acknowledgement of the meaning of existence* (Imai et al., 2012). Of note, this finding follows a similar pattern to other translations of the Ikigai-9, including into French (Vandroux & Auzoult, 2022), German (Hajek et al., 2024), and Colombian Spanish (Vinaccia et al., 2026), which also

supported the three-dimensional model. This consistency supports the robustness and integrity of the tool, and enables reliable cross-cultural assessment of ikigai and result generalisability moving forward (Hajek et al., 2024). Interestingly, when we performed the CFA for the UK sample as a prerequisite to measurement invariance across these groups, the CFA for the UK sample also provided a better fit to the original model, indicating a potential unique finding in Fido et al. (2019). Of note, item 1 ("I often feel that I am happy") was initially hypothesised to load onto factor 1, however in this Indian sample, it loaded onto factor 2, and so there is a clear need for further use of the Ikigai-9 within Indian samples to both confirm/dispute our claims as well as to better understand whether item modification might be required to better capture the intended factor of "*optimistic and positive emotions toward life*" among Indian cohorts.

Subsequently, we examined measurement invariance of this three-factor model of ikigai across male and female participants, across Indian and UK samples. Measurement invariance, specifically, measures of configural invariance (indicating similar factor structures across gender and culture), metric invariance (meaning item loadings onto the factors are equivalent across groups), scalar invariance (indicating item intercepts are equivalent across groups), and strict invariance (showing equivalence of item residuals across groups) is an essential prerequisite for comparing group means given that it can impact data interpretation (Putnick & Bornstein, 2016). Our findings provided evidence of equivalence for the ikigai construct across gender and culture, demonstrating that the items had similar meanings for all groups, with practical implications in that any observed differences between males and females and/or between Indian and UK samples are not influenced by measurement bias. Though a positive step in that this study is the first to examine measurement invariance of the Ikigai-9, we recommend future studies to also employ Differential Item Functioning analysis in order to evaluate whether individual items exhibit differential functioning across countries. This methodology may more precisely identify whether revisions to specific items are warranted, as indicated by earlier discussions pertaining to the loading of item 1.

The findings provided evidence for adequate reliability of the Ikigai-9. Given the limitations of Cronbach's α the most widely used measure of internal consistency, we also used McDonald's ω , which is considered more robust (Ravinder & Saraswathi, 2020). The overall scale showed acceptable internal consistency, consistent with previous adaptation studies (Belice et al., 2022; Fido et al., 2019; Hajek et al., 2024; Vandroux & Auzoult, 2022; Vinaccia et al., 2026). However, subscale values were slightly below the ideal cut-off of .70 (Byrne, 2019; Collier, 2020; Ravinder & Saraswathi, 2020), ranging from .609 to .674; values which mirror the Colombian Spanish translation (Vinaccia et al., 2026) wherein they ranged from .640 to .715. Values between 0.60 and 0.70 are generally considered acceptable in exploratory research (Hair et al., 2019; Van Griethuijsen et al., 2015), as well as research in Indian samples (Nathawat et al., 2026). Therefore, we consider the Ikigai-9 to be a reliable instrument for assessing reasons for living or purpose in life among emerging adults in India.

We also examined convergent, divergent, and predictive validity across Indian and UK samples. Specifically, we delineated associations between a higher level of ikigai and [1] improved psychological

and emotional well-being, [2] greater use of adaptive emotion regulation strategies, and a lesser reliance on maladaptive behavioural strategies during stressful situations, and [3] fewer psychological symptoms such as depression, anxiety, and stress. These associations were observed in both Indian and UK participants, and align with previous uses of the Ikigai-9 (Belice et al., 2022; Fido et al., 2019; Hajek et al., 2024; Wilkes et al., 2022). Together, these correlational findings motivate interest in understanding whether developing a greater sense of purpose can contribute to reductions in avoidance tendencies, depression, and anxiety (Boreham et al., 2023). Such reductions may be possible as ikigai cultivates a sense of purpose, well-being, life satisfaction, social connectedness, and increased participation in recreation and employment (Ijeaku et al., 2025). Moreover, not having ikigai was associated with significantly higher odds of suicidal ideation among Japanese (Stickley et al., 2025). Although this was not explicitly explored in the present study, future Indian research may benefit by examining the association between ikigai and suicidal behaviour; pertinent given suicidal behaviour prevalence rates of 23.9% in a large community-based sample (Mahadevaswamy et al., 2026, in peer review) and 27.4% among college students in India (Nathawat et al., 2026).

After establishing measurement invariance, we also assessed differences in ikigai, well-being, psychological distress, and behavioural emotion regulation strategies across our Indian and UK samples. The Indian sample exhibited higher levels of well-being compared to the UK sample, which might be explained through individualistic cultures, such as those in the UK, US, and Australia emphasizing self-reliance and the pursuit of personal goals, while collectivistic cultures, such as those in India, Japan, and Indonesia emphasizing group membership, loyalty, and interdependence (Humphrey et al., 2025). In practice, such membership might contribute to variations in well-being, social connectedness, happiness, and practices that nurture physical and psychological health are shared values that play a role in fostering psychological health (Humphrey et al., 2025). Such membership is engrained into all aspects of life, such as parenting styles and social support networks may influence their mental health compared to English participants' (Dogra et al., 2013), as these factors can shape coping mechanisms and access to resources that support mental well-being. Social support is essential for well-being, as it alleviates psychological stress by fostering and maintaining social connections which in turn sustain and enhance both mental and physical health and has important implications for parenting practices and, consequently, for children's development (Hosokawa & Katsura, 2024). Additionally, Indian traditions, such as the Vedas, Upanishads, Bhagavad Gita, and Ayurveda, approach mental health holistically by integrating physical, mental, and spiritual well-being and offering advice on balanced living, fostering mental peace, and managing psychological problems (Bhati et al., 2025), and as such, living within a collectivist culture may promote mental health by enhancing self-regulation and cognitive fluency, and by providing greater social support during adversity (Rajkumar, 2023).

However, it should be noted that depression and anxiety were higher among Indian participants than UK participants, potentially reflecting significant burden of mental health issues among these young adults. This is consistent with the high risk of mental health problems in emerging adults, such as anxiety (69.9%), depression (59.9%), loss of behavioral/emotional control (65.1%), and distress (70.3%) (Suresh & Dar, 2025). Contributing factors may include academic pressure, social isolation, stigma, economic

uncertainty, increased screen time, sedentary lifestyles, and pandemic-related stressors (Suresh & Dar, 2025). Additionally, compared to the Indian sample, the UK sample showed a greater tendency to withdraw, removing oneself from situations and social contacts, and to seek distraction, diverting attention from emotions by engaging in other activities to cope with stressful events (Kraaij & Garnefski, 2019). While seeking distraction is generally considered an adaptive coping strategy associated with enhanced well-being, withdrawal appears to be less beneficial and has been consistently linked to higher levels of depression and anxiety across cultures (Kato et al., 2025). Previous research further supports these findings, showing that individuals in the UK use a combination of both adaptive and maladaptive coping strategies. For instance, strategies such as avoiding negative COVID-19-related news, engaging in meditation, and participating in gaming activities have been reported (Ogueji et al., 2022). Although withdrawal is generally regarded as unhelpful, it may occasionally be beneficial in the short term, such as during intense interpersonal conflicts when temporarily removing oneself may help de-escalate the situation. However, persistent reliance on withdrawal may prove maladaptive, as individuals may not develop effective stress management skills and could experience ongoing difficulties.

Limitation and Future Directions

The present study represents the first Indian study to assess the psychometric properties of the Ikigai-9 among emerging adults and provides initial evidence of measurement invariance across cultures. With a 107:1 item-to-subject ratio, the sample size enhances the robustness of the findings. We employed the classical test theory (CTT) approach to provide psychometric evidence, as literature indicates that CTT is generally better compared to modern item response theory at correctly detecting changes in individuals when the scale has fewer than 20 items (Jabrayilov et al., 2016). Despite these strengths, a few limitations must be noted. First, the cross-sectional design precludes causal inference; therefore, future studies should employ a longitudinal design to better examine causal relationships between ikigai and health outcomes. Second, this study did not account for the presence of psychiatric conditions, which may influence the findings, given that emerging adults are at high risk for mental health conditions (Arnett et al., 2014; Suresh & Dar, 2025). Third, the study did not assess test-retest reliability, which is essential for evaluating the temporal stability of the Ikigai-9. Rather than measuring test-retest reliability via intra-class correlation, we propose that future studies could use measurement invariance to assess the scale's stability over time. As the current study used the English version of the Ikigai-9, future research may also focus on translating and adapting it to Indian vernacular languages for use with other language-speaking populations. Additionally, future studies may benefit from evaluating its psychometric properties among older adults in India, considering the extensive Japanese literature focused on enhancing ikigai in this population and the associated health risks.

Implications

The current study's findings have several key implications. First, the Ikigai-9 can be used to identify whether individuals possess or recognise sources of ikigai, which may help enhance their reason for living. Second, interventions that focus on increasing the sense of purpose in ones' life may be

particularly beneficial for those exhibiting mental health issues as strengthening Ikigai may help individuals respond adaptively to adversity, as the study found Ikigai significantly predicted psychological distress and maladaptive coping strategies. Third, an integrated cognitive-motivational model of Ikigai using an Input-Process-Output framework can be applied to clarify how dispositional and situational factors support ikigai, which in turn leads to positive outcomes such as well-being (Sartore et al., 2023).

Conclusions

The study found that the English version of the Ikigai-9 is a reliable and valid tool for assessing the reason for living or purpose in life among emerging adults in India. Supporting the original three-factor model proposed by Imai et al. (2012), rather than the unidimensional structure by Fido et al. (2019), the Ikigai-9 also demonstrated equivalent functioning across genders within the Indian sample and across countries (India vs. the UK), reducing measurement bias. Furthermore, ikigai was found to significantly predict well-being, psychological distress, and behavioral emotion regulation strategies in both Indian and UK samples. Notably, Indian participants reported greater levels of well-being and psychological distress, whereas UK participants reported greater use of withdrawal and distraction-seeking strategies.

Declarations

Conflicts of Interest:

The authors declare that there are no conflicts of interest.

Ethical Statement

The research received approval from the Institutional Ethics Committee (No./MGMC&H/IEC/JPR/2025/4956, dated 09/09/2025). Digital informed consent was obtained from all participants prior to their participation in the study.

Consent for publication:

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Author Contribution

Mahadevaswamy, M: conceptualization, methodology, formal analysis, writing – original draft, writing – review and editing. Dean Fido: conceptualization, methodology, data collection, supervision, writing – review, and editing. Sneha Nathawat: conceptualization, methodology, data collection, supervision, writing – review and editing. Gunjan Bhutani: conceptualization, data collection, writing – review, and editing. Kritika Mall: conceptualization, data collection, writing – review, and editing.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request and with approval from the institute's ethics committee.

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Figures

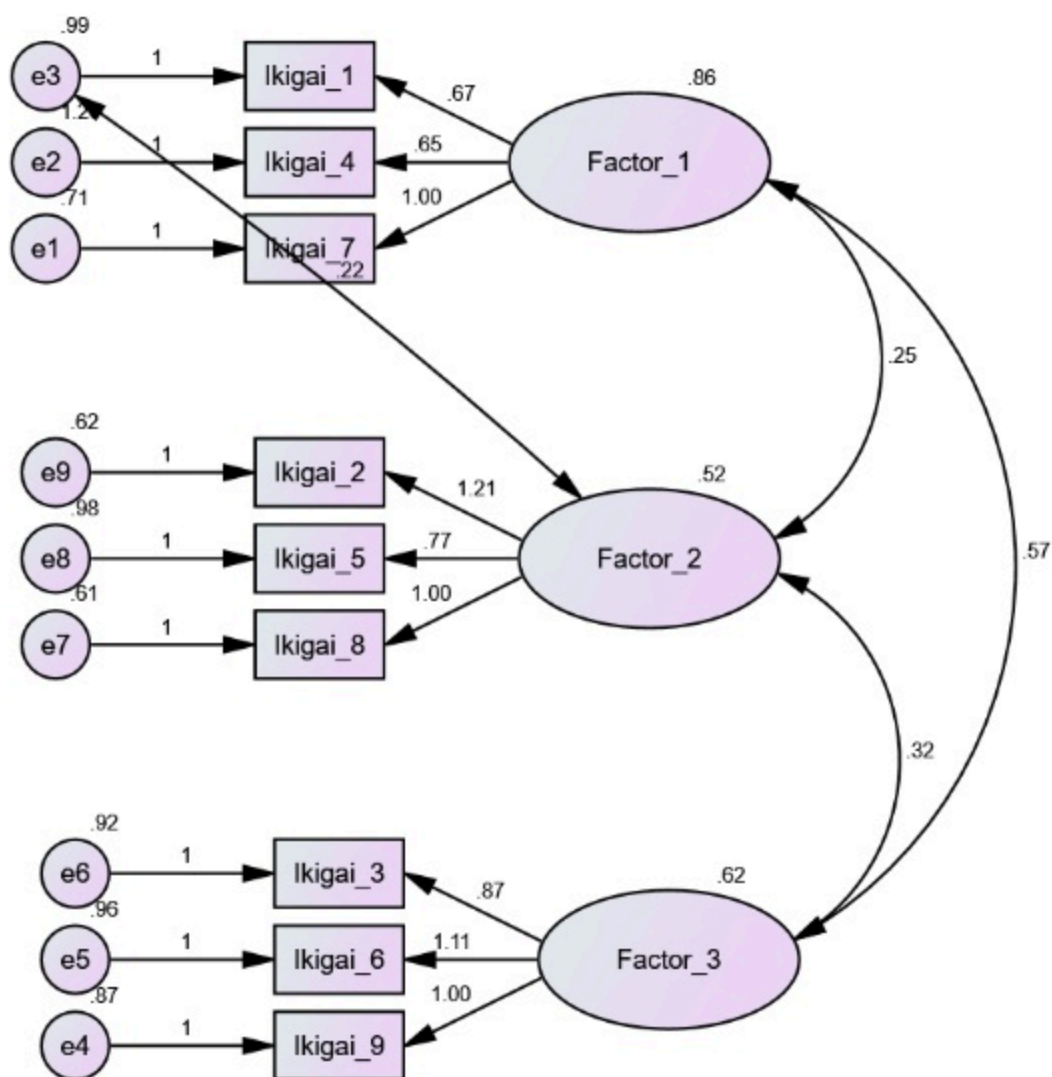


Figure 1

Three factor model of the Ikigai-9

Supplementary Files

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- [SupplementaryTableS1.docx](#)