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## Contextualising High School English Teachers' Well-Being in China: Validating and Extending PERMA in the Chinese School Context

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### Abstract

As language teacher well-being research has grown in popularity in the past decade, different models of conceptualisation and measurement have emerged, with PERMA being one of the most widely cited in the literature. However, its validity and suitability for the Chinese school context remain unclear. This study aims to validate and extend PERMA by contextualising it among high school English teachers in China. Data were collected from 408 teachers through an online questionnaire that included demographic information, the PERMA Profiler, and an open question. Confirmatory factor analysis was conducted to examine the cross-cultural validity and reliability of PERMA, and thematic analysis was used to identify new elements in well-being conceptualisation. The findings revealed complex results of the cross-cultural validity of PERMA. Answers to the open question extended the original conceptualisation of PERMA and revealed three new well-being concepts: low-arousal emotions, security and mindfulness. Implications for enhancing the use of PERMA among language teachers and for improving language teacher well-being are discussed.

**Keywords:** *Language Teacher Well-Being, Well-Being Conceptualisation, PERMA, Cross-Cultural Validation, Teacher Professional Development*

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## **<sup>1</sup>Introduction**

Language teacher well-being research has grown in popularity (Dewaele et al., 2019; Gregersen & Mercer, 2021), and diverse findings show that it greatly affects students' academic achievement (Babic et al., 2022; Proietti Ergün & Dewaele, 2021) and teachers' professional learning (Mercer, 2021; Mercer & Gregersen, 2020). However, a universal definition of language teacher well-being is still lacking due to diverse disciplinary traditions and interests (Longo et al., 2017; Sulis et al., 2021). Nonetheless, it is acknowledged that a holistic understanding of language teacher well-being should include both hedonic and eudaimonic perspectives (Greenier et al., 2021; Talbot, 2021). In response to this, Seligman (2011) developed the PERMA model of well-being which included five elements: positive emotions, engagement, relationships, meaning and accomplishment. This model has been widely applied in research carried out in different contexts (Chaves et al., 2023; de Carvalho et al., 2023; Pezirkianidis et al., 2021) to understand the well-being of language teachers (see also MacIntyre et al., 2019; Shin et al., 2021; Yong et al., 2020).

Despite the popularity of PERMA, its contextual and cultural feasibility for investigating language teacher well-being in the Chinese context remains unclear (Oxford, 2016). Most studies using PERMA in Chinese foreign language education have not examined its cross-cultural validity (Yong et al., 2020; G. Zeng et al., 2019) and tended to focus on college language teachers (e.g., Yong et al., 2020) or teachers in other curriculum subjects (G. Zeng et al., 2019). In contrast, high school language teachers are typically not included in research despite that their well-being is constantly affected by curriculum reforms (Yan, 2012; Zheng & Borg, 2014; Han, 2022). In view of these gaps, this research aims to investigate the contextual appropriateness and feasibility of using PERMA to study language teacher well-being in China with a specific focus on high school English teachers.

## **Literature Review**

### *Understanding Language Teacher Well-Being with PERMA*

Defining language teacher well-being is challenging (Linton et al., 2016; Talbot, 2021). Different models have been applied in researching language teacher well-being, building on ideas such as subjective well-being (SWB) (Busseri & Sadava, 2011; Diener et al., 2018) and psychological well-being (PWB) (Ryff, 2014). Despite the diverse approaches, well-being is generally seen as multidimensional (Dodge et al., 2012; Sulis et al., 2021) and includes hedonic and eudaimonic aspects (Joseph, 2015; Sheldon et al., 2019). From a hedonic perspective, well-being means the presence of positive affect and the reduction of negative emotions, including aspects such as life satisfaction, comfort and enjoyment (Disabato et al., 2016; Fredrickson, 2013). On the other hand, a eudaimonic view of well-being emphasises meaning, autonomy and authenticity, self-actualisation and excellence (Aristotle, 2001; Huta & Waterman, 2014). Most prior research has focused on either hedonic or eudaimonic aspects of well-being (e.g., Han, 2022; Kong, 2021; Kurt et al., 2021). However, the comprehensive PERMA model (Seligman, 2011), which includes both elements (Jayawickreme et al., 2012), has emerged as a dominant model for studying language teacher well-being.

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PERMA represents five components of well-being: positive emotions, engagement, positive relationships, meaning and accomplishment. **Positive emotions**, such as happiness, pleasure and comfort, can enhance teachers' work engagement and job satisfaction, helping them combat negative experiences (Diener et al., 2020; Dreer, 2021; S. Yang et al., 2022). **Engagement** means a subjective state of 'flow' (Csikszentmihalyi, 2008), where teachers concentrate on their work and '[s]elf-consciousness disappears, and the sense of time becomes distorted' (Csikszentmihalyi, 2008, p.71). Engaged teachers can foster their professional success and students' engagement and motivation (Cardwell, 2011; Pepe et al., 2021). **Positive relationships** involve having warm and trusting relationships with students, co-workers and principals (Ryff, 2014), which is crucial for promoting teacher's well-being and reducing stress (Travers, 2017; Veronese et al., 2018). **Meaning** aims to understand how teachers interpret their work as a professional and their actions and decisions in carrying out their responsibilities (Huta, 2016; Steger, 2012). Finding the true meaning in teaching helps them buffer adversity and improve their engagement and resilience (Lavy & Bocker, 2018; Wingerden & Poell, 2019). **Accomplishment** refers to objective professional success and subjective feelings of competence (Butler & Kern, 2016; Seligman, 2011), promoting better work engagement and student achievement (Frenzel, 2014; Skaalvik & Skaalvik, 2013).

In order to measure well-being with PERMA, the PERMA Profiler was developed (Butler & Kern, 2016), which, apart from the five core dimensions, included additional dimensions of health, negative emotions, loneliness and overall happiness. The health dimension measures both subjective perceptions ('How satisfied are you with your current physical health?') and objective comparisons ('Compared to others of your same age and sex, how is your health?'). Negative emotions (sadness, anger, anxiety) and loneliness are also added to achieve a more holistic understanding of well-being. Research indicates that positive and negative emotions function as independent components which are intertwined with each other rather than exist as opposite entities on a single continuum (Dewaele et al., 2016; MacIntyre, 2021).

#### *The Need for Contextualising Language Teacher Well-Being and PERMA*

Overall, PERMA and the Profiler have been widely used to study well-being in second language education (e.g., MacIntyre et al., 2019; Shin et al., 2021; Włosowicz, 2016). Despite its widespread use in foreign language learning and teaching research, the validity of PERMA and the Profiler, in terms of the cultural appropriateness and conceptual coverage, deserves further investigation in the Chinese context (Oxford, 2016). Although the research using PERMA in Chinese educational contexts has increased (e.g., P. Yang, 2021; G. Zeng et al., 2019), most have not examined its cross-cultural validity. Even when cross-cultural validity is the research focus (e.g., Yong et al., 2020), culture- and context-specific well-being concepts beyond PERMA are not discussed. This is a major oversight because contextual factors significantly influence well-being (Lomas & Ivztan, 2016; Martela & Sheldon, 2019; Mercer, 2021), which can vary across cultures and professional traditions. For example, in a study by Khaw and Kern (2014) which aims to investigate the validity of PERMA in Malaysia, the researchers found that religion and security were considered essential to well-being in addition to the five elements of PERMA. Second, most PERMA research has focused on Chinese college language teachers or teachers of other curriculum subjects (Yong et al., 2020; G. Zeng et al., 2019), while high school language teachers, despite the constant challenges they face in

the multiple demands of curriculum reforms, are by and large ignored (Yan, 2012; Zheng & Borg, 2014). With this in mind, this study specifically focuses on high school English teachers in China and aims to address two questions:

**RQ1:** Is PERMA a valid and reliable model for understanding high school English teachers' well-being in China?

**RQ2:** What new elements of well-being additional to the PERMA model are identified by Chinese high school English teachers which enrich the original conceptualisation of PERMA?

### Methodology

This research adopts a mixed-methods approach to understanding the cross-cultural validity of PERMA. The analysis draws upon both quantitative and qualitative data and holistically examines the suitability of PERMA for investigating the well-being of Chinese high school English teachers (Leech & Onwuegbuzie, 2009). Employing a convergent design (Creswell & Plano Clark, 2017), data were collected via an online questionnaire (Dillman et al., 2014), including demographic information, the PERMA Profiler, and an open question.

### Participants

To achieve representativeness (Cohen et al., 2018), a combination of simple random sampling and snowball sampling strategies was adopted (Fetters & Molina-Azorin, 2017; Marshall & Rossman, 2016). First, simple random sampling was used and a variety of schools across China were contacted and invited for participation. Regarding snowball sampling, high school teachers known to the researcher were invited to complete and help spread the questionnaire.

Overall, 408 questionnaires were received. Table 1 presents teachers' demographic information. Most teachers were female ( $n = 332$ , percent = 81.4%) under the age of 40 ( $n = 312$ , percent = 76.5%). Responses were mainly obtained from teachers in the southern ( $n = 128$ , percent = 31.4%) and eastern parts of China ( $n = 81$ , percent = 19.9%). Over half of the teachers had less than ten years of teaching experience ( $n = 253$ , percent = 62.0%), and most worked in public high schools ( $n = 299$ , percent = 73.3%) teaching Year 10 ( $n = 218$ , percent = 45.1%).

**Table 1**

*Teacher Participants' Demographic Information*

		n	%
Gender	Female	332	81.4
	Male	69	16.9
	Other	1	0.2
	I don't want to tell	6	1.5
	Total	408	100.0
Geographic Location	Northeast China	38	9.3
	Northern China	41	10.0
	Central China	44	10.8
	Eastern China	81	19.9
	Southern China	128	31.4
	Northwest China	5	1.2
	Southwest China	71	17.4
	Total	408	100.0
Age	20-30	166	40.7

	31-40	146	35.8
	41-50	62	15.2
	51-60	34	8.3
	Total	408	100.0
Years of Teaching	1-5	154	37.7
	6-10	89	21.8
	11-15	52	12.7
	16-20	37	9.1
	21-30	42	10.3
	Over 30	24	5.9
	Less than 1 year	10	2.5
	Total	408	100.0
School Type	Public High School	299	73.3
	Private High School	53	13.0
	International High School	25	6.1
	Other (Please Specify)	31	7.6
	Total	408	100.0
Teaching Grade <sup>1</sup>	Year 10	218	45.1
	Year 11	153	31.7
	Year 12	107	22.2
	Other (Please Specify)	5	1.0
	Total	483	100.0

1. Teachers might teach multiple grades. Dichotomy group tabulated at value 1.

### *Instrument and Data Collection*

The research instrument is a three-part questionnaire. The first part gathered basic demographic information of the teachers, including gender, age, geographical locations, years of teaching, school type and teaching grade. In addition, they also completed the PERMA Profiler, a 23-item psychometric test with 15 items organised around five core PERMA components (positive emotions, engagement, relationship, meaning, accomplishment); the remaining eight items were designed for measuring four additional dimensions of health (e.g. ‘Overall, how is your health condition?’), negative emotions (e.g. ‘How often do you feel anxious?’), loneliness (‘How lonely do you feel in your daily life?’) and overall happiness (‘Overall, how much happiness do you experience?’). Teachers rated their well-being on an 11-point Likert-type scale, ranging from 0 (e.g., ‘not at all’ and ‘never’) to 10 (e.g., ‘complete’ and ‘always’). Acceptable psychometric proprieties were demonstrated in the scale development (Butler & Kern, 2016). Finally, teachers were invited to answer an open-ended question (‘Do you have other understandings of well-being other than those in the questionnaire? If so, please specify’) and to share their insights on well-being which are not covered by the PERMA Profiler.

The original PERMA Profiler is presented in English. Although a Chinese version is provided on the official website (Kern, 2015), no validation study has been carried out to examine its validity. Therefore, the first step was to develop a valid Chinese version following the translation procedure widely used in cross-cultural questionnaire validation research (see Ballangrud et al., 2017; Tsang et al., 2017). Three professionals, including a professional translator with ten years of experience, a certified translator, and a translation graduate, did independent back translations for the Chinese version of the PERMA Profiler provided on the

official website. The first author then discussed the translated English version with each translator individually, followed by a group discussion to finalise the translation. Although no items were deleted, the wording of certain items was adjusted to achieve readability and accessibility among Chinese speakers. For instance, the expression ‘lose track of time’ in E3 was translated into a Chinese idiom 废寝忘食 (*Fei Qin Wang Shi*), meaning that one gets so obsessed with work that she/he forgets to take food and have rest. In a pilot test, the translated Profiler was trialled with 171 high school English teachers, achieving a Cronbach’s  $\alpha$  value of 0.884 for the scale, thus revealing good reliability for use in the final research (DeVellis & Thorpe, 2021; Hair et al., 2014).

The questionnaire was distributed through a Chinese questionnaire design webpage 问卷网 (*Wenjuanwang*). Informed consent was obtained, and the research purpose, data handling procedures, and issues of privacy and confidentiality were introduced at the beginning. Only by agreeing to these conditions could the participants proceed to the questionnaire. After completing the questionnaire, participants were promised to be able to see their PERMA Profiler scores, which helped to increase the response rate.

### *Data Analysis*

The analysis focused on the 15 PERMA items to examine the cross-cultural validity and reliability. The original PERMA Profiler proposed a five-factor structure (Butler & Kern, 2016), with three items for each of the five well-being factors: P (positive emotions), E (engagement), R (relationship), M (meaning) and A (accomplishment). Quantitative data were analysed with factor analysis and reliability tests; qualitative data were analysed using thematic analysis to identify recurring themes and patterns (Creswell & Creswell, 2017).

First, confirmatory factor analysis was carried out using AMOS 26.0 to examine whether the data could confirm the five-factor structure of PERMA (Dambi et al., 2018). The analysis generated two models for model fit comparison (Pezirkianidis et al., 2021; Wammerl et al., 2019). The first was a first-order model of five factors proposed by Butler and Kern (2016); the second was a second-order model with five PERMA factors loaded on a latent variable named ‘well-being’. Two models were assessed with reference to the goodness of fit. Important indices include:  $\chi^2$  less than 3 represents a good model fit; RMSEA values of 0.05 or below indicate a good fit; those between 0.06 and 0.08 denote an acceptable fit, and values exceeding 0.10 indicate a poor fit. SRMR value should be lower than 0.08 to indicate a good fit; comparative fit index (CFI) and Tucker Lewis Index (TLI) above 0.90 indicate a good fit, and values exceeding 0.95 mean an excellent fit (Hu & Bentler, 1999; Kline, 2015).

Second, convergent and discriminant validity were examined using a within-group approach (Li et al., 2022). Convergent validity, which requires indicators of a particular construct to ‘converge or share a high proportion in common’ (Hair et al., 2014, p. 618), was assessed by calculating the average variance extracted (AVE) which should be more than 0.50 (Awang, 2012). Discriminant validity, on the other hand, requires each of the five PERMA constructs to be genuinely different from one another (Hair et al., 2014). It was assessed by the Fornell-Larcker criterion (Fornell & Larcker, 1981), requiring that the square root of AVE for each PERMA construct exceeds its correlations with other constructs. Finally, reliability was assessed by Cronbach’s  $\alpha$ . Values higher than 0.90 indicate excellent internal consistency,

between 0.80 and 0.90 a good fit, and between 0.70 and 0.80 an acceptable fit (DeVellis & Thorpe, 2021; Hair et al., 2014).

Answers to the open question in the questionnaire were subjected to thematic analysis (Creswell & Creswell, 2017) with NVivo 12.0. All answers were collected in a Word file, and both researchers familiarised themselves with these answers through repeated reading. In the first phase, each researcher separately conducted coding of teachers' responses and used words that represented the core idea of their comments as codes, e.g., positive relationships with students and professional accomplishment. All codes were then collated to seek common themes and categories. In the second phase, the researchers had several rounds of meetings to discuss, check and validate all codes generated. A consensus was achieved and two major themes were distilled, focusing on elaborations on PERMA and new well-being concepts respectively.

## **Results**

### *Validity and Reliability of the PERMA Profiler*

#### *Confirmatory factor analysis*

First, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were performed to assess whether the data were suitable for factor analysis (Kline, 2015). The result of KMO (.963) revealed strong relationships among the variables, and Bartlett's Test of Sphericity was significant ( $\chi^2(253) = 6865.91, p = 0.000$ ), allowing for further analysis. Afterwards, the model fit indices of the two models were compared. As shown in Table 2, the original first-order model showed a slightly better fit than the second-order model, which was therefore chosen for subsequent analysis.

Concerning the five-component structure model, the results were complex. According to Table 2, the  $\chi^2$  ratio was 5.01 and statistically significant, which is not acceptable. The RSMEA value was 0.099 and statistically significant, and therefore acceptable. The SRMR value was .0426, indicating a good model fit. The results of other indices, including TLI, CFI, NFI and IFI, were all larger than 0.90, also suggesting a good model fit.

**Table 2**

*Confirmatory Factor Analysis Fit Indices for the First-Order and Second-Order Models for PERMA*

	$\chi^2$	$\chi^2/p$ value	df	$\chi^2/df$	RMSEA	RSMEA <i>p</i> value	SRMR	TLI	CFI	NFI	IFI
1st order	400.54	.000	80	5.01	0.099	.000	0.0426	0.902	0.925	0.909	0.926
2nd order	427.62	.000	85	5.03	0.090	.000	0.0449	0.901	0.920	0.902	0.920

**Table 3**

*Average Variance Extracted (AVE), the Cronbach's  $\alpha$  and the Discriminant Validity for PERMA*

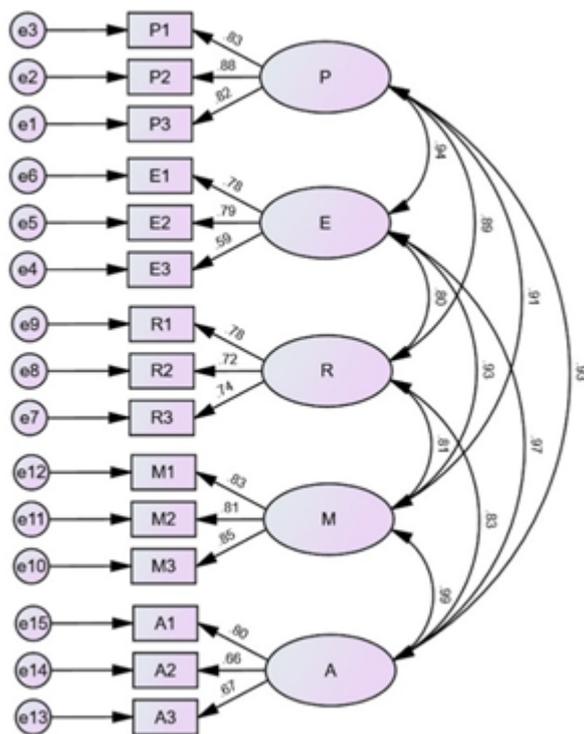
	AVE	Cronbach's $\alpha$					
			P	E	R	M	A
P	0.716	0.925	1				
E	0.53	0.925	0.751**	1			
R	0.561	0.926	0.744**	0.612**	1		
M	0.691	0.925	0.793**	<b>0.749**</b>	0.667**	1	
A	0.507	0.925	0.759**	<b>0.730**</b>	0.657**	0.795**	1
The square root of AVE			0.846	0.728	0.749	0.831	

\*\* indicates a significant level of 0.001

Factor loadings for the 15 PERMA items and intercorrelations among the five components were also examined. According to Figure 1, the loadings of all 15 items exceeded 0.50 and ranged from 0.59 to 0.88, indicating acceptable loadings (Tabachnick & Fidell, 2014). Additionally, intercorrelations among the five constructs were relatively high and ranged from 0.8 to 0.99.

**Figure 1**

*Standardised Confirmatory Factor Analysis (CFA) Model*



*Convergent, discriminant validity and reliability*

Convergent validity was evaluated by calculating the average variance extracted (AVE). As presented in Table 3, the AVE results were all larger than 0.50 and ranged from 0.507 to 0.716, indicating acceptable convergent validity (Awang, 2012). For discriminant validity, it was problematic to discriminate between Engagement and Meaning, as well as between Engagement and Accomplishment. Other results met the Fornell-Larcker criterion (Fornell & Larcker, 1981) since the square root of AVE for each construct was larger than the construct correlations (see Table 3).

Reliability was assessed with reference to Cronbach’s  $\alpha$ . The results showed excellent reliability for the scale, with Cronbach’s  $\alpha$  being 0.93 and statistically significant. The reliability of each PERMA component was also acceptable, and all values were higher than 0.7, ranging from 0.925 to 0.926 (see Table 3).

*Answers to the open question*

In the open question, teachers were invited to share insights about well-being in addition to the elements captured by the PERMA Profiler. Overall, 59 teachers completed the open question and noted additional elements of well-being. Findings revealed that PERMA was not

exhaustive, which can be shown in teachers' elaborations on the PERMA components and new well-being concepts. Teachers' quotes were selected to illustrate the themes identified. Due to anonymity, the participants were numbered according to the order in which they completed the questionnaire.

#### *Elaboration on the PERMA components*

First, teachers' responses aligned well with PERMA, but they elaborated more on positive relationships, accomplishment and health. Positive relationships were vital to teachers, as 'well-being means whether one can often see and be with the beloved' (Teacher 326) and 'well-being also comes from intimate relationships' (Teacher 89). Teachers' elaboration on positive relationships was shown in two aspects. First, teachers specified different people with whom they enjoyed positive relationships. They first mentioned personal relationships with family and friends, e.g., 'a satisfactory relationship with family members' (Teacher 140) and 'stay in harmony with family and friends' (Teacher 278). In addition, teachers also mentioned positive workplace relations; for instance, 'well-being depends on the relationships with students, colleagues and administrators' (Teacher 157). Second, teachers noted the importance of feeling needed and contributing to interpersonal relations. For them, positive relationships depended not only on receiving support and love but also on a feeling of 'being needed, recognised and accepted' (Teacher 305). According to them, 'whether one can help others and feel happy about this' (Teacher 17) and 'to contribute and care about others' (Teacher 83) will contribute to their well-being. These insights enrich the PERMA model by acknowledging the significance of mutual support and empathy in fostering well-being (Diener et al., 2010).

Meanwhile, teachers also elaborated on accomplishment and health. Besides reaching a specific goal (e.g., 'having a successful career', Teacher 167), the accomplishment of being a teacher also meant that 'students made academic progress' (Teacher 308) and 'whether I have helped students reach their best levels' (Teacher 249). Regarding health, teachers provided more details on objective health conditions, including sleep ('the ability to get into sleep quickly and have a good rest', Teacher 332) and dietary habits ('being able to have three proper meals every day', Teacher 11).

#### *Additional components in well-being conceptualisation*

New well-being components not captured in PERMA were also identified in teachers' answers to the open question, centring around three concepts, i.e. low-arousal emotions, security, and mindfulness. Apart from the positive emotions, some teachers regarded their experience of low-arousal emotions (Sheldon et al., 2019) such as peace and tranquility (Teacher 296, 318, 13) as integral to their well-being. Security (Kasser, 2009) was also highlighted as a vital aspect, encompassing not only 'safety, stability and no crisis' (Teacher 251) but also when 'basic needs in life are satisfied' (Teacher 338). Notably, financial stability was a dominant topic under the security theme. As some suggested, 'sufficient economic capabilities' (Teacher 330) and 'the ability to distribute your wealth' (Teacher 53) are the basis of well-being.

Finally, mindfulness emerged as a significant theme in teachers' well-being conceptualisations. Being mindful involves a non-judgemental awareness of the external and internal worlds, which promotes well-being by increasing positive attitudes such as gratitude and contentedness (Kabat-Zinn, 2003, 2015). For them, being mindful means paying attention

to what is already there and showing gratitude (Emmons & Mishra, 2011; Turinas et al., 2023). Some alluded to various incidents and commented on ‘whether one can be touched by small things in life’ (Teacher 326) and ‘the ability to cherish and stay grateful’ (Teacher 30). Meanwhile, being mindful entailed ‘to explore the internal world’ (Teacher 215). As said by one teacher, ‘Well-being is when having stayed in a boisterous environment for some time, one can calm down to be aware and see the self’ (Teacher 57). Additionally, whether such self-understandings were authenticated by acceptance (Lindsay & Creswell, 2019; Troy et al., 2018), i.e., ‘whether one can accept oneself’ (Teacher 150), was also vital to well-being.

## Discussion

Overall, this study revealed complex results in the analysis of the cross-cultural validity of PERMA. The quantitative findings indicated issues in the model fit and discriminant validity, and qualitative data suggested that new well-being components should be incorporated into the well-established PERMA model. The findings should be interpreted with caution, as the contextual and cultural appropriateness of PERMA might significantly impact the results of research on teachers’ well-being in the Chinese context.

*RQ1: Is PERMA a valid and reliable model for understanding high school English teachers’ well-being in the Chinese context?*

This research has revealed complex results regarding the validity of using PERMA to measure the well-being of high school English teachers in the Chinese context. Although the results confirmed the original five-factor structure of the PERMA Profiler, the correlations among factors were relatively high, ranging from 0.8 to 0.99. In line with the findings from previous research (Giangrasso, 2021; Pezirkianidis et al., 2021), this study found that although the five PERMA constructs can be measured separately, they seemed to show high correlations. This could be partly explained by the homogeneity of the sample, consisting solely of high school English teachers. Another reason could be that teaching is seen as a human-oriented profession (Maslach & Leiter, 2016) involving close interactions with students, colleagues, and administrators at different levels; thus, different components of teacher well-being could be closely related. As shown in the responses to the open question, teachers regarded students’ academic progress as part of their accomplishment. Moreover, maintaining a positive relationship and closeness with students is also a source of teacher accomplishment (Corbin et al., 2019; Milatz et al., 2015).

Second, the cultural differences in interpreting the concept of engagement should also be noted. Different from previous research (Chaves et al., 2023; de Carvalho et al., 2023; Pezirkianidis et al., 2021), the engagement subscale in this research demonstrated acceptable psychometric proprieties, which is consistent with the findings of Yong et al.’s (2020) validation study among Chinese and Indonesian college English teachers. This may be explained by the fact that engagement can be interpreted differently according to cultural contexts, as most research that found issues in psychometric proprieties of the engagement subscale has been conducted outside Asia. However, this does not prove that the interpretation of engagement in the Chinese context is the same as that proposed by Seligman (2011). For example, in one study conducted in China that used PERMA to examine the well-being change of English teachers from underdeveloped areas, the teachers interpreted engagement as ‘the

resource commitment of invested time and money' (Wang & Chen, 2022, p. 6). Compared to the original conceptualisation of engagement as absorption and concentration (Csikszentmihalyi, 2008), this interpretation is more in line with the definition of teacher engagement or work engagement, conceived as cognitive and emotional commitment and willingness to allocate resources to tasks (Klassen et al., 2013; Pei et al., 2022). Therefore, it is useful to understand whether such varied interpretations of engagement also manifest among high school English teachers through qualitative data.

This study has also found discriminant issues among the five PERMA components, which concurred with previous research (Chaves et al., 2023; Pezirkianidis et al., 2021). However, currently, no research on language teacher well-being has revealed discriminant validity issues between Engagement and Meaning as well as between Engagement and Accomplishment. Therefore, it is useful to consider exploring explanations for the discriminant validity issues through other data sources in the future.

*RQ2: What new elements of well-being additional to the PERMA model are identified by Chinese high school English teachers which enrich the original conceptualisation of PERMA?*

Findings also showed teachers' unique understanding of well-being. Participants not only expanded the interpretation of PERMA but also added three new well-being elements to the model, including low-arousal emotions, security and mindfulness. The results highlighted the importance of considering culture and context when studying language teachers' well-being (Mercer, 2021). First, the results revealed that teachers value both receiving support and, more importantly, contributing to harmonious relationships. The importance of being able to contribute reflects Chinese interpretations of well-being that are influenced by cultural traditions emphasising interpersonal relationships and societal contributions (Yu et al., 2016; H. Zeng & Guo, 2012; Zhang et al., 2011). Second, the importance of low-arousal emotions, including peace and tranquility, also reveals the cultural differences in interpreting well-being. Compared to Western participants who regard high-arousal emotions such as excitement as vital to their well-being, people from the East also consider low-arousal emotions, such as calmness and contentment, to be essential for their well-being (Lim, 2016; Liu et al., 2018). This cultural distinction is also evident in another research (Lu and Gilmour, 2004) which compared American and Chinese understandings of happiness, where American participants prioritised hedonic satisfaction, while Chinese participants exhibited a more solemn and calm attitude.

Therefore, it is helpful to reconsider the conceptual coverage of PERMA when researching language teachers' well-being in China. The PERMA Profiler is intended to assess the well-being of individuals from diverse backgrounds rather than just high school English teachers, potentially ignoring details such as relationships in the workplace and students' accomplishments. However, the lack of concreteness in scale questions may stem from the fact that descriptions of well-being items might be specific to certain cultural traditions and, therefore, more abstract wordings are preferable in scale development. Diener et al. (2010) suggest that using general feelings rather than specific emotions can capture important feelings valued in specific cultural contexts. Nonetheless, this provides clear justifications for modifying PERMA to cater to the needs of Chinese high school language teachers. The extent

to which this model and its psychometric test can be used to study well-being in other sociocultural contexts should also be carefully considered.

### **Conclusion**

The current research aimed to validate the PERMA model and extend its well-being conceptual coverage based on data derived from high school English teachers in China. The analysis focused on examining the cross-cultural validity and reliability of PERMA as well as exploring new well-being elements in addition to the five core components in the original model (i.e. positive emotions, engagement, positive relationship, meaning, accomplishment). The analysis showed complex results, particularly with regard to the discriminant validity issues between Engagement and Meaning as well as between Engagement and Accomplishment. Meanwhile, PERMA's conceptual coverage needs further investigation. As the research shows, teachers provided more detailed interpretations of different aspects of the PERMA model and considered low-arousal emotions, security and mindfulness as essential to their well-being.

Several implications can be drawn from the study. For future research, considering the insufficient discriminant validity between Engagement and Meaning as well as between Engagement and Accomplishment, it is useful to investigate the intersectionality of these constructs among this specific population. Additional qualitative methods, similar to the open question in this research, could offer a more nuanced understanding of these reasons. Second, new interpretations of the PERMA, along with the newly identified well-being components, provide a strong empirical basis informing the development of a context-sensitive well-being model for high school language teachers in China. The research also has practical implications for teacher development. Findings derived from the answers to the open question have shown that the PERMA components and the new well-being elements, including low-arousal emotions, security and mindfulness, could have a combined effect on teachers' well-being, which justifies the need for a multi-faceted and integrated intervention model for improving teacher well-being. For example, mindfulness interventions for teachers can enhance their well-being (Hidajat et al., 2023; Yuan et al., 2020) by fostering a meta-awareness of the cognitive and emotional processes, facilitating work engagement (Leroy et al., 2013; Malinowski & Lim, 2015) and improving teaching practices and workplace relationships (Hwang et al., 2017). The extent to which these components can be combined to form an intervention model for promoting language teacher well-being should be considered and investigated in depth in the future.

This research also has some limitations. First, the research sample was not evenly distributed in terms of teachers' gender and geographic locations, with a lower response rate from teachers in the western part of China. Future research should seek a more balanced sampling to gain a deeper understanding of high school language teachers' well-being. Second, only high school English teachers were included in this research, while those of languages other than English (LOTE) could be included in the sample in future language teacher well-being research. Finally, this study only adopted a within-group approach to assess discriminant validity. Future research aiming to validate PERMA among language teachers could consider comparing PERMA with other well-being concepts, such as subjective well-being (SWB) and psychological well-being (PWB), as well as contrastive concepts, such as depression and burnout.

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## Ethics Declarations

## Competing Interests

No, there are no conflicting interests.

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