Psychological well-being at work among moroccan fitness coaches: a psychometric and sociodemographic analysis

Bienestar psicológico en el trabajo entre entrenadores de fitness marroquíes: un análisis psicométrico y sociodemográfico

Authors

Abdelouahd Ouazoul [1]
Said Ihbour [2]
Zakaria Lahrache [3]
Abdelmounaim Boulhanna [4]
Nadia Jemjami [5]

[1,2,5] Hassan First University (Morocco)
[3] University of Burgundy Franche-Comté (France)
[4] Sultan Moulay Slimane University (Morocco)

Corresponding author:
Abdelouahd Ouazoul
a.ouazoul@uhp.ac.ma

Received: 05-03-26
Accepted: 20-05-26

How to cite in APA

Ouazoul, A., Lahrache, Z., Ihbour, S., Boulhanna, A., & Jemjami, N. (2026). Psychological well-being at work among moroccan fitness coaches: a psychometric and sociodemographic analysis. *Retos, 81*, 550-564. https://doi.org/10.47197/retos.v81.118946

Abstract

Introduction: Psychological well-being at work is a key construct in sport psychology and occupational health, especially in high-demand professions such as fitness coaching.
Objective: This study aimed to validate a psychological well-being at work model among Moroccan fitness coaches and examine sociodemographic differences.
Methodology: A two-stage design was used. An exploratory factor analysis was conducted with 110 coaches to assess the structure of the psychological well-being at work scale. A confirmatory factor analysis using SPSS-AMOS was then performed with 355. Model fit, validity, and reliability were tested, and non-parametric tests examined group differences.
Results: The scale showed a stable factorial structure with good psychometric properties. Significant differences emerged only for the feeling of competence, with males scoring higher than females. Divorced coaches reported higher psychological well-being at work than married and single coaches. No significant differences were found for age, education, experience, or work arrangement.
Discussion: Sociodemographic factors show only limited and specific effects on psychological well-being at work. Gender differences may reflect structural inequalities in coaching contexts, while higher well-being among divorced coaches may be linked to adaptation and personal growth. Overall, psychological well-being at work is more influenced by psychosocial and contextual factors than by demographic characteristics.
Conclusion: The study confirms the validity of the psychological well-being at work model in Moroccan fitness coaches and highlights the need to further explore contextual determinants such as technostress and social media effects in coaching environments.

Keywords

Fitness industry; coaching; occupational health; psychological well-being; well-being at work.

Resumen

Introducción: El bienestar psicológico en el trabajo es un concepto clave en la psicología del deporte y la salud laboral, especialmente en profesiones de gran exigencia como la de entrenador físico.
Objetivo: El objetivo de este estudio fue validar un modelo de bienestar psicológico en el trabajo entre los entrenadores físicos marroquíes y examinar las diferencias sociodemográficas.
Metodología: Se utilizó un diseño en dos fases. Se llevó a cabo un análisis factorial exploratorio con 110 entrenadores para evaluar la estructura de la escala de bienestar psicológico en el trabajo. A continuación, se realizó un análisis factorial confirmatorio utilizando SPSS-AMOS con 355 entrenadores. Se evaluaron el ajuste del modelo, la validez y la fiabilidad, y se utilizaron pruebas no paramétricas para examinar las diferencias entre grupos.
Resultados: La escala mostró una estructura factorial estable con buenas propiedades psicométricas. Solo se observaron diferencias significativas en la sensación de competencia, con puntuaciones más altas en los hombres que en las mujeres. Los entrenadores divorciados declararon un mayor bienestar psicológico en el trabajo que los casados y los solteros. No se encontraron diferencias significativas en cuanto a la edad, la formación, la experiencia o la modalidad de trabajo.
Discusión: Los factores sociodemográficos solo muestran efectos limitados y específicos sobre el bienestar psicológico en el trabajo. Las diferencias de género pueden reflejar desigualdades estructurales en los entornos de entrenamiento, mientras que el mayor bienestar observado entre los entrenadores divorciados podría estar relacionado con la adaptación y el crecimiento personal. En general, el bienestar psicológico en el trabajo se ve más influido por factores psicosociales y contextuales que por las características demográficas.
Conclusión: El estudio confirma la validez del modelo de bienestar psicológico en el trabajo en el caso de los entrenadores de fitness marroquíes y destaca la necesidad de seguir explorando determinantes contextuales como el estrés tecnológico y los efectos de las redes sociales en los entornos de entrenamiento.

Palabras clave

Sector del fitness; entrenamiento; salud laboral; bienestar psicológico; bienestar en el trabajo.

Introduction

Psychological well-being has become a central construct in sport psychology and occupational health, particularly within high-demand professional environments such as sport coaching. In sport contexts, coaches are frequently exposed to intense workloads, organizational constraints, and strong performance-related expectations, which may contribute to elevated levels of stress and psychological strain (Knight et al., 2013; McNeill et al., 2017). These pressures are not only chronic but also multifaceted, encompassing time demands, emotional labor, and accountability for performance outcomes. Promoting well-being is therefore a critical objective, especially given that burnout can impair key psychological processes such as emotional regulation, attentional focus, and decision-making, ultimately compromising coaching effectiveness and professional judgment (Durand-Bush et al., 2012; Olusoga et al., 2009). Although strategies such as enhancing recovery or reducing work–family interference have been proposed as potential buffers against these negative outcomes, their empirical examination within coaching populations remains limited, highlighting an important gap in applied research (Lundkvist et al., 2016).

The coaching role itself is inherently complex and multidimensional, encompassing responsibilities such as designing and periodizing training programs, monitoring athlete or client performance, managing interpersonal relationships, and coordinating with multiple stakeholders within sport organizations. These overlapping demands contribute to psychologically intensive work environments characterized by high levels of uncertainty, role ambiguity, and interpersonal strain (Fletcher & Wagstaff, 2009). From a transactional stress perspective, the impact of such demands depends less on their objective intensity than on how individuals appraise their capacity to cope with them (Chrousos & Gold, 1992; Lazarus & Folkman, 1984). When coaches perceive that their available psychological, social, or material resources are insufficient to meet situational demands, psychological distress is likely to emerge (Ursin & Eriksen, 2004). Within this framework, psychological well-being can be conceptualized as the outcome of a dynamic balance between environmental demands and available personal resources (Dodge et al., 2012). When this balance is maintained, individuals are able to function effectively and sustain positive psychological states; conversely, persistent imbalance may lead to maladaptive outcomes such as burnout. In this sense, burnout and well-being can be viewed as complementary indicators reflecting the degree of functional adaptation within the coaching environment (Bentzen et al., 2014, 2016, 2017).

In fitness settings, the implications of coaches' psychological functioning extend beyond occupational health to encompass client safety and broader public health considerations. Burnout-related impairments may reduce supervision quality, limit attentional capacity, and compromise the accuracy of exercise prescription, thereby increasing the risk of musculoskeletal injuries through inadequate load management or insufficient technique correction (Kaski & Kinnunen, 2021). Beyond these safety concerns, coach well-being plays a pivotal role in shaping the motivational climate of exercise environments. Drawing on Self-Determination Theory, autonomy-supportive coaching behaviors characterized by empathy, encouragement, and the provision of meaningful choices promote intrinsic motivation and sustained engagement in physical activity. In contrast, emotionally exhausted or psychologically strained coaches are more likely to adopt controlling or disengaged interpersonal styles, which may undermine motivation, reduce adherence, and increase dropout rates (Deci & Ryan, 2017; Stebbings et al., 2012). Given the well-established role of regular physical activity in the prevention of chronic diseases, these interpersonal processes suggest that coaches' psychological functioning may have indirect but meaningful implications for public health outcomes.

Empirical research has begun to identify key determinants of coaches' psychological functioning, highlighting the interplay between relational, cognitive, and contextual factors. Relational dynamics, particularly the quality of coach–athlete interactions, have been consistently associated with psychological outcomes, emphasizing the importance of trust, communication, and emotional reciprocity within sport environments (Davis & Jowett, 2014). At the same time, cognitive appraisals of stressors play a crucial role in shaping responses to occupational demands. While certain stressors, such as workload, may be perceived as challenges that enhance perceived competence and

professional growth, others may be appraised as threats, leading to diminished autonomy and reduced perceived control (Didymus et al., 2021; Potts et al., 2022). These findings underscore the non-linear and context-dependent nature of stress–well-being relationships. Furthermore, adaptive coping strategies have been shown to facilitate more effective responses to occupational challenges, supporting both hedonic aspects of well-being (e.g., positive affect) and eudaimonic dimensions (e.g., personal growth and self-acceptance) (Baldock et al., 2021). Coaching effectiveness itself has also been linked to both performance outcomes and psychological well-being, suggesting a reciprocal relationship between individual functioning and professional success (Davis et al., 2022; Stebbings et al., 2015).

From a broader perspective, coaching can be conceptualized as a profession requiring continuous adaptation, emotional regulation, and interpersonal competence, akin to other high-skill, relational occupations (Poczwardowski, 2019). As such, working conditions play a decisive role in either supporting or undermining psychological well-being (McCormack, 2019). The literature has therefore increasingly focused on constructs such as burnout and occupational stress as key indicators of coaches' work-related functioning. Maintaining well-being in these environments requires not only effective individual coping strategies but also organizational conditions that promote quality of work life, adequate recovery, and self-care practices (Cropley et al., 2016; Quartiroli et al., 2019, 2022). In addition, the presence of protective factors such as social support, autonomy, and professional recognition has been identified as critical in buffering the negative effects of stress and sustaining long-term engagement in coaching roles (Hill et al., 2021).

Conceptually, psychological well-being is widely recognized as a multidimensional construct encompassing emotional, psychological, and social dimensions of human functioning (Keyes, 2002). It integrates hedonic components, such as positive affect and life satisfaction, with eudaimonic dimensions related to personal growth, autonomy, and optimal functioning (Diener, 2009). Despite this integrative perspective, the coexistence of diverse conceptual models and measurement approaches has contributed to ongoing theoretical and methodological heterogeneity in the literature (Diener et al., 1998; Harris & Cameron, 2005). This heterogeneity is particularly evident in coaching research, where the application of well-being frameworks remains relatively fragmented and often lacks contextual specificity.

These challenges are especially pronounced in the fitness sector, where coaching work combines technical expertise with high levels of emotional labor, continuous client interaction, and organizational pressure (González & Ramírez, 2017). Recent sectoral estimates indicate that the Moroccan fitness industry employs nearly 30,000 direct workers, reflecting its growing socio-economic importance. However, this expansion remains unevenly regulated, as approximately 3,000 fitness centers operate outside a structured or formally regulated framework, revealing a persistent legal and institutional gap in the professional classification and certification of fitness coaches at the national level. From an economic standpoint, the sector is also characterized by strong territorial concentration, with the city of Casablanca accounting for nearly 45% of total industry revenues, and generating over 10,000 jobs according to the Moroccan Association of Fitness and Wellness Professionals (AMPIF). Taken together, these structural characteristics highlight not only the contextual relevance of the present study but also the broader challenges associated with regulatory ambiguity, labor informality, and unequal resource distribution. Such factors are likely to shape working conditions and, consequently, influence the psychological well-being of fitness coaches in Morocco.

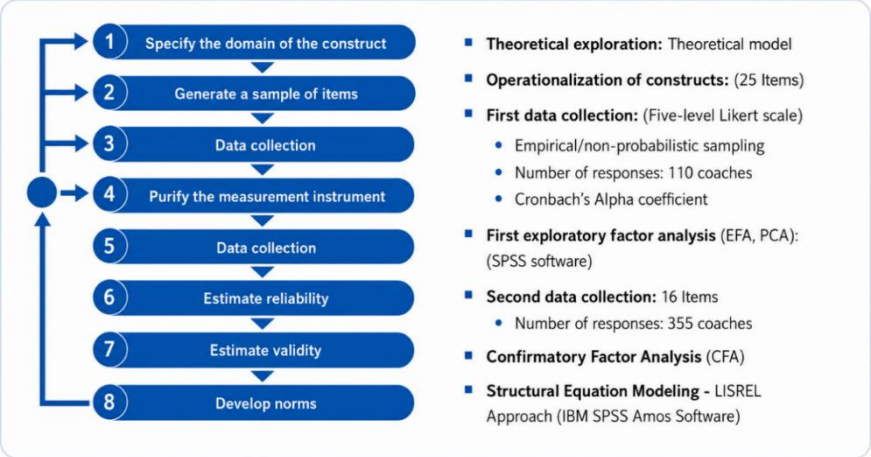
In light of these considerations, the present study aims to contribute to the understanding of psychological well-being at work among moroccan fitness coaches. Specifically, this research seeks to validate a theoretical model of psychological well-being applied to this professional context. The objectives of the study are threefold: first, to examine the structural validity of the Psychological Well-Being at Work Index; second, to evaluate the key determinants of this measurement scale; and third, to explore how psychological well-being varies according to selected sociodemographic characteristics such as gender, marital status, and professional experience.

Method

Our research is positioned within a positivist paradigm, employing a quantitative, hypothetico-deductive approach. Given the specific and under-researched nature of our population (Moroccan fitness coaches) the study also has an exploratory character.

To ensure methodological rigor in developing our measurement instrument, we followed the systematic procedure proposed by Churchill in 1979. This multi-step process is designed to create reliable and valid scales.

Figure 1. The sequential process for developing a measurement instrument, adapted from Churchill (1979)



Our methodology involved two main phases of data collection. In the first phase, we administered an initial questionnaire with 25 items, based on the PWB-W model, to a sample of 110 fitness coaches. We then conducted an exploratory factor analysis (EFA) using Principal Component Analysis with Varimax rotation in SPSS. The goal was to purify the instrument. We used strict criteria: items with factor loadings below 0.40 or significant cross-loadings were eliminated. We also assessed the Kaiser-Meyer-Olkin measure of sampling adequacy, which was well above the recommended 0.70, and Bartlett's test of sphericity, which was highly significant, confirming the suitability of our data for factor analysis. This purification process resulted in the retention of 16 items. In the second phase, this refined 16-item questionnaire was administered to a larger, independent sample of 355 fitness coaches. The data from this second sample were then subjected to a confirmatory Factor Analysis (CFA) using IBM SPSS AMOS. The CFA allowed us to test the fit of our proposed five-factor model. To test our hypotheses regarding sociodemographic differences, we first checked for normality. The data violated the assumption of normal distribution, so we appropriately used non-parametric tests: The Mann-Whitney U test for two-group comparisons and the Kruskal-Wallis test for comparisons involving more than two groups.

Participants

The study relied on a non-probabilistic sampling approach, combining convenience and snowball techniques. This choice was primarily driven by the absence of a comprehensive and accessible sampling frame of fitness coaches in Morocco, as well as by the organizational fragmentation of the sector. While this approach facilitated access to a hard-to-reach professional population, it necessarily limits the statistical generalizability of the findings. This limitation is now clearly acknowledged in the manuscript, and the results are interpreted with appropriate caution, emphasizing analytical rather than statistical generalization.

Our first sampling consists of 110 coaches (including 61 male coaches and 49 female coaches, SD=0.499). The age group [18-29 years old] represents more than 60% of our study sample. As for the marital status of the coaches, 66.6% of participants are single. Nearly 44.7% of the coaches surveyed are junior coaches (with less than 3 years of professional experience). In addition, 44.5%

of fitness coaches work full-time and 50% have a university degree. Our second sample consisted of 355 fitness coaches working in the target region, including 172 men and 183 women. The 18-29 age group accounted for approximately 50% of the study population, with a variable distribution across the other age groups. In terms of marital status, 53.8% of participants were single. Furthermore, 44.2% of respondents were considered junior, meaning they had less than three years of professional experience. In terms of working hours, 50.1% of coaches worked full-time. Finally, nearly 40% of participants have a level of education corresponding to secondary vocational education.

The tables below show the detailed distribution of the socio-demographic data of the coaches surveyed.

Table 1. Sociodemographic characteristics of coaches participating in the exploratory study (N=110)

Distribution of fitness coaches according to Socio-demographic variables			
Socio-demographic variables	Total	%	Standard deviation
Gender			
Male	49	45.5	0.49
Female	61	55.5	
Marital status			
Single	73	66.4	0.60
Married	30	27.3	
Divorced	7	6.4	
Experience			
Less than 3 years (Junior)	34	30.9	0.75
3 < Exp < 15 years (Experienced)	47	42.7	
More than 15 years (Highly experienced)	29	26.4	
Age group			
18–29 years' old	68	61.8	
30–39 years' old	27	24.5	0.70
40–49 years' old	8	7.27	
Over than 50 years old	7	6.36	
Working regime			
Full-time	49	44.5	0.87
Part-time	25	22.7	
Other	36	32.7	
School level			
Primary	6	5.5	
Secondary college	14	12.7	0.88
Secondary vocational	34	30.9	
University	56	50.9	

Table 2. Socio-demographic characteristics of coaches participating in the confirmatory study (N=355)

Distribution of fitness coaches according to socio-demographic variables			
Socio-demographic variables	Total	%	Standard deviation
Gender			
Male	172	48.5	,576
Female	183	51.5	
Marital status			
Single	191	53.80	,651
Married	133	37.46	
Divorced	31	8.73	
Experience			
Less than 3 years (Junior)	157	44.2	,747
3 < Exp < 15 years (Experienced)	91	25.6	
More than 15 years (Highly experienced)	107	30.1	
Age group			
18–29 years' old	176	49.6	
30–39 years' old	107	30.1	0.70
40–49 years' old	55	15.5	
Over than 50 years old	17	4.8	
Working regime			
Full-time	178	50.1	0.87
Part-time	108	30.4	
Other	69	19.4	
School level			
Primary	25	7	
Secondary college	69	19.4	0.91
Secondary vocational	140	39.4	
University	121	34.1	

Procedure

Instrument

For our specific construct, we adopted the multidimensional model of psychological well-being at work, developed by Dagenais-Desmarais and Savoie in 2010. Through an inductive approach, they identified five core dimensions that constitute a comprehensive measure of well-being in the workplace. The five dimensions are presented in Table 3 below. Regarding participant recruitment, fitness coaches were recruited through a non-probabilistic sampling strategy combining field-based and online approaches. Data collection was conducted directly in fitness gyms, where coaches were approached in their professional settings, and was complemented by an online survey administered via Google Forms. The online dissemination was facilitated with the support and active involvement of the Moroccan Association of Fitness and Wellness Professionals, which helped circulate the questionnaire within professional networks. No financial or material incentives were offered; participation was entirely voluntary and based on informed consent. Concerning the questionnaire, the original instruments were developed in English, and the study primarily relied on validated French versions of the scales, which are commonly used in Francophone research contexts. To ensure accessibility and comprehension among Moroccan fitness coaches, a complementary translation into Arabic was provided. This translation was carried out with attention to semantic equivalence and contextual relevance. The manuscript now clarifies this process and acknowledges that, while a formal back-translation procedure was not systematically implemented, particular care was taken to preserve the meaning of items across languages. Based on the theoretical framework, we formulated seven primary hypotheses: Hypothesis 1 predicted that the five dimensions of psychological well-being at work index would be positively correlated. Hypotheses 2 through 7 posited that there would be statistically significant differences in PWB-WI scores based on gender, marital status, professional experience, work arrangement, education level, and age.

Table 3. Five dimensions of the psychological Well-Being at Work Index, developed by Dagenais-Desmarais and Savoie in 2010

Theoretical construct	Definition
Interpersonal Fit at Work	Represent the perception of having positive, harmonious relationships with colleagues and superiors.
Feeling of Competency at Work	Reflect the belief that one possesses the necessary skills to perform one's job effectively and master required tasks
Thriving at Work	A sense of meaningful accomplishment and personal growth derived from one's work.
Perceived recognition at work	The feeling of being valued and appreciated by the organization, both personally and for one's contributions.
Desire for Involvement at Work	The desire to be actively involved in one's work and contribute to the organization's success.

Data analysis

Principal component analysis was the main method used for statistical processing in our exploratory phase, which was conducted after verifying the internal consistency of the measurement scales. This technique made it possible to reduce the dimensionality of the data by generating new synthetic variables. The aim of this reduction was to stabilize the factorial structure of each of the dimensions studied. The analyses were performed using SPSS statistical software. For component extraction, we used Varimax rotation, which facilitates interpretation by maximizing the variance of factor loadings. This method made it possible to assess the stability of the factors by eliminating items with saturations below 0.30. The exploratory analysis was conducted on a sample of 110 participants, applied separately to each of the variables in the theoretical model. The evaluation of the results of the principal component analysis (PCA) began with an examination of correlation matrix to verify the predominance of high correlations between items. In addition, several validity indices were considered: The Kaiser-Meyer-Olkin (KMO) index, an indicator of sampling quality, must reach a minimum of 0.70 to be considered satisfactory; the quality of item representation must be greater than or equal to 0.50. Bartlett's sphericity test, which measures the relevance of factor analysis, is considered highly significant when its value tends towards 0.000, significant when it is less than 0.05, and acceptable between 0.05 and 0.10. When PCA meets at least two of these criteria (correlation matrix, KMO index and Bartlett's test) and the factor structure obtained

is stable, it is then appropriate to proceed with confirmatory factor analysis. Then, we used the SPSS AMOS program to perform a confirmatory factor analysis (CFA) to test the model for measuring psychological well-being at work. In order to assess the quality of the fit of the structural equation modeling to the empirical data, several statistical indices will be used, starting with the chi-square test (χ^2) and the chi-square to degrees of freedom ratio (χ^2/df), which will serve as reference indicators. A non-significant chi-square test suggests that the model fits the observed data well. On the other hand, a significant value may indicate that the model is inadequate, in which case the χ^2/df ratio is examined to mitigate the sensitivity of the test to the number of observations. A satisfactory fit is generally considered to be when this ratio is less than 5, with a preference for values less than 2. In addition, other fit indices will be taken into account, including the Root Mean Square Error of Approximation (RMSEA), which is considered acceptable when it is less than .08 and excellent when it is less than .05. The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) will also be reported.

Results

The scale used to measure psychological well-being at work (Dagenais Desmarais, 2010) consists of 25 items representing five factors. The correlation matrix for this scale reveals that all correlations are greater than 0.20. The KMO index for psychological well-being at work is 0.761, which indicates that the data is moderately to well suited for exploratory factor analysis. Furthermore, Bartlett's test proved to be highly significant ($p < 0.001$). The five components extracted from psychological well-being at work express 69.36% of cumulative variance.

The descriptive analysis was performed on the psychological well-being index measurement tool. For each of the five factors selected following confirmatory factor analysis, the mean, standard deviation, and minimum and maximum values were calculated. The results shown in the table below highlight moderate levels of psychological well-being among fitness coaches, with scores varying between the different factors. The averages for the factors range from 2.37 for the feeling of competence to 2.93 for the Thriving at Work, indicating a general trend towards a perception that is rather disagree too hard to say according to the rating scale (from 1 to 5, where 1 corresponds to “strongly disagree” and 5 to “strongly agree”). The overall psychological well-being index has an average of 2.77 and a standard deviation of 0.84, revealing a moderate central tendency in overall well-being, with weak variability among respondents. In terms of dispersion, the job satisfaction factor has the highest standard deviation (1.35), indicating greater variability in responses and therefore greater diversity of perceptions in this dimension. In contrast, the factors perceived recognition at work and interpersonal adequacy show lower dispersion, with standard deviations of 0.85 and 0.88 respectively, reflecting greater reflecting a mid-range level of perceived well-being, with limited dispersion across participants.

Of the 25 initial items, the psychological well-being at work index scale retains 16 items after eliminating items with a representation quality of less than 0.3 and/or cross-saturation, divided into five components. The first component is perceived recognition at work, explaining 27.28% of the variance; the second component is commitment to work, accounting for 15.10% of the variance; the third component is the feeling of competence at work, accounting for 12.15% of the variance; the fourth component is interpersonal adequacy at work, accounting for 7.89% of the variance.

The final component is fulfilment at work, accounting for 6.92% of the variance. Among the highest thresholds are the feeling of competence at work 4, ‘I feel I know what to do in my job,’ and fulfilment at work 4, ‘I find meaning in my work.’ According to Nunnally (1978), a Cronbach's alpha coefficient exceeding 0.70 is generally essential to attest to the internal reliability of a psychometric construct, thus indicating satisfactory consistency between items measuring the same concept. For each of the factors identified, Cronbach's alpha for internal consistency was deemed satisfactory. Indeed, Cronbach's alpha coefficient for the axis of commitment to work is 0.833, for the axis of perceived recognition at work it is 0.860, for the axis of feeling competent at work it is 0.763, while for the axes of interpersonal fit at work and desire for involvement at work, it is 0.672 and 0.665 respectively. These last two values are considered acceptable in exploratory research (Hair et al., 2010).

Table 4. Measurement Instrument Purification

Variables	AFE1 (PCA+ Reliability) 1st data collection				DECISION
	Items	QR	VTE	Reliability	
Desire for Involvement at Work	DI 1	,810	27.28	,833	Retained
	DI 2	,773			Retained
	DI 3	,353			Eliminated
	DI 4	,781			Retained
	DI 5	,823			Retained
Perceived recognition at work	PR 1	,818	15.10	,860	Retained
	PR 2	,824			Retained
	PR 3	,823			Retained
	PR 4	,779			Retained
	PR 5	,316			Eliminated
Feeling of Competence at Work	FC 1	,303	12.15	,763	Eliminated
	FC 2	,756			Retained
	FC 3	,407			Eliminated
	FC 4	,861			Retained
	FC 5	,747			Retained
Interpersonal Fit at Work	IF 1	,322	7.89	,672	Eliminated
	IF 2	,643			Retained
	IF 3	,361			Eliminated
	IF 4	,839			Retained
	IF 5	,755			Retained
Thriving at Work	TW 1	,322	6.92	,665	Eliminated
	TW 2	,778			Retained
	TW 3	,447			Eliminated
	TW 4	,852			Retained
	TW 5	,358			Eliminated

Table 5. Results of the principal component analysis of the psychological well-being at work index (N = 110)

E.V%	27.2	15.1	12.1	7.8	6.9
C.V%	27.2	42.8	54.5	62.4	69.3
Eigenvalue	4.3	2.4	1.9	1.26	1.1
PWBI	F1	F2	F3	F4	F5
PR2	.824				
PR 3	.823				
PR 1	.818				
PR4	.779				
DI5		.823			
DI1		.810			
DI4		.781			
DI2		.773			
FC4			.861		
FC5			.747		
FC2			.756		
IF4				.839	
IF5				.755	
IF2				.643	
TW4					.852
TW2					.778

Legend: E.V: Estimated Variance; C.V: Cumulated Variance; PWBI: Psychological Well-Being at work Index; IF: interpersonal fit at work; PR: Perceived recognition at work; TW: thriving at work; DI: desire for involvement at work; FC: Feeling of Competence at work.

Table 6. Adjustment indices for the psychological well-being at work index model.

x^2/dl	P	GFI	AGFI	RMSEA
1,47	.002	,955	,934	.036

The results also show significant associations between the different dimensions of Psychological well-being at work index. The interpersonal fit at work factor is positively predicted by perceived recognition at work (β = .538, p < .001), thriving at work (β = .882, p < .001), desire for involvement at work (β = .482, p < .001), and feeling of competence at work (β = .501, p < .001). These coefficients indicate that the thriving at work factor is the strongest predictor of the interpersonal fit at work. Furthermore, significant relationships are also observed between the variables themselves. Perceived recognition at work is strongly associated with thriving at work (β = .822, p < .001), desire for involvement at work (β = .519, p < .001), and feeling of competence at work (β = .513, p < .001). Similarly, thriving at work is highly correlated with desire for involvement at work (β = .783, p < .001) and feelings of competence at work (β = .764, p < .001).

Finally, the desire for involvement at work is moderately associated with feelings of competence at work (β = .449, p < .001). The systematic significance of these associations (p < .001) and the strength of the coefficients observed support the convergent validity of the tested model, in line with the theoretical hypotheses formulated.

Figure 2. The adjusted psychological well-being index model

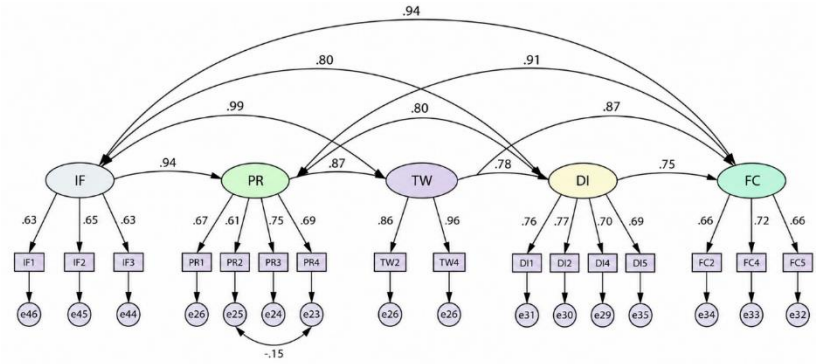


Table 7. Convergent validity of factors extracted from the psychological well-being index

Factor	Extracted mean variance	Composite reliability
Factor 1	0.658	0.885
Factor 2	0.635	0.874
Factor 3	0.624	0.832
Factor 4	0.563	0.792
Factor 5	0.666	0.799

The results of the analyses show that the five factors have satisfactory indices of convergent validity and composite reliability. Indeed, the Average Variance Extracted (AVE) values range from 0.563 to 0.666, exceeding the recommended threshold of 0.50 in most cases (Fornell & Larcker, 1981). Similarly, the composite reliability (CR) coefficients range from 0.792 to 0.885, thus meeting the recommended minimum of 0.70. These results suggest that the items converge well to measure their respective factors and that the scales as a whole have good internal consistency. In terms of dispersion, the factor of "desire for involvement at work" has the highest standard deviation (1.35), indicating greater variability in responses and therefore greater diversity of perceptions in this dimension. In contrast, the factors of perceived recognition at work and interpersonal fit at work show lower dispersion, with standard deviations of 0.85 and 0.88 respectively, reflecting greater homogeneity in responses for these dimensions. Scores range from 1 (strongly disagree) to 5 (strongly agree), although the maximum value observed for the overall index is 4.85.

Table 8. Presentation of the mean, standard deviation, minimum, and maximum values for each factor of the Psychological Well-Being at Work Index

	IF	PR	TW	DI	FC
Average	2.71	2.82	2.65	2.93	2.37
Standard deviation	.88	.85	1.35	.95	.89
Min	1	1.50	1	1.25	1
Max	5	5	5	5	5

The five factors of the psychological well-being at work index scale are strongly correlated with each other (R between .47 and .70), reflecting the internal consistency of the model, as advocated by eudemonistic approaches to well-being (Ryan & Deci, 2001). The strong correlation between interpersonal fit at work and perceived recognition at work (r = .68) highlight the fundamental role of human relationships and perceived recognition at work in promoting psychological well-being in the sports sector. In professions as relational as that of fitness coach, where recognition often

comes through feedback from clients or athletes rather than appreciation from hierarchical structures, this variable takes on a strong emotional and identity value. Taken together, these results allow us to conclude that the tested model is of satisfactory quality, as it presents a structure consistent with the observed data. In short, all the indices suggest that the model of psychological well-being at work among Moroccan fitness coaches fits the empirical data very well.

Table 9. The correlation matrix, means, standard deviations, and Cronbach's alphas for the five observed variables of the Work-Related Psychological Well-Being Index (N = 355)

Variables M SD Alpha 1 2 3 4 5
4. IF 2.71 .88 .67 1 .68** .74** .58** .65**
5.PR 2.82 .85 .76 .68** 1 .70** .64** .68**
6. TW 2.65 1.35 .84 .47** .70** 1 .64** .67**
7. DI 2,93 .95 .82 .58** .64** .64** 1 .56**
8. FC 2,73 .89 .71 .65** .68** .67** .56** 1

Our first hypothesis, which predicted positive associations among the five dimensions, was fully validated. All inter-factor correlations were positive and statistically significant at the $p < 0.01$ level, with correlation coefficients ranging from 0.56 to 0.74. This confirms that the five dimensions, while distinct, are all part of a single, higher-order construct of psychological well-being at work.

To test our hypotheses regarding sociodemographic differences, we first checked for normality. The data violated the assumption of normal distribution, so we appropriately used non-parametric tests: The Mann-Whitney U test for two-group comparisons and the Kruskal-Wallis test for comparisons involving more than two groups. The analysis of sociodemographic differences yielded several noteworthy findings. Regarding gender (Hypothesis 2), a statistically significant difference was observed only for the feeling of competence at work dimension, with male coaches reporting higher scores than their female counterparts, thus providing partial support for H2. Concerning marital status (Hypothesis 3), the Kruskal–Wallis test revealed a significant effect on the overall Psychological Well-Being at Work (PWB-W) index. Post-hoc comparisons using the Mann–Whitney U test indicated that divorced coaches (N = 31) reported significantly higher levels of well-being compared to both married (N = 133) and single coaches (N = 191), partially supporting H3.

Finally, no statistically significant differences were found in PWB-W scores with respect to professional experience, work arrangement, education level, or age. Consequently, Hypotheses 4, 5, 6, and 7 were not supported (as shoed on the following tables)

Table 10. Result hypothesis testing

Hypothesis	Estimate	S.E.	C.R.	P	V/R
H1: - PR → IF	,544	,066	8,224	***	Validated *** P<0,001
- TW→ IF	,881	,095	9,273		
- DI → IF	,482	-,063	7,708		
- FC → IF	,501	,063	7,933		
- PR → TW	,831	,091	9,158		
- PR → DI	,523	,065	8,095		
- PR → FC	,519	,064	8,134		
-TW → DI	,783	,089	8,776		
-TW → FC	,764	,087	8,762		
-DI → FC	,449	,060	7,540		
H2	Validated for felling of competence at work				
H3	Validated only for Psychological Well-Being Index at work				
H4	Rejected				
H5	Rejected				
H6	Rejected				
H7	Rejected				

Table 11. Summary of the result of the Kruskal-Wallis test examining statistically significant differences in study variables according to the gender of fitness coaches

Variable	Mean Rank F	Mean Rank M	Mann–Whitney U	Z	p (two-tailed)	Significant difference
Feeling of Competence at Work	166,55	190,05	13 659,00	-2,179	0,029	Yes (M > F)

Table 12. Summary of the result of the Kruskal-Wallis test examining statistically significant differences in study variables according to the marital status

Variable	χ^2 (ddl = 2)	p-value	Significance
Psychological Well-Being Index at work	7,195	,027	Only according to marital status

Table 13. The mean ranks from the Kruskal-Wallis test of groups with significant Mann-Whitney post-hoc test in the Psychological Well-Being Index according to the marital status

Comparison	Mean rank A	Mean rank B	A high level of the latent variable was observed among:
Married vs Divorced	78,77	98,48	Divorced coachs
Single vs Divorced	106,97	139,42	Divorced coachs

Discussion

The present study yielded several noteworthy and, in some cases, counter-intuitive findings regarding the relationship between sociodemographic variables and psychological well-being at work (PWB-W) among coaches. Regarding gender (Hypothesis 2), the results revealed a statistically significant difference exclusively in the feeling of competence dimension, with male coaches reporting higher scores than their female counterparts. This finding provides partial support for Hypothesis 2. It diverges from a substantial body of literature in sport coaching, which generally reports no significant gender differences in perceived competence. One possible explanation may lie in the persistence of gendered norms and structural inequalities within the coaching profession, which may differentially shape self-perceptions of competence. Male coaches may benefit from greater social recognition, opportunities, or reinforcement, thereby enhancing their perceived competence. Conversely, female coaches may encounter contextual barriers that affect their confidence and self-evaluation, despite possessing comparable skills and qualifications.

Concerning marital status (Hypothesis 3), the findings indicated a statistically significant effect on overall PWB-W. More specifically, divorced coaches reported significantly higher levels of psychological well-being compared to both married and single coaches, thus partially validating Hypothesis 3. This result challenges traditional assumptions that associate marriage with higher levels of well-being. However, it is consistent with more recent perspectives emphasizing the importance of relational quality and post-divorce adjustment processes. Indeed, the experience of divorce may, in certain contexts, lead to personal growth, improved autonomy, and relief from previously stressful or unsatisfactory relationships. Therefore, psychological well-being appears to be less dependent on marital status per se than on the subjective quality of relational experiences and the individual's capacity for adaptation and resilience. This interpretation aligns with prior research suggesting that sociodemographic variables influence well-being in complex and differentiated ways, thereby underscoring the need for more nuanced and context-sensitive analyses (Rodríguez & Pérez, 2019; Muñoz & Torres, 2022).

With respect to the remaining variables (Hypotheses 4 to 7), no statistically significant differences in PWB-W were observed based on professional experience, work arrangement, educational level, or age, leading to the rejection of these hypotheses. This absence of significant effects suggests that psychological well-being among coaches may be relatively independent of these structural and demographic characteristics, or that their influence is mediated by other psychological or contextual factors not examined in the present study. Such findings call into question deterministic assumptions regarding the role of experience, age, or educational attainment in shaping well-being. Instead, they highlight the potential importance of more proximal variables, such as coping strategies, work environment, interpersonal relationships, and perceived organizational support.

Overall, these results emphasize the complexity of psychological well-being in the coaching context and suggest that sociodemographic factors do not exert uniform or straightforward effects. Rather, their influence appears to be contingent upon broader psychosocial dynamics, thereby reinforcing the importance of adopting multidimensional and integrative approaches when examining well-being in sport professionals.

Conclusions

This study provides strong evidence for the validity of a five-factor model of psychological well-being index at work among moroccan fitness coaches. The confirmatory factor analysis demonstrated satisfactory psychometric properties for the adapted instrument. Although the χ^2 test was significant (χ^2 = 136.668; df = 93; p = .002), this result must be interpreted with caution given the sensitivity of χ^2 to sample size. More robust fit indicators confirmed the adequacy of the model, including a χ^2/df ratio of 1.470, GFI = .955, AGFI = .934, and RMSEA = .036, all of which indicate a good to excellent model fit according to established methodological recommendations.

The findings highlight the relevance of assessing psychological well-being within the specific realities of the sports and fitness sector. Fitness coaches operate in environments characterized by demanding workloads, organizational constraints, emotional labor, and performance expectations, all of which may influence their psychological functioning and professional effectiveness (Didymus et al., 2021). In this context, the validated model contributes to a better understanding of the dimensions underlying psychological well-being at work and provides empirical support for the applicability of the construct among moroccan fitness professionals.

This research makes several important contributions. Theoretically, it extends the literature on psychological well-being at work by validating a multidimensional model in a relatively underexplored professional and cultural context. Methodologically, it demonstrates the rigorous application of Churchill's paradigm and Structural Equation Modeling in the development and validation of a robust measurement instrument. From a managerial perspective, the study offers fitness club managers and sport organizations a validated tool for assessing employee well-being and identifying key dimensions, such as competence and recognition, that may contribute to healthier and more sustainable working environments. Nevertheless, certain limitations should be acknowledged. First, the cross-sectional design only allows the identification of associations rather than causal relationships. Second, the use of self-report questionnaires may introduce subjective or social desirability biases. Finally, the sample was limited to fitness coaches from the Casablanca-Settat region, which may reduce the generalizability of the findings to other Moroccan regions or international contexts.

These limitations open several perspectives for future research. Further studies could examine the applicability of this model among other actors in the sports sector, including sport coaches, physical education teachers, referees, athletes, and sport managers. Longitudinal approaches would also be valuable for exploring causal relationships between psychological well-being, burnout, and professional performance. In addition, future research could investigate emerging factors affecting well-being in the fitness industry, particularly technostress associated with online coaching platforms and the growing influence of social media on professional practice.

In conclusion, this study provides empirical support for a valid and reliable model of psychological well-being at work among Moroccan fitness coaches. Beyond its methodological contributions, it emphasizes the importance of promoting psychological well-being in sport and exercise professions and offers a foundation for future scientific and organizational initiatives aimed at improving working conditions and professional sustainability in the fitness sector.

Acknowledgements

The authors would like to express their sincere gratitude to all the fitness coaches who voluntarily participated in this study and generously shared their time and experiences. We also extend our appreciation to the professionals and experts who contributed to the development and review of the research instrument. Special thanks are addressed to colleagues and reviewers whose valuable comments and suggestions helped improve the scientific quality of this work. Finally, the authors acknowledge all institutions and organizations that facilitated data collection and supported the completion of this research.

Financing

No funding was received for this study. The authors declare that no external financial support was obtained for the conduct, analysis, or publication of this research.

References

Baldock, L., Cropley, B., Neil, R., & Mellalieu, S. D. (2021). Stress and Mental Well-Being Experiences of Professional Football Coaches. https://doi.org/10.1123/tsp.2020-0087

Bentzen, M., Lemyre, N., & Kenttä, G. (2017). A Comparison of High-Performance Football Coaches Experiencing High- Versus Low-Burnout Symptoms Across a Season of Play: Quality of Motivation and Recovery Matters. https://doi.org/10.1123/iscj.2016-0045

Bentzen, M., Lemyre, P.-N., & Kenttä, G. (2014). The process of burnout among professional sport coaches through the lens of self-determination theory: A qualitative approach. Sports Coaching Review, 3(2), 101-116. https://doi.org/10.1080/21640629.2015.1035050

Bentzen, M., Lemyre, P.-N., & Kenttä, G. (2016). Development of exhaustion for high-performance coaches in association with workload and motivation: A person-centered approach. Psychology of Sport and Exercise, 22, 10-19. https://doi.org/10.1016/j.psychsport.2015.06.004

Chrousos, G. P., & Gold, P. W. (1992). The concepts of stress and stress system disorders. Overview of physical and behavioral homeostasis. JAMA, 267(9), 1244-1252.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. Journal of Marketing Research, 16(1), 64-73. https://doi.org/10.2307/3150876

Cropley, B., Baldock, L., Mellalieu, S. D., Neil, R., Wagstaff, C. R. D., & Wadey, R. (2016). Coping with the Demands of Professional Practice: Sport Psychology Consultants' Perspectives. https://doi.org/10.1123/tsp.2015-0125

Dagenais-Desmarais, V. (2010). Du bien-être psychologique au travail : Fondements théoriques, conceptualisation et instrumentation du construit [Doctoral dissertation, Université de Montréal]. http://hdl.handle.net/1866/3916

Dagenais-Desmarais, V., & Savoie, A. (2012). What is psychological well-being, really? A grassroots approach from the organizational sciences. Journal of Happiness Studies, 13(4), 659–684. https://doi.org/10.1007/s10902-011-9285-3

Davis, L., & Jowett, S. (2014). Coach-athlete attachment and the quality of the coach-athlete relationship: Implications for athlete's well-being. Journal of Sports Sciences, 32(15), 1454-1464. https://doi.org/10.1080/02640414.2014.898183

Davis, L., Jowett, S., & Sörman, D. (2022). The Importance of Positive Relationships for Coaches' Effectiveness and Well-Being. https://doi.org/10.1123/iscj.2021-0065Davis, L., Jowett, S., & Sörman, D. (2022). The Importance of Positive Relationships for Coaches' Effectiveness and Well-Being. https://doi.org/10.1123/iscj.2021-0065

Didymus, F., Norris, L., Potts, A., & Staff, H. (2021). Psychological stress and performance. In Z. Zenko & L. Jones (Eds.), Essentials of exercise and sport psychology: An open access textbook (pp. 683–709). Society for Transparency, Openness, and Replication in Kinesiology. https://doi.org/10.51224/B1029

Diener, E. (2009). Subjective well-being. In The science of well-being: The collected works of Ed Diener (pp. 11–58). Springer. https://doi.org/10.1007/978-90-481-2350-6_2

Diener, E., Sapyta, J. J., & Suh, E. (1998). Subjective well-being is essential to well-being. Psychological Inquiry, 9(1), 33–37. https://doi.org/10.1207/s15327965pli0901_3

Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. International JournalofWellbeing,2(3),222–235. https://www.internationaljournalofwellbeing.org/index.php/ijow/article/view/89

Durand-Bush, N., Collins, J., & McNeill, K. (2012). Women coaches' experiences of stress and self-regulation: A multiple case study. International Journal of Coaching Science, 6(2), 21–43.

Gasper, D. (2010). Understanding the diversity of conceptions of well-being and quality of life. The Journal of Socio-Economics, 39(3), 351–360. https://doi.org/10.1016/j.socec.2009.11.006

Fletcher, D., & Wagstaff, C. R. D. (2009). Organizational psychology in elite sport: Its emergence, application and future. Psychology of Sport and Exercise, 10(4), 427-434. https://doi.org/10.1016/j.psychsport.2009.03.009

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50. https://doi.org/10.2307/3151312

Giles, S., Fletcher, D., Arnold, R., Ashfield, A., & Harrison, J. (2020). Measuring well-being in sport performers: Where are we now and how do we progress? Sports Medicine, 50(7), 1255–1270. https://doi.org/10.1007/s40279-020-01274-z

González, S., & Ramírez, X. (2017). Bienestar subjetivo y factores laborales en entrenadores deportivos colombianos. Universitas Psychologica, 16(1), 1–11. https://doi.org/10.11144/Javeriana.upsy16-1.bflc

Harris, G. E., & Cameron, J. E. (2005). Multiple Dimensions of Organizational Identification and Commitment as Predictors of Turnover Intentions and Psychological Well-Being. Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 37(3), 159-169. https://doi.org/10.1037/h0087253

Hill, D. M., Brown, G., Lambert, T.-L., Mackintosh, K., Knight, C., & Gorczynski, P. (2021). Factors perceived to affect the wellbeing and mental health of coaches and practitioners working within elite sport. Sport, Exercise, and Performance Psychology, 10(4), 504-518. https://doi.org/10.1037/spy0000263

Kaski, S., & Kinnunen, U. (2021). Work-related ill- and well-being among Finnish sport coaches: Exploring the relationships between job demands, job resources, burnout and work engagement. INTERNATIONAL JOURNAL OF SPORTS SCIENCE AND COACHING, 16(2), 262-271. https://doi.org/10.1177/1747954120967794

Knight, C. J., Reade, I. L., Selzler, A.-M., & Rodgers, W. M. (2013). Personal and situational factors influencing coaches' perceptions of stress. Journal of Sports Sciences, 31(10), 1054–1063. https://doi.org/10.1080/02640414.2012.759659

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Harris, G. E., & Cameron, J. E. (2005). Multiple dimensions of organizational identification and commitment as predictors of turnover intentions and psychological well-being. Canadian Journal of Behavioural Science, 37(3), 159–169. https://doi.org/10.1037/h0087253

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. Journal of Health and Social Behavior, 43(2), 207–222. https://doi.org/10.2307/3090197

Lazarus, R. S., & Folkman, S. (1984). Stress, Appraisal, and Coping. Springer Publishing Company.

Lundkvist, E., Gustafsson, H., Davis, P., & Hassmén, P. (2016). Workaholism, Home–Work/Work–Home Interference, and Exhaustion Among Sports Coaches. Journal of Clinical Sport Psychology, 10(3), 222-236. https://doi.org/10.1123/jcsp.2015-0029

McCormack, H. M. (2019). Practicing what we preach: An investigation of the work-based well-being of applied sport psychologists [Thesis, University of Limerick]. https://researchrepository.ul.ie/articles/thesis/Practicing_what_we_preach_an_investigation_of_the_work-based_well-being_of_applied_sport_psychologists/19821988/1

McNeill, K., Durand-Bush, N., & Lemyre, P.-N. (2017). Understanding coach burnout and underlying emotions: A narrative approach. Sports Coaching Review, 6(2), 179–196. https://doi.org/10.1080/21640629.2016.1163008

Morales, J., & Londoño, J. (2018). Bienestar psicológico en deportistas y entrenadores: Implicaciones contextuales y sociales. Revista Iberoamericana de Psicología del Ejercicio y el Deporte, 13(2), 85–94.

Muñoz, J., & Torres, C. (2022). Diferencias de género y bienestar subjetivo en contextos laborales deportivos. Revista Iberoamericana de Calidad de Vida, 11(1), 59–72. https://doi.org/10.15366/ricv2022.11.1.0059

Norris, L. A., Didymus, F. F., & Kaiseler, M. (2017). Stressors, coping, and well-being among sports coaches: A systematic review. Psychology of Sport and Exercise, 33, 93–112. https://doi.org/10.1016/j.psychsport.2017.08.005

Nunnally, J. C. (1978). An overview of psychological measurement. In B. B. Wolman (Ed.), Clinical diagnosis of mental disorders: A handbook (pp. 97–146). Springer. https://doi.org/10.1007/978-1-4684-2490-4_4

Olusoga, P., Butt, J., Hays, K., & Maynard, I. (2009). Stress in Elite Sports Coaching : Identifying Stressors. Journal of Applied Sport Psychology, 21(4), 442-459. https://doi.org/10.1080/10413200903222921

Poczwardowski, A. (2019). Deconstructing sport and performance psychology consultant: Expert, person, performer, and self-regulator. International Journal of Sport and Exercise Psychology, 17(5), 427-444. https://doi.org/10.1080/1612197X.2017.1390484

Potts, A. J., Didymus, F. F., & Kaiseler, M. (2022). Bringing Sports Coaches' Experiences of Primary Appraisals and Psychological Well-being to Life using Composite Vignettes. Qualitative Research in Sport, Exercise and Health, 14(5), 778-795. https://doi.org/10.1080/2159676X.2021.1948913

Quartiroli, A., Wagstaff, C. R. D., & Etzel, E. F. (2019). The professional quality of life of sport psychologists : Development of a novel conceptualization and measure. Professional Psychology: Research and Practice, 50(3), 155-167. https://doi.org/10.1037/pro0000213

Quartiroli, A., Wagstaff, C. R. D., & Thelwell, R. (2022). The what and the how of self-care for sport psychology practitioners: A delphi study. Journal of Applied Sport Psychology, 34(6), 1352-1371. https://doi.org/10.1080/10413200.2021.1964107

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. Annual Review of Psychology, 52, 141-166. https://doi.org/10.1146/annurev.psych.52.1.141

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness (p. xii, 756). The Guilford Press. https://doi.org/10.1521/978.14625/28806

Robertson, I., & Cooper, C. (2011). Well-being. Palgrave Macmillan. https://doi.org/10.1057/9780230306738

Rodríguez, A., & Pérez, D. (2019). Relación entre bienestar psicológico y variables sociodemográficas en profesionales del deporte. Revista de Estudios en Psicología, 22(2), 147–158.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. Journal of Personality and Social Psychology, 57(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Ryff, C. D. (1995). Psychological well-being in adult life. Current Directions in Psychological Science, 4(4), 99–104. https://doi.org/10.1111/1467-8721.ep10772395

Seligman, M. E. P. (2011). Flourish: A visionary new understanding of happiness and well-being. Free Press.

Stebbings, J., Taylor, I. M., & Spray, C. M. (2015). The relationship between psychological well- and ill-being, and perceived autonomy supportive and controlling interpersonal styles: A longitudinal study of sport coaches. Psychology of Sport and Exercise, 19, 42–49. https://doi.org/10.1016/j.psychsport.2015.02.002

Stebbings, J., Taylor, I. M., Spray, C. M., & Ntoumanis, N. (2012). Antecedents of perceived coach interpersonal behaviors: The coaching environment and coach psychological well- and ill-being. Journal of Sport & Exercise Psychology, 34(4), 481-502. https://doi.org/10.1123/jsep.34.4.481

Ursin, H., & Eriksen, H. R. (2004). The cognitive activation theory of stress. Psych-neuro-endocrinology, 29(5), 567-592. https://doi.org/10.1016/S0306-4530(03)00091-X

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. Journal of Personality and Social Psychology, 64(4), 678–691. https://doi.org/10.1037/0022-3514.64.4.678

Authors and translators' details:

Abdelouahd Ouazoul	a.ouazoul@uhp.ac.ma	Author
Said Ihbour	said.ihbour@uhp.ac.ma	Author
Zakaria Lahrache	lahrache.zakaria@gmail.com	Author
Abdelmounaim Boulhanna	a.boulhanna@usms.ma	Author
Nadia Jemjami	Nadia.jemjami@uhp.ac.ma	Author
Abdelouahd Ouazoul	a.ouazoul@uhp.ac.ma	Translator