Mental Well-Being and Occupational Burnout Among Architects in Spain: A Cross-Sectional Study

Ezequiel Collantes[1]*, Garikoitz Azkona[2]

[1]Department of Architecture, University of the Basque Country (UPV/EHU). Oñati Plaza 2, Donostia-San Sebastián, 20018, Spain.
[2]Department of Basic Psychological Processes and their Development, University of the Basque Country (UPV/EHU). Tolosa Hiribidea 70 Donostia-San Sebastián, 20018, Spain. Email: garikoitz.azkona@ehu.eus

*Correspondence: ezekiel.collantes@ehu.eus

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Abstract

This study examines mental well-being and burnout among architects in Spain, a profession characterized by high demands and chronic stress. A cross-sectional online survey of 642 practicing architects was conducted using the Maslach Burnout Inventory–General Survey (MBI-GS) and the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS). Results revealed high levels of burnout, with 65% of participants reporting severe exhaustion and 58.9% high cynicism. Professional efficacy scores were polarized, indicating a complex manifestation of burnout. Mental well-being was significantly lower than in other Spanish populations and strongly correlated with all burnout dimensions. Key predictors included long working hours, weekend work, lower income, and employment status. Architects using psychological or pharmacological support showed higher burnout and lower well-being. The findings highlight the urgent need for targeted interventions to improve mental health, work-life balance, and financial conditions in the architectural profession.

Keywords: Architects, Burnout, Mental Well-Being, Occupational Stress

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INTRODUCTION

Many architects report a strong sense of personal fulfilment derived from the creative dimensions of their work and the meaningful relationships they build with clients, collaborators, and peers [1]. These elements are essential to understanding their sustained engagement and commitment to the profession [1,2]. Nevertheless, architecture is also widely recognised for its vulnerability to economic fluctuations, operating within a recurring 'boom and bust' cycle that profoundly affects career stability and prospects [3]. In addition, the field is often characterised by job insecurity, long working hours, relatively low income, compared to other graduate professions, and intense competition for projects [4]. In Spain, which ranks as the third European country in terms of the number of architects, these challenges are particularly evident [5]. Average annual salaries are around €27,000, well below the European average of €43,500, and architects frequently work more than 40 hours per week, especially self-employees and those employed in small studios, many of whom regularly exceed their contractual working hours [6,7]. These demanding working conditions in the architectural profession may contribute to burnout, which can negatively affect architects' mental health and overall psychological well-being.

Burnout is a multidimensional syndrome and a prolonged response to chronic work-related stress. According to Selye, stress is the body's nonspecific reaction to environmental demands, progressing through alarm, resistance, and exhaustion phases [8]. While the WHO defines stress as a natural response that helps people face challenges [9], prolonged or poorly managed stress can harm health, contributing to cardiovascular, immune, and mood disorders [10-13]. Coping strategies are key: adaptive approaches like seeking support promote resilience, whereas maladaptive ones such as avoidance or substance use worsen outcomes [14].

Burnout comprises three interrelated components: exhaustion, the core feature reflecting overwhelming work demands; cynicism, an emotional detachment used to cope with stress; and inefficacy, a sense of reduced accomplishment that may result from or coexist with the other dimensions [15]. Together, these capture the interplay of stress, detachment, and diminished effectiveness that defines burnout.

Mental well-being encompasses emotional, psychological, and social health, all of which are vital to overall quality of life and strongly influence physical health, functioning, and stress management [16]. It goes beyond the absence of mental disorders, representing a state of positive functioning marked by emotional balance, resilience, and social connection. Emotional well-being involves managing and expressing feelings effectively, psychological well-being relates to self-esteem, purpose, and cognitive abilities, and social well-being concerns forming meaningful relationships and community involvement [17]. Together, these aspects support one's overall ability to face life's challenges.

Literature Survey

Existing studies on architecture have identified several risk factors associated with professional practice [1,3,4]. However, research on burnout among architects remains limited. For instance, a study conducted in Turkey found that architects experienced moderate levels of burnout [18]. To the best of our knowledge, no studies have yet examined this phenomenon among architects in Spain.

To address this gap, we conducted a cross-sectional online survey of practicing architects in Spain to measure burnout and subjective mental wellbeing. For this research, burnout was assessed using the Maslach Burnout Inventory–General Survey (MBI-GS), which evaluates exhaustion, cynicism, and reduced professional efficacy, and has been validated across diverse occupations beyond traditional human services [15]. Additionally, we assessed subjective mental well-being using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), a widely validated instrument in both research and public health contexts [19].

MATERIALS AND METHODS

Participants and procedure

Participants were recruited online between May 22 and July 7, 2025, via the email lists of Spanish professional architecture associations, in collaboration with the Higher Council of Architects' Associations of Spain (CSCAE), an umbrella organization for the architecture professional associations. Additionally, a snowball sampling strategy

was encouraged by asking participants to share the survey with their colleagues and acquaintances. This approach aimed to broaden the study's reach to include architects who might not be officially registered with professional associations. The study targeted only architects currently practising in Spain. An introductory letter accompanying the questionnaire explained that all collected data would be used solely for scientific research purposes and that respondents' anonymity would be fully protected. Participation was entirely voluntary, and all individuals provided informed consent before completing the 10-minute survey, which was administered through Microsoft Forms. The research adhered to the ethical principles outlined in the Declaration of Helsinki. All study procedures, including the informed consent process, were reviewed and approved by the Human Research Ethics Committee (CEISH) of the University of the Basque Country, under protocol number PI_2025_011.

Instruments

The survey included questions about participants' personal information, such as gender, age (in years), household composition (*whether living alone or not*), and sentimental relationship status (*yes/no*). It also included questions related to their professional background, such as the professional association (*Colegio Oficial de Arquitectos*) they were affiliated with, with the option to indicate if they were not a member. The approximate number of years they had been practicing, the average number of hours worked per week, and whether they worked on weekends or public holidays (*never, occasionally, most of the time, always*). Their professional role (*employee, team leader, studio director or partner*), their social security affiliation (*employed, self-employed, or both*), and their salary range (*less than €28,000 per year; €28,000 to less than €60,000; or €60,000 or more*).

The Spanish version of the Maslach Burnout Inventory - General Survey (MBI-GS) was used to assess the level of burnout [20]. The questionnaire consists of 15 items, rated on a 7-point Likert-type scale (0 = never, 6 = always, *every day*). It is divided into three subscales: (1) Exhaustion (items 1, 2, 3, 4, and 6), which measures feelings of being emotionally drained and exhausted by one's work ($\alpha = 0.92$, $\omega = 0.92$). (2) Cynicism (items 8, 9, 13, and 14) measures a sense of detachment and emotional distancing from work and the people one works with ($\alpha = 0.88$, $\omega = 0.88$). (3) Professional Efficacy (items 5, 7, 10, 11, 12, and 15) measures feelings of competence and achievement at work ($\alpha = 0.84$, $\omega = 0.84$).

Subjective mental well-being was measured using the Spanish version of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) [21], which includes 14 items rated on a 5-point Likert-type scale (1 = *never*, 5 = *always)*. The reliability analysis demonstrated very good internal consistency ($\alpha = 0.89$, $\omega = 0.89$). Finally, participants were asked about their current use of mental health treatments, including whether they were receiving psychological therapy *(yes/no*), taking prescribed anxiolytics (*yes/no*), antidepressants (*yes/no*), sleep medication (*yes/no*), or melatonin supplements for sleep (*yes/no*).

Statistical Data Analysis

The required sample size was calculated using G*Power software (version 3.1.9.7), considering a total population of approximately 50,000 registered architects in Spain. Assuming a 95% confidence level, a 5% margin of error, and an expected proportion of 0.5 (to ensure the most conservative estimate), the minimum sample size was calculated to be 382 participants. This calculation was based on the formula for sample size estimation in finite populations, ensuring sufficient statistical power for descriptive and inferential analyses.

All statistical analyses were conducted using the Jamovi software package (version 2.3.28), with the significance level set at $p < 0.05$. Descriptive statistics were used to characterise the sample, including frequencies and percentages for categorical variables, and means with standard deviations (SD), median and range for continuous variables. Each scale and subscale were categorised based on established cut-off scores. For the MBI-GS subscales, the cut-offs were as follows: Exhaustion subscale: ≤ 6 low, 7-14 average and ≥ 15 high (*), Cynicism subscale: ≤ 2 low, 3-9 average and ≥ 10 high (*), and the Professional Efficacy subscale: ≤ 22 low (*), 23-30 average and ≥ 31high. (*) These cut-offs are considered indicative of potential Burnout Syndrome. For the WEMWBS scale, scores ≤ 40 were considered low, 41–58 as average, and ≥ 59 as high. The reliability of the WEMWBS score and MBI-GS subscales was analysed using standardised Cronbach's alpha (α) and McDonald's ordinal omega (ω) coefficients.

The normality test (Shapiro–Wilk) indicated a non-parametric distribution for all variables. Subsequently, Mann–

Whitney U tests (for variables with two categories) or Kruskal–Wallis X^2 one-way analyses of variance (for variables with more than two categories) were conducted to analyse differences in the different scores. To calculate effect sizes, we used the rank biserial correlation (rrb), reference values of < 0.3 (small effect), 0.3–0.5 (moderate effect), and > 0.5 (large effect), and the Squared Epsilon coefficient (ε^2), reference values of 0.01–<0.06 (small effect), 0.06 – < 0.14 (moderate effect), and ≥ 0.14 (large effect). Associations between parameters were analysed using the bivariate Spearman correlation (rho); ≤ 0.29 (small effect), 0.30–0.49 (moderate effect) and ≥ 0.50 (large effect).

From this first analysis, we observed that professional factors can influence some or all MBI-GS subscales. To determine the influence of these variables independently, we next performed regression analyses.

RESULTS

Participants' personal and professional information

A total of 642 architects agreed and completed the survey. The average time to complete the survey was 8 minutes and 16 seconds. The information regarding socio-demographic and professional variables is detailed in Table 1. Participants aged between 24 and 70 years (48.8, SD = 12, median = 49). The vast majority of participants (92.8%) were registered with one of the official Spanish professional architecture associations (Supplementary Table 1). On average, participants reported having worked in the profession for 20.6 years (SD = 10.5, median = 20, range = 1–47 years), and working an average of 44.4 hours per week (SD = 10, median = 45, range = 20–80 hours).

Table 1: Participants' personal and professional information. Data are expressed as total numbers or mean ± SD.

	N (%)
Personal information	
Gender	
Men	359 (55.9%)
Non-binary	3 (0.5 %)
Woman	280 (43.6%)
Household composition	
Living accompanied	552 (86%)
Living alone	90 (14%)
Sentimental relationship	
No	103 (16%)
Yes	539 (84%)
Professional information	
I work on weekends and public holidays	
Never	216 (33.6%)
Occasionally	314 (48.9%)
Most of the time	94 (14.6%)
Always	18 (2.8%)
Professional role	
Employee	113 (17.6%)
Team leader	61 (9.5%)
Studio director or partner	468 (72.9%)
Social security affiliation	
Employed	116 (18.1%)
Self-employed	445 (69.3%)
Both	81 (12.6%)
Salary range (euros/year)	
< 28,000	239 (37.2%)
28,000 - < 60,000	323 (50.3%)
≥ 60,000	80 (12.5%)

Source(s): Authors' own creation

Burnout

The distribution of burnout levels among participants was assessed across the three core dimensions: exhaustion, cynicism, and professional efficacy (Table 2). More than half of the participants reported high levels of exhaustion (65%) and cynicism (58.9%), suggesting a widespread experience of emotional fatigue and disengagement. In contrast,

professional efficacy scores showed a more balanced distribution. Notably, nearly a quarter of the participants (21.5%) scored low in this dimension, which, given its inverse interpretation, indicates higher burnout, while the rest reported average (52.6%) or high (25.9%) levels, reflecting a preserved sense of professional competence in some individuals despite experiencing symptoms of exhaustion or cynicism.

Table 2: Burnout results using t-score cut-offs, means, standard deviations, median, and range.

	Low	**Average**	**High**				
Burnout		n (%)		Mean	SD	Median	Range
Exhaustion	47 (7.3%)	178 (27.7%)	417 (65%)	17.4	7.1	17	0 to 30
Cynicism	34 (5.3%)	230 (35.8%)	378 (58.9%)	11.6	6.1	11	0 to 24
Professional Efficacy	168 (25.9%)	328 (52.6%)	138 (21.5%)	26	5.9	27	0 to 36

Source(s): Authors' own creation

No significant differences in personal variables were found across the three subscales of the MBI-GS. Similarly, no significant differences were observed in relation to professional variables, such as the architects' professional association to which participants belonged or their type of social security coverage. Significant differences were observed in the exhaustion subscale with respect to working on weekends and public holidays ($X^2_{(3)} = 30.7$, $p < 0.001$, $\varepsilon^2 = 0.0479$). Participants who did not work on weekends or public holidays scored lower on the exhaustion subscale (15.5, SD = 6.8) compared to those who worked occasionally (17.9, SD = 6.9, $p < 0.001$), most of the time (19.3, SD = 7.4, $p < 0.001$), or always (21.6, SD = 7.8, $p = 0.007$). Additionally, the cynicism subscale showed significant variation according to professional category ($X^2_{(2)} = 7.5$, $p = 0.024$, $\varepsilon^2 = 0.0117$). Employees reported higher levels of cynicism than team leaders (12.3, SD = 5.8, vs 9.8, SD = 5.5, $p = 0.011$). Moreover, significant differences across all three burnout dimensions were found in relation to salary range; exhaustion ($X^2_{(2)} = 7.2$, $p = 0.027$, $\varepsilon^2 = 0.0113$), cynicism ($X^2_{(2)} = 9.32$, $p = 0.009$, $\varepsilon^2 = 0.0145$) and professional efficacy ($X^2_{(2)} = 21.8$, $p < 0.001$, $\varepsilon^2 = 0.0339$). Participants with lower incomes scored higher on exhaustion compared to those with higher incomes (18.1, SD = 7.2 vs. 15.5, SD = 8.0; $p = 0.033$). A similar pattern was observed in cynicism (12.3, SD = 5.9 vs. 10.0, SD = 6.1; $p = 0.010$). In contrast, for professional efficacy, which is inversely related to burnout, participants in the lowest income group scored significantly lower (24.8, SD = 5.7) than those in the middle-income (26.4, SD = 6.1; $p < 0.001$) and highest-income groups (27.6, SD = 5.3; $p < 0.001$). A weak positive correlation was observed between the number of hours worked per week and both exhaustion (rho = 0.272, $p < 0.001$) and cynicism (rho = 0.104, $p = 0.008$), but no significant correlation was found with years in the profession or professional efficacy.

Mental well-being, psychological therapy and medication

The WEMWBS results revealed that the vast majority of the participants reported average levels of mental well-being (Table 3). No differences were observed concerning personal variables, although mental well-being was weakly positively correlated with age (rho = 0.192; $p < 0.001$). Regarding work-related variables, significant differences were observed in relation to professional category ($X^2_{(2)} = 7.72$, $p = 0.021$, $\varepsilon^2 = 0.0121$). Employees scored significantly lower than team leaders (47.5, SD = 6.3 vs. 50, SD = 8.6; $p = 0.018$). Significant differences were also observed with respect to salary range ($X^2_{(2)} = 16.1$, $p < 0.001$, $\varepsilon^2 = 0.0251$). Participants with lower incomes scored lower (47.5, SD = 7) on mental well-being compared to those in the middle- (49.4, SD = 7.1; $p = 0.002$) and high-income (50.6, SD = 9.7; $p = 0.006$) groups. There was also a weak positive correlation between mental well-being and years in the profession (rho = 0.217; $p < 0.001$). Mental well-being was significantly and negatively correlated with both exhaustion (rho = −0.497, $p < 0.001$) and cynicism (rho = −0.507, $p < 0.001$), indicating that higher levels of these burnout components are associated with lower mental well-being. In contrast, a significant positive correlation was found between mental well-being and professional efficacy (rho = 0.520, $p < 0.001$), suggesting that individuals who perceive themselves as more professionally effective also report higher mental well-being.

Table 3: Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) results using t-score cut-offs, means, standard deviations (SD), median, and range.

	Low	**Average**	**High**				
		n (%)		Mean	SD	Median	Range
General	88 (13.7%)	502 (78.2%)	52 (8.1%)	48.9	7.4	49	14 to 70

Source(s): Authors' own creation

Just under one-fifth of the participants reported currently attending psychological therapy (n = 92, 14.3%). The percentage of participants taking anxiolytics was low (n = 37, 5.8%), as was the use of antidepressants (n = 35, 5.5%) and sleeping pills (n = 48, 7.5%). However, the use of melatonin to aid sleep was slightly more common (n = 92, 14.3%). Participants undergoing psychological therapy reported significantly higher levels of exhaustion (U = 18304, p < 0.001, rbb = 0.277), and lower levels of professional efficacy (U = 20408, p = 0.003, rbb = 0.193) and mental well-being (U = 17707, p < 0.001, rbb = 0.300). Those taking anxiolytic medication scored significantly higher on exhaustion (U = 7805, p = 0.002, rbb = 0.303) and cynicism (U = 8607, p = 0.018, rbb = 0.231), and lower on professional efficacy (U = 8572, p = 0.017, rbb = 0.234) and mental well-being (U = 7867, p = 0.002, rbb = 0.297). No significant differences were found in any variable among participants taking antidepressants. Participants who used sleeping pills scored higher on exhaustion (U = 10330, p = 0.001, rbb = 0.275) and cynicism (U = 10329, p = 0.001, rbb = 0.275). Similarly, those who reported using melatonin to sleep also showed higher levels of exhaustion (U = 20089, p = 0.002, rbb = 0.206) and cynicism (U = 20544, p = 0.004, rbb = 0.188).

Linear regression

Previous analyses indicated that certain professional variables and mental well-being influence the exhaustion, cynicism, and professional efficacy subscales. To further examine the impact of each variable, we conducted three linear regression models (Table 4). The model for exhaustion explained approximately 29.8% of the variance (R^2 = 0.311; $_{adj}R^2$ = 0.298; $F_{(12, 626)}$ = 23.5, p < 0.001), while the cynicism model accounted for 24.2% of the variance (R^2 = 0.256; $_{adj}R^2$ = 0.242; $F_{(12, 626)}$ = 18, p < 0.001). For professional efficacy, 27.1% of the variance was explained (R^2 = 0.285; $_{adj}R^2$ = 0.271; $F_{(12, 626)}$ = 20.8, p < 0.001).

Table 4: Results of the linear regression analysis for MBI-GS subscales involving predictor variables. * p < 0.05, ** p < 0.01, *** p < 0.001. Reference level: never, employee, both, < 28,000 euros/year.

	Exhaustion					Cynicism					Professional Efficacy				
	95% CI					95% CI					95% CI				
	b	Lower	Upper	t	p	b	Lower	Upper	t	p	b	Lower	Upper	t	p
Mental well-being	-0.4569	-0.5249	-0.3890	-13.2026	<.001***	-0.4681	-0.5387	-0.3976	-13.022	<.001***	0.5119	0.4426	0.5811	145.203	<.001***
Years in the profession	-0.0132	-0.0829	0.0566	-0.3709	0.711	0.0634	-0.0090	0.1359	1.720	0.086	-0.0603	-0.1313	0.0107	-16.684	0.096
Weekly working hours	0.2370	0.1583	0.3157	5.9164	<.001***	0.1092	0.0275	0.1910	2.626	0.009**	0.0563	-0.0238	0.1365	13.802	0.168
Work on weekends and public holidays															
Occasionally	0.0636	-0.1836	0.3109	0.5053	0.614	-0.0804	-0.3372	0.1764	-0.615	0.539	0.1553	-0.0965	0.4072	12.113	0.226
Most of the time	0.1368	-0.0287	0.3024	1.6231	0.105	-0.0402	-0.2122	0.1317	-0.460	0.646	0.0364	-0.1322	0.2051	0.4242	0.672
Always	0.5248	0.0887	0.9608	2.3632	0.018*	0.3414	-0.1115	0.7945	1.480	0.139	0.3574	-0.0867	0.8017	15.802	0.115
Professional role															
Team leader	0.0404	-0.2099	0.2907	0.3169	0.751	-0.2114	-0.4714	0.0485	-1.597	0.111	0.1004	-0.1545	0.3554	0.7734	0.440
Studio director/ Partner	0.0122	-0.2546	0.2791	0.0900	0.928	-0.3291	-0.6063	-0.0519	-2.332	0.020*	0.1252	-0.1465	0.3971	0.9048	0.366
Social security affiliation															
Employed	0.0362	-0.1806	0.2530	0.3278	0.743	0.2779	0.0527	0.5032	2.424	0.016*	0.0017	-0.2191	0.2226	0.0153	0.988
Self-employed	0.0349	-0.2325	0.3023	0.2561	0.798	0.1060	-0.1717	0.3839	0.750	0.454	0.1761	-0.0963	0.4485	12.695	0.205
Salary range (euros/year)															
28,000 - < 60,000	-3.67e−4	-0.1476	0.1469	-0.0049	0.996	-0.0095	-0.1625	0.1434	-0.123	0.902	0.1134	-0.0366	0.2634	14.846	0.138
≥ 60,000	-0.2727	-0.4967	-0.0487	-2.3903	0.017*	-0.2050	-0.4377	0.0277	-1.730	0.084	0.2204	-0.0077	0.4487	18.973	0.058

Mental well-being emerged as a strong and consistent predictor across all three burnout dimensions. Lower mental well-being was significantly associated with higher levels of exhaustion (β = −0.457, p < 0.001) and cynicism (β = −0.468, p < 0.001), and with lower professional efficacy (β = 0.512, p < 0 .001). Weekly working hours were positively associated with both exhaustion (β = 0.237, p < 0.001) and cynicism (β = 0.109, p = 0.009), but not with professional efficacy. Regarding working on weekends and public holidays, participants who reported always

working during these times scored significantly higher on exhaustion (β = 0.525, p = 0.018). No significant effects were observed for the "occasionally" or "most of the time" categories. Professional role showed a significant effect on cynicism: being a studio director or partner was associated with lower levels of cynicism compared to employees (β = −0.329, p = 0.020). No significant effects were found for professional efficacy or exhaustion based on professional role. In terms of social security affiliation, being employed (as opposed to self-employed) was significantly associated with higher cynicism scores (β = 0.278, p = 0.016), though no significant differences were observed in exhaustion or professional efficacy. Finally, salary range had a significant impact on exhaustion: those earning ≥ €60,000 per year reported lower exhaustion (β = −0.273, p = 0.017). Although the same group also tended to score higher on professional efficacy, the result did not reach statistical significance (β = 0.220, p = 0.058).

DISCUSSION

The present study aimed to identify key predictors of the three dimensions of burnout, exhaustion, cynicism, and professional efficacy, within the professional context of architecture in Spain. The findings indicate a high prevalence of burnout symptoms among participants, particularly regarding exhaustion and cynicism, as more than half of the respondents reported high levels on both subscales. This suggests that emotional and mental fatigue, along with a sense of detachment from work, are common experiences among architects. Notably, the dimension of professional efficacy displayed a different distribution. Approximately the same proportion of participants reported low levels of professional efficacy, reflecting high burnout, as those who reported high levels, pointing to a marked polarization in how professionals perceive their own competence. This divergence may reflect a complex relationship between burnout dimensions. For example, it is possible for individuals to feel emotionally drained and develop cynical attitudes while still perceiving themselves as competent or effective in their work roles. Such patterns have been noted in prior literature and point to the multidimensional nature of burnout.

When comparing our data with those observed in Turkey, we find that architects in Spain report higher levels of burnout, although it should be noted that the MBI scale used was not exactly the same. In Spain, only a few studies have reported descriptive values based on the MBI-GS t-score cutoffs in other professional groups [18]. When comparing the available data, our results indicate that architects show higher levels of exhaustion and cynicism than secondary school teachers [22]. By contrast, when compared with occupational therapists, exhaustion levels appear similar, although this group reports lower levels of cynicism [23]. Furthermore, when considering recent studies that have applied other versions of the MBI scale, we observe similar trend in values among General Practitioners [24], but higher levels than those reported in Implant Dentistry [25], or surgical area nurses [26]. These comparisons suggest that although burnout is a widespread phenomenon across some Spanish professionals, its expression in architects may be characterised by particularly elevated levels of cynicism, which could reflect specific psychosocial stressors inherent to this profession.

Regarding mental well-being, we observed a lower mean score among architects (48) compared to previous studies conducted in Spain using the same questionnaire, in which participants scored above 54 [21,27,28]. It is important to note that in our sample, less than 10% of participants were classified at the highest level of mental well-being, whereas in some of the studies cited above, this proportion exceeded 33%, reaching as high as 50% in certain cases. Our study also revealed a strong correlation between the three burnout subscales and mental well-being, with mental well-being emerging as one of the most consistent and influential predictors across all dimensions. Specifically, lower levels of mental well-being were strongly associated with higher exhaustion and cynicism, as well as reduced professional efficacy. These results are consistent with previous research emphasizing the central role of psychological well-being in mitigating burnout [29-31]. The strength and consistency of these associations underscore the importance of promoting mental health as a core component of burnout prevention and intervention strategies. Taken together, these findings suggest that architects may constitute a particularly vulnerable professional group, with working conditions that could contribute to lower psychological well-being compared to other populations. Other studies have mentioned as difficult working conditions evoked by Spanish architects, working overnight or during the weekends, and economic instability as the absence of a fixed salary [1].

Focusing on professional variables, participants in our study reported working more than 40 hours per week, as also observed in a recent report [7]. Consistent with previous studies [32,33], we observed that weekly working hours were

positively associated with both exhaustion and cynicism, suggesting that workload, particularly in terms of time investment, remains a key driver of burnout symptoms.

Interestingly, professional efficacy was not influenced by weekly hours, indicating that while longer workweeks may increase emotional strain, they do not necessarily undermine individuals' perceptions of competence. Working on weekends and public holidays had a significant impact on exhaustion only among those who reported always working during these periods. This suggests that occasional or even frequent weekend work may not be inherently harmful, but continuous, uninterrupted schedules could elevate the risk of exhaustion due to insufficient recovery time. These findings support burnout models that emphasize the critical role of rest and work-life balance [34].

Professional role was significantly related to cynicism, with studio directors and partners reporting lower levels than other roles. This might reflect differences in autonomy, job control, or alignment with organizational goals among higher-level professionals, which are known protective factors against burnout [35]. However, no differences were observed in exhaustion or professional efficacy, suggesting that leadership positions may protect specifically against detachment or disillusionment, rather than overall burnout. Interestingly, employment status also influenced cynicism, with employed individuals reporting higher cynicism than the self-employed. This could be due to perceived lack of control or organizational constraints that are more prevalent in salaried positions. In contrast, self-employed individuals may experience greater autonomy, potentially mitigating cynical attitudes despite other work-related stressors. These finding are in line to architects´ job satisfaction and work-life balance studies in the United Kingdom (UK), which showed that salaried employees tended to report lower job satisfaction, greater work-life conflict, and higher turnover intentions compared to their self-employed counterparts [36].

Income was the factor that showed consistent differences across all three burnout subscales and mental well-being. Architects with lower earnings reported higher levels of exhaustion and cynicism, as well as lower professional efficacy and mental well-being. Salary level also displayed a significant inverse association with exhaustion, with higher earners reporting lower levels of exhaustion. Although higher income was marginally associated with greater professional efficacy, this effect did not reach statistical significance. Overall, these findings suggest that financial security may serve as a buffer against the emotional demands of work, consistent with previous research linking income to professional satisfaction and mental well-being [37,38], including specific studies related to architects [2].

Consistent with previous research, our findings reveal a clear overlap between burnout indicators and the use of psychological or pharmacological support [39,40]. Compared with data from Spanish studies, the proportion of architects attending psychological therapy was higher than in the general population [41]. Notably, participants undergoing psychological therapy exhibited significantly higher levels of exhaustion and lower levels of professional efficacy and mental well-being. While this pattern may reflect the greater likelihood of individuals with more severe symptoms seeking treatment, it also highlights the clinical relevance of burnout as a condition with tangible mental health consequences. Consistent with this pattern, participants taking anxiolytics showed higher exhaustion and cynicism, along with reduced professional efficacy and well-being. The absence of significant differences among antidepressant users may be explained by the small sample size, variability in treatment response, or the possibility that antidepressants help stabilize some of the dimensions assessed. These findings align with recent studies conducted in Spain [42]. The use of sleeping pills and melatonin was linked to higher exhaustion and cynicism, suggesting that sleep disturbances may mediate the relationship between burnout and mental health. Prior research shows that burnout predicts poorer sleep quality, disrupts sleep architecture, and is strongly associated with sleep disorders [43,44]. Overall, these findings indicate that burnout has substantial mental health implications and that interventions should target sleep quality, recovery, and early psychological support to reduce medication reliance and mitigate chronic occupational stress.

Limitations

A major strength of the present study is its large sample, which enhances the generalizability of the findings on burnout predictors among Spanish architects, with a gender balance similar to that recently reported [7]. However, several limitations should be acknowledged. First, the cross-sectional design prevents causal inferences; it remains unclear whether low mental well-being leads to burnout or whether burnout contributes to declines in well-being,

and a reciprocal relationship is likely. Longitudinal studies are needed to clarify these dynamics. Second, all data were self-reported, which may introduce common method bias or social desirability effects. Although burnout is inherently subjective, future research could benefit from incorporating objective or third-party measures, such as supervisor ratings or physiological stress indicators. Finally, while our models explained a moderate portion of the variance in burnout dimensions, a substantial proportion remains unaccounted for, highlighting the need to explore additional factors such as organizational culture, interpersonal relationships, or personality traits.

Future Research Directions

Future research should address these limitations by employing longitudinal and mixed-methods designs to better understand burnout trajectories among architects. Qualitative approaches, such as interviews or ethnography, could provide deeper insights into professional culture, identity, and coping strategies. Additionally, comparative studies across countries and sectors would help determine whether findings are context-specific or generalizable. Further work should also examine organizational and policy factors, including labor regulations, firm practices, and economic conditions. Intervention-based research is needed to test strategies improving workload, work–life balance, and financial stability. Overall, interdisciplinary approaches integrating psychological, organizational, and socio-economic perspectives are essential to advance understanding and support architects' well-being.

CONCLUSION

The results revealed a high prevalence of burnout symptoms among Spanish architects, particularly in relation to exhaustion and cynicism. These findings reinforce the multifaceted nature of burnout in this professional group, suggesting that architects may be especially vulnerable. They also highlight several modifiable factors, especially mental well-being, workload, and work schedule patterns, that organizations and professionals can address to reduce the risk of burnout. Interventions that support mental health, promote balanced working hours, and enhance autonomy may be particularly effective in mitigating exhaustion and cynicism, while also fostering a stronger sense of professional efficacy.

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Supplementary Table 1: Registration status of participants with the official Spanish Colleges of Architects.

Colegio Oficial de Arquitectos (C.O.A.)	**n**	**%**
C.O.A. de Aragón	4	0.6%
C.O.A. de Asturias (COAA)	4	0.6%
C.O.A. de Cádiz	11	1.7%
C.O.A. de Cantabria	26	4.0%
C.O.A. de Castilla La Mancha (COACM)	5	0.8%
C.O.A. de Castilla y León Este (COACYLE)	3	0.5%
C.O.A. de Cataluña (COAC)	72	11.2%
C.O.A. de Córdoba	14	2.2%
C.O.A. de Extremadura (COADE)	1	0.2%
C.O.A. de Galicia (COAG)	15	2.3%
C.O.A. de Granada	2	0.3%
C.O.A. de Huelva	28	4.4%
C.O.A. de Jaén	4	0.6%
C.O.A. de la Comunidad Valenciana (COAV)	111	17.3%
C.O.A. de La Rioja (COAR)	3	0.5%
C.O.A. de las Islas Baleares (COAIB)	91	14.2%
C.O.A. de Madrid (COAM)	46	7.2%
C.O.A. de Málaga	6	0.9%
C.O.A. de Melilla	1	0.2%
C.O.A. de Murcia (COAMU)	5	0.8%
C.O.A. de Sevilla	26	4.0%
C.O.A. Gran Canaria	2	0.3%
C.O.A. León (COAL)	4	0.6%
C.O.A. Tenerife, La Gomera y El Hierro	1	0.2%
C.O.A. VascoNavarro (COAVN)	111	17.3%
Unregistered	46	7.2%