

Job Demands, Performance Pressure, and Organizational Resources as Predictors of Burnout in Sports Professionals

Leopoldo Ferrante

University of Naples “Parthenope”
leopoldo.ferrante@uniparthenope.it

Anna Lardone

University of Naples “Parthenope”
anna.lardone@uniparthenope.it

Emma Saraiello

University of Naples “Parthenope”
emma.saraiello@uniparthenope.it

Abstract

Burnout represents a significant challenge for sports organizations, in which performance-related demands, the complexity of professional roles and the characteristics of work organization can influence the well-being of professionals. Despite the growing attention devoted to mental health in sport, it is important to further investigate the processes through which job demands and organizational resources are associated with stress and burnout among professionals working within different sports contexts. Therefore, the present study aims to analyze these relationships through the Job Demands–Resources (JD-R) model, jointly considering sector-specific job demands, performance pressure, organizational resources, perceived stress, work engagement and work-related burnout. For the study, 1,200 paid professionals in the sports sector were involved, belonging to high-performance and professional contexts, as well as to amateur, fitness and community settings. Using standardized self-report instruments and measures relating to the psychosocial characteristics of work, the reliability of the measures, the structure of the measurement model and the relationships between the variables were examined through confirmatory factor analysis and structural equation modeling. The results revealed an association between higher job demands and performance pressure and higher levels of perceived stress, while job resources were associated with lower stress and higher work engagement, perceived stress showed a positive association with burnout, while work engagement and organizational resources showed negative associations. Overall, the study contributes to further investigating burnout in sport as a phenomenon connected not only to individual characteristics, but also to organizational conditions and the balance between professional demands and resources.

Keywords: *Burnout; Sport Psychology; Job Demands-Resources Model; Perceived stress; Work Engagement*

Introduction

Burnout is a relevant issue for occupational health and organizational functioning, especially when professional demands remain high over time and the available resources are not sufficient to support them. The World Health Organization defines burnout as an occupational phenomenon linked to chronic workplace stress that has not been successfully

managed; its main manifestations include exhaustion, increased mental distance from or cynicism toward one's professional activity, and reduced perceived efficacy (World Health Organization, 2019).

This definition makes it possible to distinguish burnout from a generic condition of temporary stress: it concerns a process related to the work context and to the ways in which demands are addressed and managed over time. To understand the phenomenon, it is useful to start from the concept of occupational stress, which is not limited to conscious emotional tension, but also considers environmental stimuli and the body's adaptive responses and in fact, alongside a psychological definition of stress, understood as a conscious phenomenon, subject to cognitive evaluation of its causes in order to modify its effects, there is a more complex and nonspecific definition of stress that includes stressors and stereotyped responses that escape subjective consciousness and will.

Therefore, from this perspective, stress cannot be attributed exclusively to individual perception, but must also be interpreted in relation to working conditions, the demands imposed by the environment and the resources that enable the individual to respond to them. The literature emphasizes that potentially stressful work characteristics include task content, workload and work pace, working hours, degree of autonomy and professional relationships and above all, high levels of occupational stress are associated with jobs characterized by fragmented, meaningless, uncertain and constantly changing tasks, which expose workers to contradictory cognitive and emotional demands and do not provide adequate feedback. Fast-paced work, rigid or unpredictable working hours, interference between work and private life, limited decision-making autonomy, role ambiguity and conflictual relationships can also contribute to occupational distress (Cox et al., 2000; Dollard et al., 2007).

Burnout, therefore, should not be interpreted solely as an individual difficulty or as a reduced capacity of an individual worker to adapt but it is important to also consider the organizational processes that contribute to generating or maintaining conditions of overload. In this regard, to understand work environments and occupational stress risks, it is necessary to reconsider the dynamic processes of organizational choices rather than the static realities of organizational factors, this approach draws attention to decisions, the distribution of responsibilities, the support available and the consistency between organizational objectives and the well-being of professionals (Rulli, 2006, 2010).

Thus, burnout represents a condition that is relevant to workers' well-being and organizational functioning, especially in contexts where professional demands are high and recovery is limited. In particular, in the sports sector, this issue is difficult to recognize at an early stage, working in environments where availability, dedication and performance orientation are core values can make the boundary between strong involvement and overload considerably subtle, especially during the busiest periods of the calendar or when staff perceive that stopping, slowing down or declaring a difficulty is incompatible with the needs of the team.

In particular, the available evidence on sports personnel suggests that burnout should be investigated as a specific occupational phenomenon, avoiding the automatic transfer to staff of findings obtained from athlete populations, research on coaches, athletic trainers and other professionals has highlighted the possible role of work pressure and professional responsibilities, while organizational and social support may be associated with more favorable psychological outcomes (Kania et al., 2009; Naugle et al., 2013; Yu & Cheng, 2024; Carr et al., 2024).

Reviews focusing on high-performance environments also report the coexistence of workloads, organizational issues and difficulties in reconciling work and private life, while highlighting the heterogeneity of the populations, instruments and assessment criteria used (Frost et al., 2024). In particular, the Job Demands–Resources (JD-R) model provides a useful theoretical framework for interpreting this complexity, job demands include aspects of work

that require continuous physical, cognitive or emotional effort; job resources, on the other hand, are conditions that help achieve objectives, mitigate the cost of demands and promote learning, autonomy and motivation (Demerouti et al., 2001; Bakker & Demerouti, 2017). The model distinguishes between two complementary processes: a health impairment process, in which high and persistent demands fuel stress and exhaustion, and a motivational process, in which resources support work engagement. Resources may also help contain the impact of demands, although this function depends on their nature and the context in which they are available (Bakker et al., 2005). In the sports sector, burnout deserves specific attention.

Working in environments where availability, dedication and performance orientation are core values can make the boundary between strong involvement and overload subtle, especially during the busiest periods of the calendar or when professionals perceive that stopping or declaring a difficulty is incompatible with the needs of the organization. Demands may include high workloads, travel, irregular working hours, responsibilities related to athletes and results, stakeholder expectations and difficulties in maintaining a satisfactory balance between professional and private life and these demands, however, are not necessarily the same for all professional roles or for all sports contexts.

Occupational stress cannot be attributed to a single factor; in fact, task characteristics, workload and work pace, working hours, the level of autonomy and relationships within the organizational context may contribute to determining the experience of stress (Cox et al., 2000; Dollard et al., 2007). From this perspective, it is useful to consider not only the working conditions themselves, but also the way in which the organization distributes responsibilities, makes resources available and supports professionals' well-being. As emphasized in the literature, prevention requires greater congruence between production objectives and professionals' well-being (Rulli, 2010).

Intervention research provides a complementary perspective: changing work organization has reduced burnout or exhaustion in some controlled studies, although effects vary across settings and the certainty of evidence remains limited (Panagioti et al., 2017; Bes et al., 2023). This supports investigating organizational prevention in sport without equating observational associations with intervention effects. In light of the theoretical framework outlined, the present study examines the associations between job demands, performance pressure, organizational resources, perceived stress, work engagement and burnout among paid professionals in the sports sector. In particular, the relationships between job demands and perceived stress, between performance pressure and stress, between job resources and stress or work engagement, as well as between perceived stress, work engagement, job resources and burnout are analyzed. The indirect effect of job demands on burnout through perceived stress is also examined. The objective is to investigate, within the framework of the Job Demands–Resources (JD-R) model, the role of working conditions and organizational resources in the processes associated with burnout, without presupposing differences between the professional contexts considered.

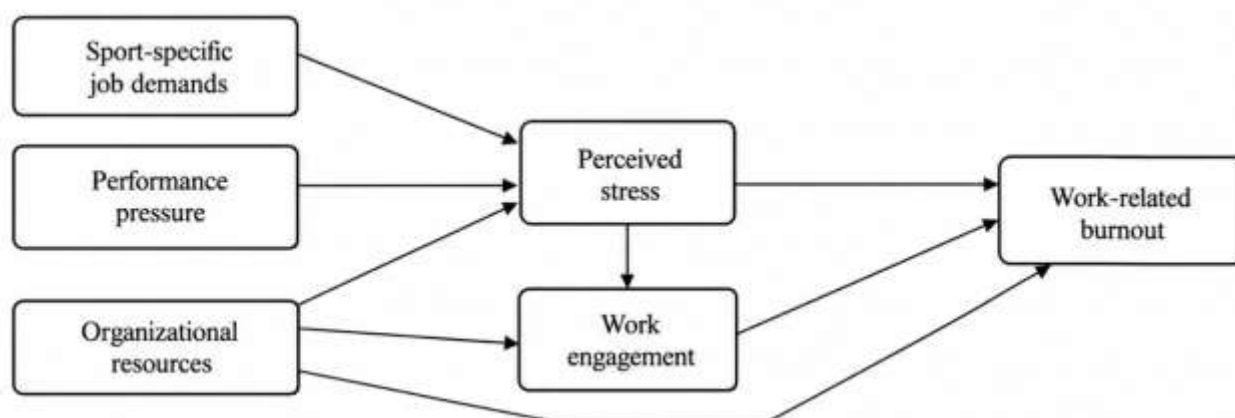


Figure 1 - Conceptual model of the study.

Note: The diagram represents the conceptual model behind the study, developed as part of the Job Demands–Resources (JD-R) model. Sports-specific job demands and performance pressure are linked to perceived stress, while organizational resources are associated with both lower levels of stress and higher work engagement. Perceived stress and work engagement represent two distinct pathways through which working conditions can be associated with work-related burnout. The diagram also includes a direct link between organizational resources and burnout, indicating the possible protective association of resources regardless of mediated pathways.

1. Materials and Methods

Study Design

The present study adopted a multicenter observational design aimed at examining the associations between job demands, performance pressure, organizational resources, perceived stress, work engagement and burnout among paid professionals in the sports sector, with reference to the Job Demands–Resources (JD-R) model. The analyses presented focused on the reliability of the measures, the structure of the measurement model through confirmatory factor analysis (CFA) and the associations between the variables through structural equation modeling (SEM). The indirect effect of job demands on burnout through perceived stress was also examined.

1.2 Participants and setting

The study involved 1,200 employees and paid professionals who worked on a stable basis within sports organizations, including clubs, federations, academies, fitness centers, sports medicine services and companies providing performance-related services. The composition of the sample was defined with the aim of representing the multidisciplinary nature of the sports sector, including different professional roles involved in the preparation, assistance, management and support of sports activities. The sample included coaches and assistant coaches, athletic trainers and strength and conditioning practitioners, physiotherapists, physicians and athletic trainers, sport psychologists and sport scientists, performance and data analysts, team managers and operations staff, administrative, marketing and communication personnel, as well as fitness professionals. The presence of different professional profiles made it possible to consider the multidisciplinary nature of sports work and to examine burnout in relation to different working conditions and responsibilities. Participants were aged between 18 and 67 years and were required to have at least six months of experience in their current

sports setting and were also required to work an average of at least 20 hours per week or hold a stable position involving regular availability to their organization. These criteria made it possible to include participants with sufficiently stable professional integration within the sports context under consideration. Volunteers without paid professional activity, trainees engaged for short periods and participants with a proportion of missing data exceeding the thresholds established for the study were excluded. Participants were considered in relation to their professional setting and in particular, the sample included professionals working in high-performance or professional contexts and professionals working in amateur, fitness or community settings. The two groups therefore represented different organizational and professional contexts and not experimental and control conditions.

1.3 Sampling and sample size

The overall sample consisted of 1,200 participants, divided into approximately 600 professionals from high-performance or professional contexts and approximately 600 professionals from amateur, fitness or community settings. Recruitment was stratified according to the sports setting and, when the distribution of participants allowed, also in relation to the professional role, with the aim of avoiding the sample being excessively represented by a single occupational category.

1.4 Measurements

Standardized self-report instruments were used to assess the main variables under investigation in the study, supplemented by indicators relating to the characteristics of professional activity in the sports context. The measures made it possible to assess the main dimensions envisaged by the theoretical model, with particular reference to job demands, job resources, perceived stress, work engagement, burnout and performance pressure. In particular, work-related burnout was assessed using the Work-related Burnout dimension of the Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005), which measures the degree of physical and psychological exhaustion attributed to work activity. Perceived stress was assessed using the 10-item Perceived Stress Scale (PSS-10; Cohen et al., 1983), which measures the perception of unpredictability, uncontrollability and overload in recent experiences, the measure was used to examine the relationship between job demands and burnout. Work engagement was assessed using the 9-item Utrecht Work Engagement Scale (UWES-9; Schaufeli et al., 2006), which assesses vigor, dedication and absorption in professional activity. Job demands and job resources were examined through selected dimensions of the third version of the Copenhagen Psychosocial Questionnaire (COPSOQ III; Burr et al., 2019), including quantitative demands, work pace, emotional demands, influence at work, recognition, role clarity and role conflict, quality of leadership, social support and organizational justice. Descriptive information was also collected on weekly working hours, weekends worked, work-related travel, nights spent away from home, after-hours availability, the phase of the competitive season, the number of athletes or teams supervised and assignments with multiple organizations. Performance pressure was assessed using a specific module for the sports context, constructed ad hoc for the study and comprising items relating to performance-based professional evaluation, perceived responsibility for athletes' outcomes, stakeholder expectations and pressure associated with rapid decision-making. The module underwent cognitive pre-testing to assess its clarity and relevance to the professional context under consideration. The main psychological measures considered in the analyses reported were the CBI work-related burnout, the PSS-10, the UWES-9, the selected dimensions of the COPSOQ III and the performance pressure module.

1.5 Procedure

The organizations involved in the study distributed an invitation to participate containing information about the study and the organizations did not have access to the participants' individual responses. Participation was voluntary and all participants provided informed consent before participating in the study. To allow the data collected at T0 and T1 to be linked, while maintaining the confidentiality of the participants, each participant generated a pseudonymous code, without the use of direct personal identifiers. The second assessment was conducted six months after the initial assessment and the phase of the competitive season was also recorded, so as to consider in the analyses the possible influence of the timing within the season on workload levels, perceived stress and burnout. Procedures were adopted to ensure the confidentiality and protection of participants' data and in particular, considering the possibility that specific combinations of professional role, organization and sport discipline could make some participants recognizable even in the absence of direct identifiers, the results were presented in aggregated form, avoiding information that could allow individual participants to be identified.

1.6 Data Analysis

Before the inferential analyses, a data quality check was planned, including the examination of impossible values, duplicates, potentially unreliable responses, outliers and patterns of missing data. The internal reliability of the scales was assessed using Cronbach's alpha (α) and McDonald's omega (ω). The structure of the measurement model was examined using confirmatory factor analysis (CFA), while the associations between job demands, performance pressure, job resources, perceived stress, work engagement and burnout were analyzed using structural equation modeling (SEM). The indirect effect of job demands on burnout through perceived stress was assessed using bootstrap with 5,000 resamples. Model fit was examined using the CFI, TLI, RMSEA and SRMR indices. The results are reported using standardized coefficients; for the indirect effect, the 95% bootstrap confidence interval and the corresponding coefficient are presented. Burnout was treated as a continuous variable and the interpretation of the results was based on the direction and magnitude of the estimated coefficients and the available confidence intervals. For the main indirect effect, the result was considered supported because the 95% bootstrap confidence interval did not include zero.

2. Results

The scales showed internal reliability values ranging from .82 to .93 for Cronbach's alpha and from .84 to .94 for McDonald's omega and confirmatory factor analysis showed a satisfactory fit of the measurement model (CFI = .956; TLI = .949; RMSEA = .043; SRMR = .039). The structural equation model showed satisfactory fit indices (CFI = .950; TLI = .940; RMSEA = .045; SRMR = .041), the model explained 44% of the variance in perceived stress, 36% in work engagement and 58% in work-related burnout. Job demands were positively associated with perceived stress ($\beta = .42$), as was performance pressure ($\beta = .29$) and job resources showed a negative association with perceived stress ($\beta = -.27$) and a positive association with work engagement ($\beta = .48$). Perceived stress was positively associated with work-related burnout ($\beta = .55$), while work engagement ($\beta = -.30$) and job resources ($\beta = -.16$) showed negative associations with burnout. The indirect effect of job demands on burnout through perceived stress was positive (indirect $\beta = .23$; 95% CI [.18, .29]) and since the confidence interval did not include zero, the result supports the hypothesized indirect effect.

3. Discussions

The present study examined the associations between job demands, performance pressure, organizational resources, perceived stress, work engagement and burnout among paid

professionals in the sports sector. The overall result is consistent with the Job Demands–Resources (JD-R) model: demands and performance pressure are associated with higher stress, while job resources are associated with lower stress and higher engagement. In turn, higher stress, lower engagement and fewer resources are associated with work-related burnout and the indirect effect of demands on burnout through stress ($\beta = .23$; 95% CI [.18, .29]) is particularly relevant because the bootstrap confidence interval does not include zero. These results describe associations estimated by the model and do not, on their own, demonstrate a causal relationship or a temporal sequence. Job demands show the strongest positive association with perceived stress among the two reported stress predictors ($\beta = .42$), compared with performance pressure ($\beta = .29$) and the result is consistent with the idea that distress does not depend exclusively on being evaluated based on results, but also on daily workload, pace, task fragmentation, working hours and the possibility of recovery. In this regard, the concrete conditions under which work is organized must be considered since high levels of occupational stress are associated with jobs characterized by fragmented, meaningless, uncertain and constantly changing tasks, which expose workers to contradictory cognitive and emotional demands and do not provide adequate feedback. From this perspective, it is possible to interpret the coefficient relating to job demands without reducing the problem to a presumed personal weakness: uncertainty, discontinuity of tasks and lack of feedback can also make demands more difficult to manage. Performance pressure was also positively associated with perceived stress ($\beta = .29$). In the sports context, this association can be interpreted in light of the responsibilities connected with results, stakeholder expectations and the decisions that professionals are required to make. The literature on athletic trainers has examined the role of personal and environmental characteristics in burnout (Kania et al., 2009; Naugle et al., 2013), while more recent studies have investigated external pressures and support in athletic trainers' clinical decisions (Carr et al., 2024) and the relationship between work stress, burnout and organizational support among elite coaches (Yu & Cheng, 2024). These contributions provide a relevant frame of reference for interpreting the present results, although they concern specific populations and professional conditions, which cannot automatically be considered equivalent to the entire sample of sports professionals. Job resources show a negative association with stress ($\beta = -.27$) and a positive association with work engagement ($\beta = .48$) and the coefficient relating to engagement is the highest among the positive associations reported in the model, suggesting that autonomy, support, recognition, role clarity and quality of coordination may be accompanied by a more energetic and engaged relationship with work. The JD-R theory distinguishes between a health impairment process, associated with persistent demands, and a motivational process, supported by resources (Demerouti et al., 2001; Bakker & Demerouti, 2017). Furthermore, in light of the results, the relevance of the organization also emerges from the negative relationship between job resources and burnout ($\beta = -.16$), which remains in the model alongside the associations of stress and engagement with burnout. Therefore, the JD-R literature considers resources not only as tools for addressing demands, but also as conditions that support motivation and professional functioning (Bakker et al., 2005; Bakker & Demerouti, 2017). Perceived stress is positively associated with work-related burnout ($\beta = .55$), representing the strongest direct pathway among those reported in relation to burnout and this finding is consistent with a process-based interpretation of the phenomenon: when demands are experienced as persistent and difficult to manage, they may be accompanied by exhaustion and detachment from professional activity. Thus, in comparison with the literature on sports personnel, the overall picture that emerged is consistent with the idea that burnout should be studied as a specific occupational phenomenon and not automatically inferred from findings obtained from athletes (Kania et al., 2009; Naugle et al., 2013; Snarr and Beasley, 2022) and therefore, the available evidence indicates that burnout represents a concrete problem also for those who work in sport, but its prevalence cannot be summarized by a single value applicable to all professions. From

an applied perspective, the results suggest that prevention should not rely exclusively on individual coping strategies, it is reasonable to consider monitoring workloads and availability outside working hours, the predictability of shifts and travel, clarity of responsibilities, the availability of feedback and support from supervisors.

Organizational interventions: evidence and implications for sports professionals

These practical priorities can be developed into an organizational prevention strategy, but the distinction between the present observational findings and evidence from intervention studies must be maintained. The studies considered below concern healthcare or information technology rather than sports professionals. They therefore inform intervention design, not an established estimate of effectiveness in sport. Consistent with the JD-R framework, organizational action should modify the demands and resources of the job itself, rather than only provide training for individuals to tolerate unchanged working conditions (Bakker & Demerouti, 2017). In a meta-analysis of 19 studies involving 1,550 physicians, Panagioti et al. (2017) found greater reductions in burnout scores, primarily emotional exhaustion, for organization-directed interventions (standardized mean difference = -0.45, 95% CI [-0.62, -0.28]) than for physician-directed interventions (-0.18, 95% CI [-0.32, -0.03]). This comparison was based on study subgroups, not a randomized head-to-head comparison of the two approaches. Bes et al. (2023) subsequently synthesized 13 controlled studies and found a small reduction in exhaustion for organizational interventions alone (effect size = -0.25, 95% CI [-0.37, -0.13]; 11 studies). Workload-focused and participatory interventions showed benefits, whereas scheduling interventions did not show a statistically significant pooled effect, the overall certainty of evidence was rated very low, and 12 of the 13 studies concerned healthcare workers. A practical example is the Healthy Work Place cluster randomized trial, involving 166 clinicians across 34 primary care clinics, with 135 completing follow-up at 12-18 months. Interventions addressed communication, workflow and locally identified quality-improvement priorities. Although the overall group treatment analysis was not significant, a secondary analysis found that more intervention clinicians improved in burnout than controls (21.8% versus 7.1%; $p = .01$), with improvements associated with workflow changes and targeted projects (Linzer et al., 2015). These percentages describe participants showing improvement, not a 21.8% reduction in burnout severity. The findings support testing concrete changes to work processes rather than assuming that feedback or discussion alone will be sufficient. Staffing adequacy also has intervention evidence. In a quasi-experimental evaluation of a minimum nurse staffing policy, Ruppel et al. (2024) compared 27 intervention hospitals with 41 comparison hospitals over two years. The reported hospital percentages of nurses with high burnout fell from 39.3% to 32.6% in intervention hospitals, compared with 39.7% to 40.3% in comparison hospitals. High burnout was defined using the emotional exhaustion subscale of the Maslach Burnout Inventory. This controlled before-after evidence supports addressing workload through adequate staffing, while non-random allocation limits causal certainty and prevents direct extrapolation of the effect size to sports organizations. Evidence outside healthcare illustrates the relevance of control and supervisor support. In a group-randomized study of 867 information technology workers, an initiative increasing control over work time and supervisors' support for employees' personal lives reduced burnout over 12 months among employees surveyed before a merger announcement. Effects were limited among those surveyed after the announcement (Moen et al., 2016). The result suggests that employee-oriented flexibility and supportive management may help, but that implementation context matters; it does not establish that flexible scheduling alone will reduce exhaustion in every setting. For sports organizations, a cautious translation of these findings is to combine workload reduction with usable resources. A participatory workload review could map coaching, clinical, administrative and travel duties, including work outside scheduled hours, and identify tasks to

remove, redistribute or support with additional personnel. Peak competition periods could be planned with back-up coverage and protected recovery time after travel and weekend work. These proposals apply the principles of workflow redesign and staffing adequacy rather than importing healthcare staffing ratios into sport. They should also avoid shifting excess work onto another professional group (Linzer et al., 2015; Ruppel et al., 2024). A second target is to increase staff influence over modifiable schedules and task priorities, clarify decision-making responsibilities, and establish a route for escalating incompatible demands. Supervisors could be trained to provide timely feedback and respond to overload by adjusting assignments, not simply advising greater resilience. Staff-led reviews should lead to agreed actions, a responsible decision-maker and a follow-up date; meetings and training should occur within protected work time. Evaluation of professionals could consider agreed work processes and available resources alongside competitive outcomes. Within the JD-R framework, these changes are hypothesized to reduce excessive demands and uncertainty, support recovery and strengthen control and support; these mechanisms require direct testing in sports personnel (Bakker & Demerouti, 2017; Moen et al., 2016).

Limitations and interpretation

However, the results should be interpreted by considering several limitations, first, the observational design does not make it possible to establish definitive causal relationships between job demands, perceived stress, work engagement and burnout and although the observed associations are consistent with the Job Demands–Resources (JD-R) model, it is not possible to rule out the involvement of other individual or organizational factors not included in the model. Second, the use of self-report instruments may have influenced responses through the subjective perception of working conditions and personal well-being, future studies could integrate self-report measures with organizational indicators and assessments from different sources, in order to deepen the understanding of the processes associated with burnout. Overall, the results support an organizational interpretation of burnout among paid professionals in the sports sector, job demands and performance pressure are associated with higher stress; resources are associated with lower stress and higher engagement; higher stress is associated with higher burnout, while engagement and resources are associated with lower levels of burnout. Thus, the contribution of the work lies in jointly considering demands, resources and psychological processes within the JD-R framework.

Conclusion

The results of the present study highlight associations between working conditions and burnout among paid professionals in the sports sector, job demands and performance pressure were associated with higher levels of perceived stress, while job resources were associated with lower stress and higher work engagement. Perceived stress showed a positive association with burnout, while work engagement and job resources showed negative associations. Furthermore, the indirect effect of job demands on burnout through perceived stress was supported by the reported confidence interval. Overall, the results are consistent with the Job Demands–Resources model and emphasize the importance of jointly considering organizational demands and resources in the study of burnout. These associations identify organizational targets for prevention, while intervention studies in other occupational sectors provide complementary, but not directly transferable, evidence that changing work conditions can reduce exhaustion. In sports settings, participatory workload redesign, adequate staffing, protected recovery and responsive supervision warrant controlled evaluation using work-related burnout as a prespecified outcome. Individual support may complement these measures, but should not substitute for changes to persistently excessive job demands.

References

- Altfeld, S., Schaffran, P., Kleinert, J., & Kellmann, M. (2018). Minimising the risk of coach burnout: From research to practice. *International Sport Coaching Journal*, 5(1), 71-78.
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, 10(2), 170–180. <https://doi.org/10.1037/1076-8998.10.2.170>
- Baumann, L., Schneeberger, A. R., Currie, A., Iff, S., Seifritz, E., & Claussen, M. C. (2024). Mental health in elite coaches. *Sports Health*, 16(6), 1050-1057.
- Bes, I., Shoman, Y., Al-Gobari, M., Rousson, V., & Guseva Canu, I. (2023). Organizational interventions and occupational burnout: A meta-analysis with focus on exhaustion. *International Archives of Occupational and Environmental Health*, 96, 1211-1223. <https://doi.org/10.1007/s00420-023-02009-z>
- Brenner, J. S., Watson, A., Brooks, M. A., Carl, R. L., Briskin, S. M., Canty, G., ... & Emanuel, A. (2024). Overuse injuries, overtraining, and burnout in young athletes. *Pediatrics*, 153(2).
- Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., et al. (2019). The Third Version of the Copenhagen Psychosocial Questionnaire. *Safety and Health at Work*, 10(4), 482–503. <https://doi.org/10.1016/j.shaw.2019.10.002>
- Carr, S., Madden, M., Kneavel, M., & Bowman, T. (2024). Athletic trainers' stress, support, and external pressures when making clinical decisions. *Journal of Sports Medicine and Allied Health Sciences*, 9(3), Article 1. <https://doi.org/10.25035/jsmahs.09.03.01>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. <https://doi.org/10.2307/2136404>
- Cox, T., Griffiths, A., & Rial-González, E. (2000). *Research on work-related stress*. European Agency for Safety and Health at Work. <https://op.europa.eu/en/publication-detail/-/publication/4d4ed360-a6f6-4639-9f6e-80c7df9be339>
- Davis, J., & Jovic, M. (2024). The coaching and leadership burnout paradox. *Journal of Management Development*, 43(4), 608-618.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dollard, M., Skinner, N., Tuckey, M. R., & Bailey, T. (2007). National surveillance of psychosocial risk factors in the workplace: An international overview. *Work & Stress*, 21(1), 1–29.
- Dong, L., Zou, S., Fan, R., Wang, B., & Ye, L. (2024). The influence of athletes' gratitude on burnout: the sequential mediating roles of the coach–athlete relationship and hope. *Frontiers in psychology*, 15, 1358799.
- Frost, J., Walton, C. C., Purcell, R., Fisher, K., Gwyther, K., Kocherginsky, M., & Rice, S. M. (2024). The mental health of elite-level coaches: A systematic scoping review. *Sports Medicine – Open*, 10, Article 16. <https://doi.org/10.1186/s40798-023-00655-8>
- Hilpisch, C., Krüger, K., Raab, M., Wiese, L., Zentgraf, K., & Mutz, M. (2024). Burnout symptoms in elite athletes: assessing the role of effort–reward imbalance, support and emotions. *International Review for the Sociology of Sport*, 59(7), 1054-1074.
- Kania, M. L., Meyer, B. B., & Ebersole, K. T. (2009). Personal and environmental characteristics predicting burnout among certified athletic trainers at National Collegiate Athletic Association institutions. *Journal of Athletic Training*, 44(1), 58–66.

- Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*, 19(3), 192–207. <https://doi.org/10.1080/02678370500297720>
- Ruppel, H., Dougherty, M., Kodavati, M., & Lasater, K. B. (2024). The association between alarm burden and nurse burnout in US hospitals. *Nursing outlook*, 72(6), 102288.
- Linzer, M., Poplau, S., Grossman, E., Varkey, A., Yale, S., Williams, E., Hicks, L., Brown, R. L., Wallock, J., Kohnhorst, D., & Barbouche, M. (2015). A cluster randomized trial of interventions to improve work conditions and clinician burnout in primary care: Results from the Healthy Work Place (HWP) study. *Journal of General Internal Medicine*, 30(8), 1105–1111. <https://doi.org/10.1007/s11606-015-3235-4>
- Moen, P., Kelly, E. L., Fan, W., Lee, S.-R., Almeida, D., Kossek, E. E., & Buxton, O. M. (2016). Does a flexibility/support organizational initiative improve high-tech employees' well-being? Evidence from the Work, Family, and Health Network. *American Sociological Review*, 81(1), 134–164. <https://doi.org/10.1177/0003122415622391>
- Naugle, K. E., Behar-Horenstein, L. S., Dodd, V. J., Tillman, M. D., & Borsa, P. A. (2013). Perceptions of wellness and burnout among certified athletic trainers: Sex differences. *Journal of Athletic Training*, 48(3), 424–430. <https://doi.org/10.4085/1062-6050-48.2.07>
- Oglesby, L. W., Gallucci, A. R., & Wynveen, C. J. (2020). Athletic trainer burnout: A systematic review of the literature. *Journal of Athletic Training*, 55(4), 416–430. <https://doi.org/10.4085/1062-6050-43-19>
- Panagioti, M., Panagopoulou, E., Bower, P., Lewith, G., Kontopantelis, E., Chew-Graham, C., Dawson, S., van Marwijk, H., Geraghty, K., & Esmail, A. (2017). Controlled interventions to reduce burnout in physicians: A systematic review and meta-analysis. *JAMA Internal Medicine*, 177(2), 195–205. <https://doi.org/10.1001/jamainternmed.2016.7674>
- Pilkington, V., Rice, S. M., Walton, C. C., Gwyther, K., Olive, L., Butterworth, M., Clements, M., Cross, G., & Purcell, R. (2022). Prevalence and correlates of mental health symptoms and well-being among elite sport coaches and high-performance support staff. *Sports Medicine - Open*, 8, Article 89. <https://doi.org/10.1186/s40798-022-00479-y>
- Purcell, R., Frost, J., & Pilkington, V. (2024). Mental health of elite sport coaches and entourage. *Clinics in Sports Medicine*, 43(1), 199–211.
- Rosefield, M. (2024). Burnout and compassion fatigue in coaches: A case for coach-care. *Coaching Psychologist*, 20(1), 28.
- Rulli, G. (2006). Il “caso” mobbing come occasione di riflessione biomedica sul disagio nel lavoro e sulla sua prevenzione. *Quaderni di Diritto del Lavoro e delle Relazioni Industriali*, 29, 29–38.
- Rulli, G. (2010). *Le stress au travail: évaluation du risque et prévention*. TAO Digital Library.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701–716. <https://doi.org/10.1177/0013164405282471>
- Singe, S. M., Adaspour, M., Cairns, A. H., & Pitney, W. (2024). Bidirectional nature of work-family conflict: Family interfering with work conflict among athletic trainers in the collegiate setting. *Journal of Sports Medicine and Allied Health Sciences*, 10(2), Article 5. <https://doi.org/10.25035/jsmahs.10.02.05>

- Slowiak, J. M., Osborne, R. R., Thomas, J., & Haasan, A. (2024). Burnout, help seeking, and perceptions of psychological safety and stigma among National Collegiate Athletic Association Coaches. *International Sport Coaching Journal*, 12(2), 204-216.
- Snarr, R. L., & Beasley, V. L. (2022). Personal, work-, and client-related burnout within strength and conditioning coaches and personal trainers. *Journal of Strength and Conditioning Research*, 36, e31–e40. <https://doi.org/10.1519/JSC.0000000000003956>
- World Health Organization. (2019). *Burn-out an occupational phenomenon: International Classification of Diseases 11th Revision (ICD-11)*. <https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>
- Yang, L., Zhang, Z., Zhang, J., & Veloo, A. (2024). The relationship between competitive anxiety and athlete burnout in college athlete: the mediating roles of competence and autonomy. *BMC psychology*, 12(1), 396.
- Yu, L., & Cheng, L. (2024). The work stress, occupational burnout, coping strategies and organizational support of elite sports coaches in Sichuan Province: The mediating role of organizational support. *Frontiers in Psychology*, 15, Article 1437234. <https://doi.org/10.3389/fpsyg.2024.1437234>