Marginal gains for monumental results: Setting the stage for enhanced performance and well-being in translation practice through sports

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Abstract
Translating and the practice of sports might appear as very distinct activities at opposite ends of a spectrum, with the former (stereo)typically involving sedentary, deskbound tasks and the latter involving physical exertion and dynamic movement. However, a growing body of evidence from numerous disciplines, such as neuroscience, occupational health, exercise physiology, and sports science, suggests a fascinating intersection where sports and physical activity in general can significantly enhance cognitive function and performance, especially in high-cognition fields such as translation. This paper challenges the perception of translation as a static and solitary profession, drawing attention to the physical, cognitive, and organisational stressors that translators face due to the traditionally sedentary nature of the profession. It explores the link between sports and translation, proposing that incorporating regular movement and physical activity into translators' routines could enhance their well-being, thus supporting healthier, more productive, and happier professionals. This exploratory conceptual paper therefore contributes to a shift in the traditional perception of translation, from a passive task to a more dynamic and engaged practice. It emphasises the need for interdisciplinary research to identify effective physical interventions in a largely cognitive effort, and advocates for a paradigm shift that harmonises translators' mental agility with physical vitality.

Keywords
Sports, physical activity, translators, ergonomics, well-being, creativity, problem-solving, happiness at work

1. Introduction

Translation has been traditionally perceived as the profession of a solitary individual confined to their desk, often surrounded by documents and dictionaries — working in sedentary solitude to combat the chaos of Babel. This perception is exemplified by the figure of Saint Jerome, the patron saint of translators, who is often depicted diligently working at his desk, quill in hand, deeply absorbed in his texts (see Jolly, 1983; Eichberger, 2024). While this image of a near hermit has inspired reverence for the dedication and rigour involved in the act of translating, it has reinforced the idea of the invisible translator as well as the perception of translation as a predominantly sedentary profession; as a lonely occupation (Samuelsson-Brown, 2010, p. 11). In addition, translators often face lack of societal recognition (Katan, 2009) which, together with isolation and loneliness, are factors that may lead to physical and cognitive strains such as persistent fatigue (Ocon, 2013; Chen & Feeley, 2014). All these perceptions have expanded to and are nested in the translator community, including the broader sphere of Translation Studies (TS).

However, since the advent of localisation from the early 1990s onwards, translation is no longer characterised as a one-person job or an end-of-the-line product ready for dissemination (see Esselink, 2000), and with technological changes came diversification of professional roles and translation-related tasks, with performance becoming an intrinsic factor: in an increasingly collaborative environment, quality of output became intertwined with productivity (see Drugan, 2013). Translation plays a

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https://doi.org/10.26034/cm.jostrans.2026.5676

key role in localising products, and the (supposedly) solitary translator found themselves in a setting of translaboration — of collaboration and project management for translation purposes (see Alfer, 2017; Saadat, 2017). This first transpired in the industry from the mid-1980s onwards: translation teams in companies and professional translators became more connected. It was also visible in the increasing number of conferences, the growth of translator associations, and the rise of a translation press (Kingscott, 1985). In addition to this "working together apart" (Olson & Olson, 2013), professional networks and communities, both online and offline, form hubs that are integral to translatorial work (see for instance Massidda, 2015 and Jiménez-Crespo, 2017). They aim at facilitating knowledge exchange and collective problem-solving. Consequently, the image of the solitary, sedentary translator has been reconsidered within TS too, educators and scholars alike. Research on translaboration has shown that the myth of solitariness has been untenable from the beginning; for centuries, translation has been inherently collaborative by nature (St. André, 2010; Wang, 2023; Delistathi, 2023; Federici, 2023). Translators work together, often in teams, leveraging other people's expertise to enhance accuracy and consistency — and ideally also productivity — in their translations.

Due to technological advancements brought about by localisation and automation, translators also work in virtually networked environments. Tools such as computer-assisted translation (CAT) software or translation environments (TEnTs), be it as stand-alone, networked or cloud-based applications, have liberated translators from the perceived confines of ink quills, pen and paper, and stacks of books in secluded attics (see also Rothwell et al., 2023). Digital resources like online databases, corpora, and glossaries provide access to amounts of information that were deemed impossible prior, enabling translators to work more efficiently on their own (see Biau Gil & Pym, 2006; Austermühl, 2014), but also exchange information or provide legacy data for further iterations. Virtual translaboration spaces using digital means then acts as a response to the constraints (Saadat, 2017) and limitations imposed by physical infrastructures. Translation became increasingly enhanced with action-based practical skills and functionalist performances. Yet, all along practitioners increasingly find themselves amidst a seemingly "cut-throat" competition (Van Egdom et al. 2020, p. 365) or "race to the bottom" price setting (Moorkens 2017, p. 464).

Despite these professional transformations, however, the image of translation as a deskbound activity seems to have remained largely unchallenged (Ehrensberger-Dow et al., 2016; Ehrensberger-Dow, 2021). That image may even have been reinforced by the very technological advancements that facilitate collaboration and make information more easily accessible: contact with clients and fellow translators occurs via specialised digital communication platforms from desktop or laptop computers. Physical visits — and therefore activity — to libraries, clients, or fellow translators have become optional because of their ease of access through digital means. The translator's virtual connectivity, while expanding collaborative possibilities, and unravelling myths of solitariness, added to a physically stationary work life (Peñalver & Santamaría Urbieta, 2020) and still continues to do so. Indeed, very often, translators have no face-to-face or in-person interactions with their clients (Teixeira & Zapata, 2024, p. 357). Even more so, the global and pervasive move to online networking and meeting platforms due to the Covid-19 pandemic has added to the idea of empowerment through virtually networked working environments (Diao, 2022).

https://doi.org/10.26034/cm.jostrans.2026.5676

However, translators, as well as translation educators and scholars, ultimately remain bound to the typical insular locality of their indoors workstation.

In contrast, sports are commonly associated with outdoor environments, vigorous physical exertion, dynamic bodily movement, and the interplay of teamwork (see for instance McEwan & Beauchamp, 2014; Eys et al., 2019). Team sports like football, basketball, and volleyball emphasise athletes' coordination and strategic thinking but also thrive on the physical and tactical synchronisation among players, nurturing shared goals as well as a fully embodied sense of belonging to a sports discipline community (see also Ramos et al., 2020). Even in individual sports such as golf, swimming, or martial arts, social interactions play a significant role through coaching relationships, competitions, and training partnerships. Moreover, athletes are often required to travel for training camps and competitions, engage with diverse groups of people, and adapt to different environments. A lifestyle with a noted share of sports activity is characterised by physical mobility, hands-on social interaction, and diversity in terms of cultures and languages — often involving lingua franca and code switching (see also Henriksen et al., 2010). Sports embody an energetic and dynamic engagement — marked by physical connections and active social interplay, standing in stark opposition to the sedentariness associated with translatorial work.

With this study, we seek to challenge the sedentariness of translation and deconstruct the conservative and restrictive perception of the profession. Our contribution aims to bridge the gap between sports and translation, thereby exploring the possibilities and advantages of healthier working lifestyles for translators. We acknowledge that many of the issues discussed are common to desk work as a whole. However, our focus is specifically on the impact of physical activity on translators, an area that has not been critically examined in the existing literature nor critically interrogated. Therefore, we emphasise that while these problems are prevalent in deskbound activities generally, our study aims to investigate the unique effects and potential benefits of incorporating physical activity into professional and mainly individual translation workflows.

To what extent does physical activity, particularly the practice of sports, enhance translators' performance? What are potential interventions deserving further exploration in TS? Are there specific types of sports that would offer specific benefits to translators who practise them? To set the stage for research in this domain and explore tentative answers to these questions, our study draws upon academic literature across diverse fields, including ergonomics, neuroscience, sports science, exercise physiology, psychology, occupational health and TS. Following a literature review in section 2, this exploratory conceptual paper proposes, in section 3, a series of interventions and potential research directions with a view to navigate not only translators' health but also their professional performance and overall well-being through the convergence of translation and physical activity.

2. Literature review

The literature review is structured into two main sections: first, it examines how translation work's sedentariness impacts physical ergonomics, cognitive ergonomics, and organisational ergonomics, while highlighting associated health risks, mental workload, and workplace dynamics. Second, it explores the potential benefits of sports and physical activity for translators, focusing on overall well-being, stress reduction, and enhancements in cognitive abilities such as problem-solving and creativity.

https://doi.org/10.26034/cm.jostrans.2026.5676

Overall, it suggests how integrating physical activity into translators' routines could contribute to their physical health and cognitive performance.

2.1. Translation, sedentariness and ergonomics

Whether working as freelancers or in-house, translators encounter different kinds of advantages (Penet, 2024; Ruokonen & Svahn, 2024). Freelancers, for instance, enjoy autonomy and flexibility, shaping their workload and processes to suit their preferences and maintaining control over their professional trajectory. Such independence can be professionally rewarding, fostering creativity and personal satisfaction. In contrast, in-house translators benefit from income stability, access to company resources, and collegial support within a collaborative environment. Being part of an organisation often brings opportunities for professional development, career progression, and a sense of community that can enhance overall job satisfaction.

Despite these advantages, however, the profession faces significant stressors, including heavy workloads, tight deadlines, declining project availability, and reduced rates—the "race to the bottom" in terms of pricing (Courtney & Phelan, 2019; Moorkens, 2017). Such stressors can manifest not only mentally (Rodríguez-Castro, 2024), but also physically (Korpal, 2021): they may escalate to emotional exhaustion, drain professional commitment and personal enthusiasm, and lead to decreased job satisfaction. Through diminished energy over lack of rewards, they may even lead to or burnout (see for instance Lambert & Walker, 2024; Hüberscher-Davidson, 2017). Moreover, job satisfaction is much lower when there is a lack of in-team recognition or in small-scale projects (Kassawat, 2024). These sentiments and research findings also predate the generative artificial intelligence (AI) paradigm and its impact on the notion of translation and the increasingly widespread acceptability of lower quality[i]. Such stress factors are intricately linked to the sedentary nature of translation work (see also Peñalver & Santamaría Urbieta, 2020); advancements in digital tools have expanded opportunities, yet simultaneously constrained physical and cognitive mobility (see Teixeira & O'Brien, 2017), increasing risks related to prolonged sitting and static postures.[ii]

Ergonomic interventions — such as optimising workstations and implementing tools that offer an improved user experience, align with professional intuition, and are well suited for general human mental abilities—also offer promising solutions to help reduce physical strains and cognitive load by streamlining workflows and minimising distractions (Vicente, 2004; Shneiderman et al., 2016), and mitigate physical strains like musculoskeletal disorders, which are prevalent among translators and can impair productivity and well-being (Naczenski et al., 2017[iii]; Ehrensberger-Dow et al., 2016).

The impact of physical ergonomics on translators' professional activities is multifaceted, encompassing workplace design, human factors, and employee well-being (O'Brien & Ehrensberger-Dow, 2017). Translators are indeed vulnerable to physical discomfort. Inadequate desk setups, improper chair design, and poor posture contribute significantly to musculoskeletal problems, such as back pain, neck strain, and wrist issues. Prolonged static postures exacerbate these physical issues, leading to chronic conditions such as CANS (complaints of the arm, neck, and/or shoulder) or RSI (repetitive strain injury), with symptoms ranging from pain and stiffness to loss of strength and tingling sensations (Ehrensberger-Dow et al., 2016). The prevalence of these issues was confirmed by a recent study conducted in a broader context by

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Goldsmith (2024), where over two thirds of translators reported experiencing upper-body pain.

2.1.1. Translation, sedentariness and physical ergonomics

Evidence of the interest of the industry and academia in physical ergonomics and translation can be found since at least the early 2010s. Work at Université Grenoble Alpes strongly focused on ergonomics, suggesting even that it ought to become a "new paradigm for TS" (Lavault-Olléon, 2011; see also Frérot et al., 2019). Around the same time, a similar interest was also expressed in the professional sphere: the *Circuit* magazine of the Ordre des traducteurs, terminologues et interprètes agrées du Québec (Ottiaq) dedicated the summer 2012 issue to "ergonomics and language professionals" (Ottiaq, 2012) and, almost a decade later, the spring 2021 issue to "learning and practising our professions in comfort" (Ottiaq, 2021). The ErgoTrans project (2013–2015) at the Zurich University of Applied Sciences studied the relationship between ergonomic conditions and productivity, health, and job satisfaction in translation (Ehrensberger-Dow et al., 2016). The research group comprised occupational therapists, usability specialists and TS researchers. They visited translators in their workplace, observed them at work, and assessed various aspects of their work environment. Their study also included a survey among 1,850 translators worldwide with questions related to ergonomic hazards and work-related health issues.[iv] Issues that were raised concerned lack of comfort (neck, wrist, and back pain; visual fatigue; nervousness; sleeping difficulties; headaches; and lack of concentration) and all seemed to be directly related to static work. Similar health concerns related to PC work were observed in a survey of 588 translators in the UK, where over a quarter of respondents reported experiencing such issues (CIOL et al., 2017). In addition to the findings, it should be noted that the rise of CAT tools and other language technologies is likely to have increased the amount of time translators spend sitting in front of a computer screen — although it also opened up the option of taking a laptop to the local coffee shop for instance. While these tools may enhance efficiency and mobility even, they continue to contribute to the physical strain of being stuck to PC- or laptop-based activities. Without proper ergonomic interventions, this staticness can lead to significant physical discomfort and long-term health issues (O'Brien & Ehrensberger-Dow, 2017). Translators, therefore, face the dual challenge of physical inactivity and prolonged sitting, both of which are linked to musculoskeletal disorders, cardiovascular problems and other chronic conditions (Institute of Translation and Interpreting, 2024; Van Egdom, 2025).

2.1.2 Translation, sedentariness and cognitive ergonomics

Cognitive ergonomics examines mental processes involved in work activities, and seeks to optimise mental workload, information processing, and decision-making (IEA, 2025). In translation, cognitive ergonomics focuses on managing the mental effort involved in the translation process. The cognitive well-being of translators is heavily impacted by factors such as information overload, *efficiencism* (which can be described as the mindset where productivity and efficiency dominate one's personal and professional values), the pressure to meet deadlines, and multitasking, including managing multiple technological tools (see also the outcomes of the ErgoTrans project mentioned above). More tools and technological solutions not only bring about at least a partial shift to mainly data-related tasks (term lists, translation memories, reference files, automated drafts by machine translation systems). An increased access to more

https://doi.org/10.26034/cm.jostrans.2026.5676

information can also feel like leading to more clutter (see Daems, 2024) and the perception of decreased control and quality. Consequently, translators often experience cognitive fatigue due to the mental effort required to process and adapt linguistic information (Kappus & Ehrensberger-Dow, 2020). These factors can also lead to cognitive overload, especially when translators handle multiple projects simultaneously (Ehrensberger-Dow et al., 2016). In line with desk work in general, translators who spend long hours working in front of screens without adequate mental breaks or physical movement are more susceptible to cognitive fatigue and burnout (CIOL et al., 2017). Prolonged work in the same position reduces opportunities for mental stimulation and variety.

2.1.3. Translation, sedentariness and organisational ergonomics

Organisational ergonomics looks at how workplace structures, policies, and processes influence worker productivity and well-being (IEA, 2025). This subdiscipline mainly focuses on designing workflows that minimise inefficiencies. This includes adjusting communication channels to ensure smoother collaboration and decision-making processes, as well as designing work environments that encourage effective communication and teamwork. By aligning organisational policies with ergonomic principles such as fostering healthy interpersonal relationships and optimising both physical and virtual spaces for collaboration, organisations can create a more supportive environment that promotes mental and physical health through an optimised workplace well-being.

Translators, working within institutions or companies, or as freelancers, face organisational challenges of both a general and a unique nature. In-house translators benefit from formalised and often highly structured workflows which may facilitate better workload and workflow. However, such rigid systems may limit individual flexibility, autonomy and agency. Freelance translators, by contrast, enjoy a high degree of independence but must navigate the absence of some support mechanisms (see for instance Fraser & Gold, 2001); they frequently face the burden of self-managing schedules, negotiating and renegotiating deadlines, and handling client feedback, without there being support of structured policies or standardised procedures. This lack of formal boundaries can lead to overwork, isolation, and increased stress, since the responsibility for regulating workload, rest, and professional development falls entirely on the individual translator[v]. That said, all translators — employees or self-employed — share at least one growing challenge: the rise of semi-automated workflows that include post-editing machine-translated or AI-generated texts. While these innovative services promise to improve efficiency, they also further constrain translators' autonomy (Moorkens et al., 2018). This dynamic, reported to diminish the agency of the translator (ibid.), poses significant concerns for organisational ergonomics since it leads to diminished job satisfaction, and erodes professional identity in both contexts.

2.2. Sports, physical activity and translation

While the previous subsection examined the challenges associated with deskbound activities, the research reviewed suggests the potential value of a more dynamic approach to translation. This perspective considers the physical benefits of incorporating movement into the translator's daily routine, which, although comparable to other sedentary forms of work, are shaped by the specific conditions of translation

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practice. It also takes into account possible cognitive and organisational implications. The present subsection explores the relationship between translation and physical dynamics by focusing on selected concepts traditionally associated with physical activity, within the broader framework of well-being.

2.2.1. Sports, physical activity and translators' overall well-being

In the context of sports, especially recreational sports, the distinction between "physical activity" and "exercise" (or "training") is often nuanced but significant. While both involve bodily movement that expends energy, they differ in purpose: physical activity encompasses a wide range of spontaneous or incidental movements, whereas exercise involves deliberate, structured efforts aimed at improving or maintaining physical fitness (Caspersen et al. 1985). It could be argued that exercise is a subset of physical activity. Recognising these differences is essential, as they allow us to investigate the effects of different types of physical movement on both physical and mental health.

The benefits of both physical activity and exercise/training on general and professional well-being have been widely recognised across disciplines as varied as occupational health, neuroscience and sports science (see for instance Haskell & Blair, 1980; Sjøgaard et al., 2016; Prieske et al., 2019). The World Health Organisation (WHO) underscores the importance of exercising in its *Global action plan on physical activity 2018–2030*, which recommends at least 150 minutes of moderate-intensity or 75 minutes of high-intensity exercise per week for adults. These guidelines are informed by research showing that regular exercise reduces symptoms of depression and anxiety, improves mood, and promotes a higher quality of life (WHO, 2018).

For translators, mental health is crucial not only for personal quality of life but also for the quality and efficiency of their work. Research has shown that professions with high cognitive demands often face unique mental health challenges, including heightened stress and burnout, which negatively affect both performance and job satisfaction (Lindwall et al., 2014). Physical activity can serve as a protective factor against such occupational hazards by reducing levels of burnout, boosting self-efficacy, and increasing overall work ability (Naczenski et al., 2017). Physical activity has also been shown to positively impact stress management, which contributes to an individual's overall wellness (Salvaglioni et al., 2017).

Although evidence supporting the benefits of physical activity on cognitive functioning has grown in recent years (Hernández-Mendo et al., 2019), it is important to be cautious about (self-set) expectations; failing to meet certain goals can be disheartening, and an unhealthy work-life balance driven by unfulfilled plans and commitments may lead to subliminal anxiety, latent frustration, or feelings of missing out when comparing oneself to peers or exercise group members. When work pressures conflict with personal passions and the desire to improve physical health and work-life balance, it can create cognitive dissonance that is both mental and linguistic in nature (Olga, 2015).

This brings us to the concept of Happiness-at-Work (HaW), here defined as a person's positive feelings towards their job, job characteristics and organisation (Fisher, 2010; Salas-Vallina & Alegre, 2018; Bednárová-Gibová, 2021). HaW is deemed critical for professional well-being and is linked to workplace structures that support mental and

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emotional health. For in-house translators, ergonomically optimised environments that promote fair workload distribution, collaboration, and opportunities for growth are vital for job satisfaction and engagement. Efficient processes and smooth communication have been proven to enhance motivation, creativity and engagement (Bani-Melhem et al., 2018), but over-prioritisation of productivity in professional contexts inevitably leads to stress from unrealistic deadlines and excessive workloads, ultimately eroding HaW. For freelance translators, the challenge often lies in maintaining a healthy work-life balance, as the boundaries between professional and personal life blur, leading to mental fatigue and chronic stress. While the flexibility of freelance work offers autonomy, it can also generate a constant sense of availability and pressure to accept projects at all hours, further eroding long-term satisfaction. Applying principles aimed at improving HaW can therefore serve as effective strategies to address these challenges in sedentary work environments such as translation. It is worth noting that in the field of interpretation, research has suggested that self-care and staying fit can contribute to more sustainable careers and fulfilling professional experiences; in short, to increased HaW. For example, Costa et al. (2020) have argued that keeping oneself fit in order to perform interpreting to the highest possible standards is a key ethical responsibility for interpreters working in ethically challenging refugee contexts; Korpal and Mellinger (2022) build on this and confirm that physical health is one of the six main self-care domains how community interpreters mitigate the stress characteristic in their profession.

Stress is indeed another inherent part of high-demand professions, and translation is no exception. Physical activity plays a critical role in stress management by triggering the release of endorphins, which elevate mood, and by reducing cortisol levels—a hormone associated with stress. Coffeng et al. (2015) explored the relaxation benefits of during- and after-work physical activity in office workers, and their findings suggest that engaging in stair climbing, leisure activities, (physical) detachment at work, relaxation and detachment after work is associated with a lower need for recovery. For their part, Mahindru et al. (2023) examined how physical activity positively impacts various mental health conditions, such as depression, anxiety, schizophrenia, and highlighted that regular physical activity can alleviate symptoms of depression and anxiety. This aligns with findings from Naczenski et al. (2017), who showed that employees who incorporate physical movement into their routines exhibit better cognitive function and sleep quality, reduced stress, and overall improved professional satisfaction. Thus, translators who engage in regular physical activity experience better mood stability and mental clarity, which are professional situational parameters that can drive improved productivity and quality.

2.2.2. Sports, physical activity and translators' cognitive abilities

As mentioned earlier, the benefits of physical activity extend beyond physical health. Now, a deeper exploration of the impact of physical activity on human cognition can provide evidence of some benefits that can be considered essential for the translator's skill set.

Translators often work under tight deadlines, making cognitive endurance and mental flexibility key to their work. Physical activity, by enhancing cognitive abilities, may provide translators with essential resources to tackle complex tasks and adapt to linguistic and contextual challenges. For instance, regular physical activity has been

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shown to improve problem-solving skills, a benefit that is particularly relevant to translation work which is traditionally seen as a "decision-making process" which requires complex problem-solving strategies (see Levý, 1967). Aga et al. (2021) showed that individuals who engage in regular physical activity often demonstrate superior problem-solving skills compared to those leading sedentary lifestyles. Exercise boosts both convergent and divergent thinking. Additionally, physical activity aids memory retention and retrieval by promoting neurogenesis and expanding hippocampal volume, which is believed to help in recalling and applying concepts more effectively (see also Ploughman, 2008; Pontifex et al., 2016; Van Dongen et al., 2016). Regular exercise also clearly enhances attention span and executive functioning, crucial for professionals working under time constraints, as it strengthens decision-making and task prioritisation skills (Trollebø et al., 2024). Moreover, exercise accelerates information processing, enabling quick and accurate responses. Translators who incorporate movement into their routine may therefore find themselves better equipped to handle demanding projects, overcome mental blocks, and maintain clarity under pressure.

In addition to problem-solving, physical activity is closely linked to enhanced creativity (see Aga et al., 2021). This connection seems especially beneficial for translators, who often need to think creatively to find innovative linguistic solutions (Kussmaul, 1995). Within the field of cognitive neuroscience, Rominger et al. (2022) found a strong correlation between regular physical activity and improved creative thinking, noting that physical activity stimulates the production of neurotrophic factors, which promote brain cell growth and development. These biological processes create a conducive environment for generating new ideas, allowing individuals to think beyond conventional frameworks. Translators who engage in physical activity, therefore, may find their creative abilities bolstered, enabling them to produce more original solutions to translation problems. Thus, given the crucial role of creative thinking in translation, especially in the AI era (Guerberof-Arenas & Toral, 2022; Massey et al., 2023), understanding how various types and intensities of physical activity influence creativity is essential, as suggested in the work by Chen (2024). Such insights can inform both academic research and practical applications, helping to develop targeted strategies that leverage physical activity to boost cognitive function and creativity in real-world environments like translation classrooms, physical and digital workplaces (ibid.).

Additionally, research in cognitive psychology has pointed out that physical activity aids mental relaxation, a state that can lead to high-insight realisations, or "aha!" moments. Tik et al. (2018) examined how physical activity influences moments of higher insight, finding that it promotes a state of relaxed alertness, where openness to new ideas increases. This can be particularly valuable for translators, who benefit from shifts in perspective when working through challenging texts.

The broader insights from this literature review underscore the occupational hazards inherent to translatorial work, challenge its sedentariness, and point to the many potential benefits for translators of adopting an active lifestyle. Moving forward, interdisciplinary research on sports in translation is necessary. A clear research agenda could drive studies exploring the link between physical activity and overall translator well-being, investigating how these interventions support sustainable practices. Insights from cognitive ergonomics and organisational studies may also guide how movement policies can be tailored to both in-house translators and

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freelancers. Ultimately, integrating regular exercise and sports into translators' routines may promote individual health as well as the profession's long-term sustainability. The next section lays the groundwork for actionable strategies to enhance health and performance, as well as avenues for future research.

3. Proposed interventions and research avenues

Several studies discussed in this paper highlighted the need for preventive interventions and early identification of burnout and other issues associated with deskbound work environments. The interventions presented in this section range from minor adjustments that can be implemented during translation tasks all the way to more radical changes aimed at promoting an active and mindful lifestyle. The suggested routes for physically healthier and enhanced capacity for translators is organised into four different sets of activities: a) the immediate workspace (desk exercises, movement breaks, adjustable environments), b) the dynamic workspace (integrating speech-based techniques and technologies); c) fluid workspace (flexible work arrangements and active commuting), and d) collaborative work-life balance (group fitness, mind-body practices, and sports and wellness programmes).

We also see the proposed routes – trajectories along which translators can walk according to personal needs, requirements and preferences – as a translator's equivalent of seeking marginal gains. Often used in contexts of currency valuations in the early 2000s but adopted in the context of sports and popularised by British cycling since around the 2012 Olympic Games, the concept of *marginal gains* has become increasingly used to emphasise that making small, manageable improvements across multiple areas can collectively lead to significant overall enhancements and boost performance or outcomes over time (see also Hall et al., 2012; Slater, 2012).

Since each of these interventions are proposed within the framework of an exploratory conceptual paper that sets the agenda for future research, we also suggest avenues for further exploration.

3.1. Desk exercises

Introducing simple exercises (e.g., seated leg lifts, shoulder rolls, or wrist stretches) that can be performed at the desk helps break up long periods of sitting, reducing the risk of musculoskeletal issues and promoting better blood circulation. These minor adjustments require minimal effort on the part of the translator and no special equipment, making them easily adoptable during translation tasks. Research has shown that intermittent desk exercises during sedentary work can significantly improve physical comfort and reduce fatigue (Thorp et al., 2014). Incorporating such exercises has been associated with decreased musculoskeletal discomfort among office workers. Future research could explore their specific impact on translators' productivity and well-being. A possible study design might involve a controlled trial where a group of translators performs regular desk exercises (while a control group does not), which allows for a measurement of levels of translators' physical discomfort, concentration, etc., as well as the quality of their work.

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3.2. Movement breaks

Regular short breaks involving physical movement can alleviate the effects of prolonged sitting, and as such enhance cognitive function and reduce fatigue. Naczenski et al. (2017) indicate that brief movement breaks improve cognitive performance and reduce stress levels in sedentary workers. Investigating the optimal frequency and duration of movement breaks for translators could provide valuable insights. Future studies might implement scheduled movement breaks in a translation setting and assess their effects on focus, accuracy, creativity, memory and overall well-being.

An example area for investigation is the effect of moderate physical activity on verbal memory retention, especially relevant for terminology learning in translation practice. A study by Schmidt-Kassow and collaborators (2014) showed that participants who engaged in moderate activities like walking on a treadmill exhibited significantly better long-term retention of new vocabulary words compared to those who remained sedentary. This enhanced retention is thought to be due to the stimulation of brain regions such as the hippocampus, which plays a key role in memory consolidation. For translators, incorporating moderate physical activities into their routine — like taking brief walking breaks while reviewing new terminology — could support more effective vocabulary retention.

Fenesi et al. (2018) offer ideas for interventions that could begin in university translation classes and be useful in professional settings too. The researchers demonstrated that brief, moderate-intensity exercise breaks during class significantly increased on-task attention and improved retention and understanding of lecture material. These findings suggest that structured exercise breaks have the potential to bolster focus and cognitive performance in learning environments. For (student) translators, who often work through lengthy, mentally taxing projects requiring sustained concentration, incorporating short physical activity breaks could offer similar cognitive benefits. By momentarily stepping away to perform moderate physical activity, such as a quick stretching routine or a brisk walk, translators may find it easier to maintain attention and enhance comprehension, particularly when working through challenging texts or complex interlinguistic transfer tasks.

3.3. Adjustable workstations

Implementing adjustable workstations, such as sit-stand desks, allows translators to alternate between sitting and standing, promoting better posture and reducing risks commonly associated with prolonged sitting. In 2012, Alkhajah et al. found that sit-stand workstations significantly reduce sitting time and improve musculoskeletal comfort among office workers. Beyond sit-stand desks, additional adjustments include, monitor arms that allow users to set screen height and distance to avoid neck and eye strain, keyboard trays that can be adjusted for optimal wrist alignment, mouse pads with gel cushions for the wrists, and anti-fatigue mats that provide cushioning for standing periods, reducing the strain on legs and feet. For translators, combining these features can create a more ergonomically supportive environment. Research could examine the combined effects of workstation adjustments on translators' physical health and productivity, even if such adjustments do not involve physical activity per se. A longitudinal study might track translators using a fully adjustable setup,

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monitoring changes in physical health indicators, efficiency, and overall job satisfaction over time.

Another potential intervention in this area that does touch upon physical activity could be the implementation of dynamic sitting. Using dynamic seating options like stability balls or balance chairs encourages subtle movements and engages core muscles, promoting better posture and reducing sedentary time. The study conducted by Gregory et al. (2006) demonstrated that dynamic seating can increase trunk muscle activation and improve posture among sedentary workers. Thus, future work in TS could assess the acceptability and effectiveness of dynamic seating versus conventional chairs in the translation profession, including whether alternating between them could be beneficial depending on the tasks to be performed and the duration of such tasks, as well as the devices and applications to be used.

3.4. Integrating speech-based techniques and technologies

The integration of translation dictation and speech-to-text technologies allows translators to work more dynamically, reducing physical strains and enhancing cognitive function. Various speech-based applications are available, ranging from built-in tools on operating systems or plug-ins in web browsers to specialised applications designed for professional use, not only on their PC or laptop but also on mobile devices. Translators can choose software applications and devices that best fit their needs and integrates with their existing workflows. Translation dictation can also enhance focus and creativity by allowing translators to articulate their thoughts more naturally. Speaking can be less mentally taxing than typing, freeing up cognitive resources for more complex tasks such as problem-solving and creative thinking. This can lead to higher-quality translations and more creative solutions to linguistic challenges.

Pioneering research by Hétu (2012) and Ciobanu (2016) has already highlighted how dictation and speech technologies can improve translators' workflow and reduce physical discomfort associated with typing. Zapata and Saint (2017) and Teixeira et al. (2019) explored emerging forms of human-computer interaction (HCI) beyond traditional desktop setups such as multimodal input (e.g., combining speech, touch and/or stylus input), and their findings were consistent with those of Hétu and Ciobanu. These studies in translator-computer interaction (O'Brien, 2012) also resonate with more recent developments in HCI in general, such as the emerging "heads-up computing" paradigm, whose overarching goal is to offer more seamless and intelligent computing support for humans' daily activities, and is defined by body-compatible hardware components, multimodal interaction and resource-aware interaction models (Zhao et al., 2023). This also seems to align with findings from the ErgoTrans framework, which emphasise the importance of customisable workplace solutions and more "intuitive" forms of human-technology interaction. While intuition is often framed as a cognitive process, technological interfaces can also align with our physical intuition — supporting natural postures, upright standing, and fluid movement.

Future research could further explore the efficacy of speech-based tools and multimodal input in reducing sedentary behaviour among translators. Speech technologies available on mobile devices such as smartphones can also enable translators to work on-the-go, providing flexibility and the opportunity to integrate physical activity into their routines. For instance, translators can listen to texts relevant

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to their projects (from source and target texts to relevant documentation) while walking or jogging, or during a commute, combining work with movement and exercise. They can also dictate texts, from emails to translated texts, while away from an office desk. This mobility can reduce sedentary time and promote a more active lifestyle[vi].

Experimental designs might compare traditional working methods with innovative ones that integrate speech technologies and allow for changing positions or working on-the-go, evaluating differences in physical activity levels, efficiency, and translation quality. Additionally, studies could investigate the learning curve associated with adopting these technologies and their long-term impact on work habits, since successful integration of speech-based technologies seems highly dependent on the user's familiarity with such technologies (Zapata & Quirion, 2016).

3.5. Walking meetings

Implementing walking meetings as an alternative to traditional sit-down discussions encourages movement, stimulates creativity, and provides a change of scenery (especially when the meeting is held outdoors), which can enhance focus and productivity. Oppezzo and Schwartz (2014) found that walking boosts creative ideation in real time and shortly after. Research could assess the applicability of walking meetings within translation organisations that work in-office. Studies might examine the impact of such meetings on communication, idea generation, and overall job satisfaction, comparing them with traditional (i.e., sit-down) meeting formats.

3.6. Spaces for translaboration

Creating spaces for translaboration within the workplace can encourage translators to engage in movement while discussing projects or brainstorming ideas, facilitating dynamic interaction among team members. Standing meeting areas, open-plan layouts, and whiteboard walls can facilitate movement and dynamic interaction among team members, as suggested by research carried out by Stryker et al. (2012). Future studies could evaluate how collaborative spaces influence in-house translators' physical activity levels and collaborative efficiency. Research might involve observational studies and surveys to gather data on movement patterns and team dynamics within these collaborative environments.

3.7. Flexible work arrangements and active commuting

Allowing flexible work arrangements, such as remote work or flexible hours, enables translators to incorporate physical activity into their routines more easily, promoting better work-life balance. In addition, providing the option to work from different locations, such as coworking spaces or outdoor environments, can also promote movement and reduce the monotony of traditional office settings. The work of Zapata et al. (2023) noted that several writers have opted for dictation (either using voice recorders or speech-recognition systems), including in the outdoors, and suggested that translators could also opt for such techniques, tools and unconventional work settings. Joyce et al. (2010) indicate that flexible working conditions are likely to lead to improved health outcomes and reduced stress. Investigations could focus on the impact of flexible work arrangements on translators' physical activity levels and overall well-being. Longitudinal studies might compare traditional schedules with flexible

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ones, assessing differences in not only physical health but also productivity and job satisfaction.

Moreover, promoting active commuting options, such as walking or cycling to work, to incorporate physical activity into the daily commute, can contribute to overall health and reduce sedentary behaviour in general. Hamer and Chida (2008) found that active commuting is associated with lower cardiovascular risk and improved mental health. Research could examine the feasibility and benefits of active commuting for translators, particularly considering the unique contexts of freelance translators who often work from home. Surveys and case studies might explore various barriers to active commuting, including geographical location, time constraints, or lack of infrastructure, as well as alternative methods that translators could adopt to simulate an active commute. By assessing both in-office and remote setups, research could better capture the overall impact of such practices on physical health, mental clarity, and work performance across work environments.

3.8. Group fitness challenges

Another option for translators might be to organise group fitness challenges to boost motivation to engage in regular physical activity through social support and friendly competition. Challenges can include step-count contests, virtual races, or team-based fitness goals. Workplace-related fitness challenges are not only likely to increase physical activity levels among translation team members, but also to create a sense of belonging to a community. Studies could investigate the effectiveness of group fitness initiatives in the translation industry. Research designs might include intervention studies measuring participation rates, physical activity levels, and changes in team cohesion and morale.

3.9. Mind-body practices

Another area worthy of investigation in TS is the potential benefits of mind-body practices such as yoga, tai chi and martial arts, and their integration intro translators' daily or weekly routines. Could they provide translators with gains that could address both the physical challenges of sedentary work and the mental demands of complex linguistic processing? Could the postural awareness that is developed through these practices, for instance, directly counter the ergonomic hazards faced by translators who spend hours at computer workstations?

Beyond physical benefits, these disciplines might cultivate a heightened mind-body connection that could help translators recognise and address signs of mental fatigue before the quality of their work suffers. It could be worth investigating whether the mindfulness components inherent in these practices could be associated with reduced cognitive load and enhanced attention, potentially allowing translators to sustain deeper engagement with complex texts. Furthermore, the breath control techniques central to these traditions might help translators manage stress during tight deadlines or when working with particularly challenging content.

3.10. Sports and wellness programmes

TS scholars could also consider investigating how specific types of sports can benefit translators in various ways. For instance, endurance sports such as swimming, running or cycling might offer unique benefits to language professionals that could

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extend beyond general fitness improvements. These sports typically involve progressive training programs that could teach translation practitioners to effectively manage energy (for training and energy management see Turner 2004). Moreover, they might develop a psychological resilience to fatigue that could translate into managing deadline pressures common in the translation industry. Running or cycling could help build cardiovascular stamina that might support sustained cognitive effort during demanding linguistic tasks. The potential improvements in oxygenation and blood flow to the brain following regular endurance training may also lead to cognitive benefits during extended translation sessions that require attention to detail. Regular swimming might develop controlled breathing patterns that could parallel the respiratory control needed by interpreters during extended speaking sessions or by translators who opt for dictation as a working technique. The rhythmic nature of swimming strokes, combined with regulated breathing, could potentially train the respiratory system in ways that may transfer to their job, where breath control might contribute to vocal stability and endurance.

Precision sports could also benefit translators in unsuspected ways. Translators often require high levels of concentration when working with highly technical or specialised texts, for which terminological accuracy and stylistic consistency are paramount, or during revision, post-editing or quality assurance processes. The precision demanded by sports like archery, golf, and target shooting might cultivate a specialised form of attention that could align with the meticulous work of translation. These sports encourage practitioners to develop endurance to consistent routines, manage distractions and maintain focus through repetitive precision tasks. The deliberate practice of such sports involves a feedback loop of adjustment and refinement that could parallel the revision process in translation. They might also specifically train the mind to achieve consistent results despite varying conditions.

As far as team sports such as soccer, basketball, volleyball, baseball, etc. are concerned, they might provide translators with gains that could extend beyond individual physical fitness to enhance the collaborative aspects of translation work. Regular participation in structured team activities might specifically help cultivate the social intelligence and collaborative mindset, so much valued in modern translation settings. The role specialisation found in team sports parallels translation and localisation team projects involving multiple specialists (terminologists, reviewers, project managers, etc.), potentially offering models for more effective collaboration that could be studied further. Additionally, the regular feedback inherent in team sports environments could possibly foster greater receptivity to revision and quality improvement processes in translation.

Moreover, wellness programs that incorporate physical activity, including sports, could significantly enhance translators' health and well-being, especially those working within larger organisations and institutional settings. Such programs can promote a culture of wellness by encouraging regular exercise, structured movement breaks, and access to mental health resources. Employers may also invite experts, such as fitness trainers or occupational health professionals to offer wellness workshops that focus on the benefits of physical activity and provide practical tips for integrating exercise into daily routines. Topics can include time management for fitness, stress reduction through physical activity, and creating personalised exercise plans. Jones et al. (2019) demonstrated that workplace wellness programs contribute to improved health

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behaviour and lower healthcare costs, making them particularly valuable for larger teams with shared resources. Still, these structured programs may be less accessible or practical for freelance translators, who often lack organisational support and dedicated wellness initiatives.

Future research could focus on the long-term impacts of these programs on physical and mental health within institutional translation environments, employing mixed-method studies that combine quantitative health measures with qualitative feedback on program effectiveness and participation rates. For freelancers, alternative approaches such as tailored wellness resources, remote fitness subscriptions, or virtual wellness communities might be explored as potential ways to foster similar health benefits in a more individualised and flexible manner. Tailored wellness resources might include guides specifically designed for translators to integrate ergonomic practices into home-office setups, stretching routines targeting areas commonly affected by long hours of desk work (e.g., neck, shoulders, and lower back). For instance, a digital toolkit could offer quick "mini-exercises" that translators can perform between projects, or mindfulness apps could be enhanced with productivity-focused sessions aimed at relieving cognitive fatigue. Remote fitness subscriptions could include curated classes tailored to fit a translator's schedule, such as 10-minute mobility routines or strength training sessions that require minimal equipment, supporting physical fitness without needing a dedicated gym space. These subscriptions might provide access to virtual group classes where translators could join specific "translator-friendly" sessions with others in the field, thus fostering a sense of community while accommodating the irregular schedules that freelancers often manage. Lastly, virtual wellness communities might offer interactive platforms where freelance translators can, among other things, share wellness tips, participate in accountability groups, or even join in on "virtual walking meetings" to discuss industry trends while staying active.

An illustrative example of an initiative that aims to establish a connection between translation and sports in a relevant educational setting is the "terminology biciclass," a hybrid course offered at the University of Ottawa's School of Translation and Interpretation for a few years. As part of this credited course, students and the professor cycled nearly 500 km over two weeks, visiting various organisations that offer language services. This approach combined physical activity with professional development, highlighting how integrating movement can enrich the educational and professional experience; the course allowed student cyclists-translators to penetrate deeper into the professional world, all the while exercising, socialising and being in contact with the outdoors (Quirion et al., 2017; Castonguay, 2017).

4. Conclusion

With this contribution, we aimed at setting the stage for enhanced performance and well-being in translation practice through sports. We challenged the sedentary, deskbound nature of translation work, and highlighted the pressing need for reconceptualising translation as an embodied activity. The literature reviewed from an array of related disciplines suggested that regular movement reduces musculoskeletal issues associated with prolonged sitting, while enhancing cognitive functions that are essential for translation tasks, including problem-solving abilities, creativity, and mental flexibility.

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To address the challenges, we proposed a range of interventions, spanning from simple adjustments to more comprehensive strategies to become more physically active as a translator, including regularly practising sports. We strongly believe that, by embracing these proposed interventions, the translation profession can transition towards a more dynamic and health-conscious work environment. We also believe that small, manageable adjustments across different areas can collectively lead to significant enhancements in physical well-being, reduce cognitive overload, and sustain or even boost productivity. This is what we mean by seeking marginal gains to achieve monumental results in translation.

We also called for empirical research examining the potential benefits of incorporating sports, movement and relaxation into the daily routines of language professionals. Encouraging the adoption of the proposed interventions requires concerted efforts from stakeholders across the language industry, including researchers. They will be required to take proactive steps in incorporating exercise into work routines, while organisations (and governments) should consider promoting and implementing policies that promote movement-friendly work environments. Interdisciplinary research projects, involving TS scholars but also experts from fields such as occupational health, exercise physiology, and sports science in particular, can provide valuable insights into tailoring said interventions for maximum efficacy, as not every intervention will have the same impact. Looking ahead, a research agenda focused on these interventions could prioritise studies that measure their effects on translators' physical health, cognitive performance, and overall job satisfaction, thus contributing to the sustainability of the profession. There is a clear need for collaborative research efforts employing methods such as self-reported assessments and objective physio- and psychometric data to identify the most effective interventions. Utilising mixed methods, researchers can develop a comprehensive understanding of how best to integrate sports and physical activity into translatorial work.

While our investigation is rooted in the specific context of translation, it also opens an interesting avenue for cross-professional comparison. Examining how physical activity affects translators alongside other predominantly sedentary professions—such as writing, legal practice, or technical editing—could help distinguish which effects are truly profession-specific and which stem from deskbound work more broadly. Such comparative insights would not only sharpen our understanding of the translator's working experience but also contribute to a wider discourse on occupational health in knowledge-based professions. Furthermore, currently not included in the discussion is the relevance of diet in the physical activity and cognitive performance constellation. Sedentary work can be a risk factor to cognitive decline as the influence of glycaemic control in the brain shifts (Wheeler et al., 2017), so intake of sugar and by extension carbohydrates also play a role, as well as frequent or excessive intake of alcohol and other substances.

To conclude, bridging the gap between translation and sports presents a promising avenue for enhancing the well-being and performance of language professionals. By redefining translation from a passive, sedentary occupation to a more dynamic and active practice, it is possible to foster healthier and happier translators. It is our hope that this contribution stimulates further discussion and research in this vital area, paving the way for a future where the well-being of translators is placed at the forefront of professional priorities. We firmly believe that, by bringing translation and sports

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much closer, we can elevate the translation profession to harmoniously blend mental agility with physical vitality.

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Notes

[i] See Yilmaz et al. (2023) for reliability and acceptance of AI.
[ii] For a broader perspective on sedentary behaviour at work and cognitive functioning, see the systematic review by Magnon et al. (2018).
[iii] Naczenski et al. (2017) discuss that the estimates of the annual costs to society caused by burnout can reach the hundreds of billions of dollars. They argue that "[g]iven the high prevalence of burnout and its negative consequences, it is valuable to examine potential approaches to reduce it" (p. 477).
[iv] The survey can be found through https://maureen.ehrensberger.org/files/ErgoTrans_survey_V13_EN.pdf
[v] For a more general appreciation of the autonomy paradox, see Shevchuk et al. (2019).
[vi] See also the *Tradumàtica* journal dossier on mobile computing in translation, edited by I. Serón Ordóñez & A. Martín-Mor (2016).

https://doi.org/10.26034/cm.jostrans.2026.5676