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Medication use for the management of professional performance: between invisibility and social normalisation

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ABSTRACT

This article aims to explore pharmaceuticalisation processes in professional work contexts. The approach focuses on identifying patterns of medicine and dietary supplement use for managing work performance, and on discussing the relationship between these consumption practices and work-related pressure factors. This analysis adapts the notions of 'normalisation' to understand the extent of cultural acceptability of these practices, and the notion of 'differentiated normalisation' to capture the tension between the trend towards normalisation of such consumption and its partial social (in)visibility within work settings. Empirical support for this analysis is based on a sociological study conducted in Portugal on professions under high performance pressures. The study involved three professional groups – nurses, journalists and police officers. A mixed methods approach was used, including focus groups, questionnaires and semi-structured interviews. Overall, the results show a trend towards the use of medicines and supplements for performance management, which reveals itself as a cultural response to work-related social pressures. Such consumption coexists with irregular patterns of either occasional or long-term use, as well as heterogeneous processes of 'normalisation' and 'hidden' consumption. Conclusions point to a social interconnection between the intensification of work pressures and the pharmaceuticalisation of work performance.

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Introduction

The use of medicines and dietary supplements to manage physical, intellectual, or social performance – here designated as performance consumptions – is not new; yet it has assumed a distinct configuration in contemporary modernity (Coveney et al., 2011; Evans-Brown et al., 2012). The access to and the dissemination of these consumption

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practices have permeated various spheres of everyday life, being now considered as 'a global health concern' (Bawin et al., 2021).

Concepts such as *pharmaceuticalisation* have highlighted this new reality, characterised by a transition from using medicines for strictly therapeutic purposes to broader modalities of use, including the management of personal performance. This reality and the concept itself have been the subject of significant theoretical production, particularly in sociology (Abraham, 2010; Fox & Ward, 2008; Gabe et al., 2015; Lopes et al., 2015; Rodrigues et al., 2019; Williams et al., 2008).

Despite the sociological literature available in this field, empirical research addressing the pharmaceuticalisation in work contexts is acknowledged to be scarce (Ballantyne, 2021; Leon et al., 2019). Examples of available research include studies on sleep management in shift work (Coveney, 2014; Williams et al., 2013), and on the regulation of emotional labour in customer service roles (Pawson & Kelly, 2021).

This article aims to deepen the *pharmaceuticalisation* in work contexts, both analytically and empirically. Through this lens, we seek to explore the processes underlying the social and cultural dissemination of medicine and supplement use for managing work performance, as well as the reciprocal effect between work-related pressure factors and the pharmaceuticalisation of work performance. Additionally, this approach sheds light on the different contextual configurations and dynamics of pharmaceuticalisation. These include its trend to cultural normalisation, and the social heterogeneity regarding the visibility/invisibility of the performance consumption practices.

The focus on professional work contexts has two main reasons: (i) as these contexts are epicentres of multiple forms of social pressures to perform both socially and professionally, they are more likely to stimulate the use of medicines and supplements as productivity aids (Bloomfield & Dale, 2015); (ii) given its profound impacts on private and social life, the totalising nature of work (Smith & Land, 2014; Tavares et al., 2022) makes work contexts a privileged observatory for gaining knowledge and evidence about the pathways of normalisation and social heterogeneity of pharmaceuticalisation.

The analytical focus on work contexts does not mean that performance consumptions originating in these settings are limited to professional performance. Such consumptions extend to performance in private, public and family spheres, reflecting their social interdependence. However, the aim of capturing performance consumption practices within professional work contexts is sustained by the assumption that work and working life have an effect of total social fact (Méda, 2022), whose impacts irradiate to the other dimensions of people's daily lives.

The empirical support to this article is drawn from a sociological study on occupations under high performance pressure, carried out in Portugal.[1] The study involves three professional groups – nurses, journalists and police officers. While these are distinct occupations, they were selected because they face similar pressures associated with the nature of their work, such as work pace, unpredictability and emotional pressure. The article considers these occupations collectively, without undertaking their nominal or comparative analysis. Yet specific data related to individual occupations are occasionally provided.

Theoretical considerations

Pharmaceuticalisation: the concept and its dissemination mechanisms

Defined as 'the transformation of human conditions, capacities or capabilities into pharmaceutical matters of treatment or enhancement' (Williams et al., 2008, p. 851), the concept of pharmaceuticalisation highlights a set of changes in people's relationships with medicines. It signals the transition from their traditional therapeutic and preventive roles within the context of health and illness, towards the incorporation of new purposes beyond their original scope, such as managing and improving performance at the cognitive, bodily and relational levels. These new uses of medicines result in a dilution and deregulation of the normative boundaries between health and illness, or normal and pathological (Coveney et al., 2011; Horwitz, 2010; Lopes et al., 2010; Maturo, 2012), conventionally distinguished by the absence or presence of medication (Dew et al., 2015).

These new uses of medicines – shaped by the growing medicalisation of human condition (Conrad, 2007) and the expansion of pharmaceutical industry (Abraham, 2010) – also introduce a logic of commodifying human performance, turning it into a commodity to be purchased. This shift leads to new forms of social pressure to medicine use and transforms investments in performance as both an individual responsibility and a social duty (Busfield, 2010; Dew, 2019; Maturo, 2012; Shilling, 1993). This social backdrop becomes conducive to the emergence of perceived performance needs and to their assimilation as social dispositions for performance consumption.

The growth of the natural products industry, coupled with the increasing use of supplements and natural medicines, highlight another important mechanism in the expansion of pharmaceuticalisation (Lopes et al., 2010; Rodrigues, 2016). Several studies have shown that individuals often use both pharmaceuticals and natural products, alternately or simultaneously, for the same purposes – either performative or health-related (Gabe et al., 2016; Lopes et al., 2015; Rodrigues et al., 2019). Research also indicates that turning to natural products is often a strategy to continue using pharmaceuticals. Whether viewed as an antidote or a temporary substitute, natural products are perceived as a way of reducing potential risks associated with pharmaceuticals (Evans-Brown et al., 2012; Raposo, 2016). Therefore, natural consumptions may be seen as a concealed side of pharmaceuticalisation dynamics (Lopes et al., 2015). It underscores the need to consider the instrumental role of natural products in the overarching process of the social and cultural dissemination of pharmaceuticalisation.

Pharmaceuticalisation: between invisibility and social normalisation

The dissemination of pharmaceuticalisation has been marked by apparently antagonistic social processes, with the tendency towards its social normalisation coexisting alongside its partial invisibility. The notion of *normalisation* is used here to express a trend toward the social and cultural acceptability of medicine use for performance purposes, encompassing both users and non-users. Derived from studies on illicit drugs (Parker et al., 1998; Shildrick, 2002; Williams, 2016), the original formulation of this notion points to various criteria for achieving normalisation (Parker et al., 1998), which is manifested through the cultural accommodation of such consumption across broad segments of society. Subsequently, the notion was adapted and applied to legal drugs, namely in

studies on medicines and supplements use for performance purposes, focusing on the signs of cultural accommodation and the dissemination of this kind of consumption (Pawson & Kelly, 2021; Sales et al., 2019; Smith & Land, 2014).

Using the notion of normalisation to understand the dissemination and processes of pharmaceuticalisation sheds light on the current cultural permeability to new medicine uses for various performance purposes. Yet, such normalisation is itself a socially heterogeneous process. The subsidiary notion of 'differentiated normalisation' (Shildrick, 2002; Williams, 2016) highlights the heterogeneity of normalisation and points to the varying cultural acceptance of certain types of consumption while stigmatising and rejecting others. The variability of acceptability and rejection is intrinsically linked to the specific social contexts of consumption and manifests the contextual dependency of these practices. They may be accepted and encouraged in some contexts while not tolerated in others, depending on the level of social legitimacy the purposes of use achieve within each context (Coveney & Bjønness, 2019; Pawson & Kelly, 2021; Sales et al., 2019; Smith & Land, 2014). Thus, the notion of differentiated normalisation serves as a valued heuristic tool, enabling a more nuanced understanding of the heterogeneity of pharmaceuticalisation processes, particularly concerning its expansion and cultural dissemination.

The normalisation of performance consumption, coexisting with its partial social invisibility, cuts across various social contexts, including within the workplace. This 'hidden consumption' (Smith & Land, 2014) is a relatively unexplored dimension in pharmaceuticalisation studies. Generally, such invisibility occurs in contexts or circumstances where certain consumption practices can lead to stigmatisation and social disqualification, as these practices may symbolically suggest a form of 'self-insufficiency', or deviate from prevailing normative standards and moralities of the context in which they occur (Coveney & Bjønness, 2019; Dew et al., 2015; Gabe et al., 2016; Lopes et al., 2017).

In this article, the concepts of normalisation and differentiated normalisation are analytically instrumental for capturing the cultural and social conditions in the workplace that shape how people relate to performance consumption practices. Specifically, they help explore adherence, resistance or ambivalence towards these practices, as well as conceptions around their (il)legitimacy.

Work contexts and the social contextuality of pharmaceuticalisation

As noted above, work contexts are conducive to dispositions and practices of performance management or improvement. This has been observed particularly in high-risk, physically demanding, or intellectually intense occupational activities (Ballantyne, 2021; Bloomfield & Dale, 2015; Sales et al., 2019). However, shifts in the nature and models of work organisation have led to processes of work intensification – spanning physical, intellectual, and emotional dimensions – which are proliferating across various sectors of activity (Bloomfield & Dale, 2015; Smith & Land, 2014; Tavares et al., 2022).

Among these ongoing transformations, the rise in technological automation, which leads to intensified work rhythms (Vuckovic, 1999), and the increased scrutiny of productivity and individual efficiency are highlighted. This new trend sets the conditions for a culture of overwork, combined with an individualisation of responsibilities and competitiveness, hallmarks of neoliberal labour management models (Ballantyne, 2021; Bloomfield & Dale, 2015; Dew, 2019; Sales et al., 2019).

The notions of 'extreme work' and 'extreme worker', used by Bloomfield and Dale (2015), serve as an ideal-type formulation to account for the structural features of the contemporary work culture. This trend to normalise these extreme patterns is fuelled by both the automated, intensified regimes of labour production, and by the workers' subjectivation to the social and cultural pressure to not only achieve but also exceed expectations of intensity and efficiency. In this context, the normal worker may gradually transition to the extreme worker (Bloomfield & Dale, 2015). While this normativeness has penetrated the productivity system to varying degrees – depending on the nature of the work sector – its presence is ubiquitously felt across the different professional fields and from the most specialised activities to the most routinised ones. This social configuration fosters both the particularisation and convergence of labour conditions favourable to the pharmaceuticalisation of work.

Although the social permeability to the use of medicines and supplements in work contexts is often linked to work imperatives, the significance of rest and leisure should not be overlooked. Several authors highlighted the new instrumentality of rest and leisure amidst the extreme work regime (Pawson & Kelly, 2021; Sales et al., 2019; Smith & Land, 2014), where the latter requires the former to sustain productivity. While this requirement is not new – as leisure soon became instrumentalised for labour productivity by capitalism – the novelty lies in the displacement of leisure to a space-time that increasingly obscures the boundaries between professional and personal life, leading to a pervasive dominance of work over personal time. Within this new leisure framework, the social and cultural legitimacy of consumption is tied not only to work imperatives, but also to rest and leisure ones.

Taking as a reference the social dynamics of pharmaceuticalisation, as well as the theoretical formulations that point to the progressive pharmaceuticalisation of work, these connections will be further explored based on empirical data.

Methods

The data presented in this article were collected during 2020–2022. The research followed a mixed methods approach, using sequentially focus groups, a questionnaire survey and semi-structured interviews, based on a strategy of progressive analytical deepening.

In the first stage, seven focus groups were conducted, with a total of 33 participants from the three occupations. The aim was to produce exploratory qualitative data and to inform the design of the subsequent questionnaire survey.

In the second stage, an online survey was applied to a non-probability sample of workers from the three occupations. Participants were mainly recruited through trade unions, with which collaboration protocols were established. To comply with the General Data Protection Regulation, an online form was created to collect the contacts of willing participants. The unions circulated this invitation form to their members. A total of 1046 contacts were collected, to whom the questionnaires were sent. In return, 539 responses were received (a 51.5% response rate). Respondents' anonymity was ensured and written informed consent was obtained from all study participants. The survey aimed to gather quantitative information on the two central dimensions of the study: work pressure factors and the use of medicines and supplements for managing work and personal performance. These dimensions were operationalised through a set of indicators and questions specifically designed for this study, informed by both existing literature and findings from focus groups. The questionnaire was segmented into four

sections: socio-demographics and professional trajectory; daily professional work demands; use of medicines and supplements for performance purposes; and acceptability, receptivity and (in)visibility of consumption.

In the third stage, semi-structured interviews were conducted with 42 questionnaire respondents who had expressed interest in follow-up interviews. These interviews aimed to deepen the information obtained through the survey and broaden its analytical and interpretive scope. The interview script was structured in two parts. The first referred to the daily work in the workplace, regarding the nature of the work, work pressures, and professional sociabilities, while the second discussed ways of managing work-related as well as personal and family life-related pressures, including the use of medicines and supplements. The interviews were conducted online, using videoconferencing platforms. Only audio was recorded and stored anonymously. The total duration of the interviews was 42 h, with an average of 1 h per interview.

Although the survey used a non-representative sample, it covered a wide diversity of situations and maintained an adequate balance in terms of participants' main sociodemographic characteristics. Among the respondents, 56.6% were men and 43.4% were women. Regarding age, 35.6% were under 39 years old, 34.7% were aged between 40 and 49 years, and 29.7% were 50 or older. Professionally, 36.9% were nurses, 36.2% were police officers and 26.9% were journalists. As for geographic distribution, 42.7% lived in Lisbon, 34.7% in Oporto and 22.6% in other regions. Both the focus group and the interview samples were evenly distributed across the three occupations, and included men and women of different ages with varying years of work experience.

Survey data were statistically analysed using SPSS (Statistical Package for Social Sciences), including descriptive, correlational and multivariate analyses. New composite measures were also constructed from initial variables. The interviews were fully transcribed and subjected to thematic content analysis, leading to the construction of analytical categories informed both by existing literature and the empirical data. The data were initially coded by two coders and subsequently discussed and validated by the research team, using MAXQDA software.

Results and discussion

This section seeks to present empirical evidence on processes around the pharmaceuticalisation of work and explore its differentiated normalisation. It begins by analysing the expression and patterns of performance consumptions, along with their relationship with work pressure factors. Then, based on participants' attitudes towards consumption, it moves on to explore ambivalences in terms of acceptance and (in)visibility.

Performance consumptions and work pressure factors

Consumption practices: patterns and purposes

To examine the use of medication for performance management, survey respondents were asked about ten different purposes, covering both medicine and supplement use (Table 1). For this analysis, these purposes were categorised into *cognitive-relational performance* and *physical-bodily performance*. The former category included consumption 'to sleep', 'to stay awake', 'for concentration', 'for memory', 'to relax or calm down' and 'to improve mood'.

The latter category included consumption 'to increase physical energy', 'to lose weight', 'for sexual performance' and 'to increase muscle mass'. The selection and categorisation of these purposes were based on previous research focused on the daily management of performance (Lopes et al., 2015), as well as on the focus groups conducted in the current study.

Composite indicators were created to capture the overall performance consumption, enabling comparative and correlational analyses. The *global consumption indicator* identifies respondents who reported having 'already used' or that they 'usually use' at least one medicine or supplement for one or more of the purposes listed. This indicator was relatively high, accounting for 74.4% of those surveyed. Among these consumers, current use was reported by 35.2%. Furthermore, 38.9% of the consumers reported having used products for four or more of the purposes presented.

In the analysis of consumption by purpose (Table 1), uneven prevalence across different purposes can be observed. Higher proportions of the sample reported using medication 'to sleep', 'to relax/calm down', 'to increase physical energy', 'for memory' and 'for concentration'. For each purpose both medicines and/or supplements were mobilised in different ways. While the wide dissemination of these consumptions is evident, the pattern of dissemination varies based on the intended purpose.

These patterns are intersected by two main axes of differentiation. The first axis relates to the types of purposes underlying consumption, whether cognitive-relational or physical-bodily performance. The second axis pertains to the type of product consumed, either medicines or supplements.

A comparison between consumption for cognitive-relational and physical-bodily purposes (indicators constructed based on the total number of consumers, segmented by type of purpose) shows that the former takes a clear lead over the latter: 84.5% of

Table 1. Consumption by purpose (medicines and supplements).

	Already used or usually uses ($n = 539$)
Medicines to sleep	35.8%
Supplements/natural products to sleep	26.7%
Medicines to stay awake	2.4%
Supplements/natural products to stay awake	7.8%
Medicines for concentration	20.0%
Supplements/natural products for concentration	21.7%
Medicines for memory	18.7%
Supplements/natural products for memory	25.0%
Medicines to relax/calm down	31.0%
Supplements/natural products to relax/calm down	23.4%
Medicines to improve the mood	13.7%
Supplements/natural products to improve the mood	11.3%
Medicines to increase physical energy	14.5%
Supplements/natural products to increase physical energy	30.1%
Medicines for weight loss	12.4%
Supplements/natural products for weight loss	19.1%
Medicines for sexual performance	5.0%
Supplements/natural products for sexual performance	4.3%
Medicines to increase muscle mass	3.2%
Supplements/natural products to increase muscle mass	14.1%

respondents have already used or usually use these products for cognitive-relational purposes, against 65.8% for physical-body purposes. For the former, the use of anxiolytic or antidepressant medicines such as Alprazolam and Fluoxetine, and supplements such as Valerian and Ginkgo Biloba stood out. For the latter, the medicine Orlistat and the supplements L-Carnitine and Centrum were the most mentioned.

A comparison between consumption of pharmaceuticals and supplements shows equivalent values (59.6 and 61.2%, respectively). The destigmatising effect of the use of natural products, together with social perceptions of relative harmlessness and as an alternative to avoid or reduce the risk attributed to medicines (Gabe et al., 2016; Raposo, 2016), seems to contribute to the consolidation of these resources as an option with growing social acceptance.

A greater prevalence of medicine use for cognitive-relational purposes is observed, while a greater prevalence of supplement use for physical-body purposes is likewise noted. The medicalisation process has already a relatively longer history in the neurocognitive and emotional-relational domains, thus leading to faster dissemination of pharmaceuticalisation (Pegado et al., 2018; Williams et al., 2011). Conversely, the physical-body domain has more recently become the object of medicalisation, particularly in aspects related to aesthetics or ageing, and, in addition, the target of intense investment by the 'natural industry', both in terms of supplements and foods with therapeutic purposes (Lopes et al., 2017).

A pattern of consumption characterised by 'therapeutic pluralism' was also frequent. In the context of medication use, this notion designates the simultaneous or alternate use of pharmaceuticals and supplements by individuals, either for different or the same purposes (Lopes et al., 2010). This trend is equivalent to that observed in previous research (Lopes et al., 2015) and shows how the use of supplements stands as another feature of the dynamics of pharmaceuticalisation. When comparing respondents who use only medicines, only supplements, or both for each of the purposes, the 'both' category is the one with the highest proportion for all cognitive-relational purposes (between 40 and 50%).

It is also important to consider the temporality of consumption, specifically in terms of its duration, to determine whether it is sporadic, discontinuous or regular. When asked about the last consumption, a pattern of prolonged use (more than one month) prevailed for most purposes, notably for 'increase muscle mass' (74.2%), 'improve the mood' (67.4%), 'weight loss' (65.9%), 'concentration' (58.7%), 'increase physical energy' (55.4%) and 'memory' (53.8%), thus applying to both cognitive-relational and physical-bodily purposes. For some of the purposes (such as 'to sleep' and 'to relax/calm down') an alternation between prolonged use and occasional use (1–3 days) was observed: 36.2 and 39.8% 'to sleep'; 45.7% and 32.4% 'to relax/calm down', respectively. This reveals a double pattern of use balanced between the management of occasional and prolonged need.

Overall, these results indicate that there is a relatively high level of dissemination of performance consumption across all age groups in the population under study. A trend to the normalisation of the pharmaceuticalisation of everyday life seems to be supported, for which work contexts and specific work demands provide a fertile ground. In fact, as discussed below, the prevalence of consumption for cognitive-relational purposes aligns with the hierarchy of performance imperatives that characterise the nature of the work of the professional groups surveyed.

The impact of daily work pressure factors on performance consumptions

To operationalise work pressure factors and examine their relation to performance consumption, two main indicators were particularly explored – workers' perceptions of the pace of their work and the type of work demands.

Regarding the pace of work, there is an overall perception that it is very intense. On a scale from 1 'not at all intense' to 5 'extremely intense', most respondents (71.6%) considered their daily pace of work to be very/extremely intense, a response transversal to the three occupations (nurses – 77.6%; journalists – 73.1%; police officers – 63.4%).

The intense pace of work comprises two interconnected levels that characterise the nature of work of these occupations: the working time and the workload caused by the demand for immediate professional responses. Working times are characterised by long, irregular, flexible, unpredictable, and unplanned schedules. Most survey respondents worked over eight hours per day (51.9%), in shifts (75.9%), and (almost half) at night (46.9%), including weekends. The demand for immediate professional responses is related to the workload and the pressure to speed up the completion of tasks, often resulting from demands for greater productivity and quick results. In addition to the intense pace of work, pressure is also caused by unpredictable work situations, which do not allow for the planning or anticipation of tasks.

This can be observed in the three professional groups:

> We have to be ready to handle almost anything that comes our way. The daily pressure that we have is exactly this: we don't know what each day will bring, but we know that we have to solve it. And that, over the years, leads to a great deal of exhaustion and wear (police officer, E10).

> We never know what the next minute may hold, our only certainty is the present moment. In the minute after everything can change. One moment we might be experiencing a calm morning or afternoon and, five minutes later, everything could be turned upside down (nurse, E11).

> In the daily work of journalism, there must be constant availability; there are almost no set hours for when work begins or ends (journalist, E14).

As these interviews' quotes illustrate, the workload and the working time place professionals in permanent contact with their work. Thus, as mentioned above, work assumes a totalising nature, overlapping and blurring the boundaries between the professional and the private domains.

An association between the perceived intensity of the pace of work and the consumption of medicines and supplements for performance is observed (Table 2). Among the survey respondents who use these products, the average value of the work pace intensity was significantly higher than that among those who do not. This association points to a considerable dissemination of these consumptions as a support for managing work pressures.

Table 2. Relationship between pace of daily work and performance consumptions.

Consumption indicator	*N*	Average intensity of pace of work[a]
With consumption	401	3.88
Without consumption	138	3.65

[a]Scale from 1 (Not at all intense) to 5 (Excessively intense).
p = 0.001; T-test.

This same convergence, between perceived work intensity and medication consumption, can be observed among other work dimensions. To explore the pattern of other demands in the three occupations, a Principal Component Analysis was carried out using 9 items included in the questionnaire to measure daily professional demands. Subsequently, three variables were then created: 'Physical demand' (which aggregated physical strength, physical endurance, and physical agility), 'Intellectual demand' (concentration, memorisation, and mental agility), and 'Emotional demand' (emotional control, conflict management, and communication skills).

As shown in Table 3, the degree of demand varied according to the type of demand. Emotional (4.24) and intellectual demands (4.15) are the most demanding components of professional activity, in contrast to physical demand (2.91).

The prominence of emotional demands is particularly related to the fact that the three occupations carry out activities that involve a direct relationship with citizens, requiring an emotional engagement and management with a strong relational character. This is noticeable in the case of nurses ('dealing with death and suffering'), journalists ('dealing with the constant scrutiny of the public'), and police officers ('dealing with verbal violence') alike.

The increase in demands that arise from relationships with citizens, strongly emphasised in the interviews, as the following quotes illustrate, is one of the main changes in professions under high-performance pressure (Tavares et al., 2022).

> It's the pressure from healthcare users, it's the pressure from family members, and the lack of timely response capacity from the user's perspective. All that puts pressure on professionals and it becomes complicated (nurse, E6).

> I've been threatened, I don't know how many times. Nowadays we are very provoked (police officer, E8).

> If I have to publish one thing about this [topic], it´s going to be horrible, I´m going to receive loads of emails from some crazy guys (…) the wear starts when we are writing and we know the impact it's going to have (journalist, E12).

Table 3. Relationship between daily professional activity demands and performance consumptions.

	Consumption indicator	Demand average[a]
Physical demand index*	With consumption	2.97
α = 0.927	Without consumption	2.74
	Total	2.91
Intellectual demand index	With consumption	4.17
α = 0.853	Without consumption	4.07
	Total	4.15
Emotional demand index**	With consumption	4.28
α = 0.757	Without consumption	4.11
	Total	4.24
Global demand index***	With consumption	3.81
α = 0.822	Without consumption	3.64
	Total	3.77

[a]Scale from 1 (Not at all demanding) to 5 (Extremely demanding).
KMO = 0.819; $p = 0.000$.
*$p = 0.018$; **$p = 0.007$; ***$p = 0.002$; T-test.

Similar to what was found for the pace of work, survey results point to a relation between these daily professional demands and the use of medicines or supplements for performance management. As shown in Table 3, among the respondents who consumed these products, the mean value of the perception of overall demands (Global demand index) was 3.81, while among non-consumers was 3.64, with a statistically significant difference. Emotional demands stand out in their relationship with performance consumption, aligning with the high expression of consumption 'to sleep' and 'to relax/calm down' and with the prevalent use of medication for cognitive-relational purposes.

The use of medicines or supplements as a response to work pressures and demands also came up during the interviews. The following quotes illustrate how these types of consumption are used for different purposes related to work demands.

> On one occasion, the doctor at the health centre prescribed me Xanax, which I took for that situation and never used it again. But, on days with very tight deadlines or a very important task and I need concentration and presence of mind, I use it and the effect is great (journalist, E12).

> Sometimes we work twelve hours or more in a day (…) and sometimes, I don't deny it, I take Ben-u-ron to keep me going. I'm so tired, and there are colleagues who take it too (police officer, E4).

> I have many colleagues who take medication to deal with the insomnia that follows their shifts. They can't rest, and they need to rest to ensure they're prepared for work the next day (nurse, E4).

Both the quantitative and qualitative findings show how the pressure factors in work contexts operate as drivers of pharmacological forms of management or improvement of professional performance, providing the contextual conditions for the increasing normalisation of the pharmaceuticalisation of work. Moreover, given its totalising nature, these work pressures extend far beyond the space and time in which they occur, increasingly penetrating the private sphere of life. Therefore, these work contexts can also induce consumption aimed at managing various other spheres of life (personal, family, leisure), contributing to the dynamics of pharmaceuticalisation of everyday life (Williams et al., 2008).

Ambivalences about performance consumptions

Between receptivity and social (in)visibility

To better understand the social dissemination of pharmaceuticalisation and its normalisation in work contexts, it is important to consider not only the performance consumptions *per se*, but also the dispositions and the perceived legitimation to do so.

Survey respondents were asked to react to a series of statements about their acceptance and/or rejection of certain performance consumption practices, as well as their perceptions about how widespread and (in)visible these are (Table 4).

Responses to statements 1 and 2, which focus on medication use for managing physical and intellectual demands, present a higher average level of agreement (3.24 and 3.29) when compared to statement 3, about consumptions for managing relational demands (2.91). This suggests a hierarchy of legitimacy for the consumptions, in the sense that demands intrinsic to the nature of the work (statements 1 and 2) are more likely to be

Table 4. Acceptability and perceptions of performance consumptions.

	Assertions	**Disagrees** completely/ partially %	**Agrees** completely/ partially %	Total % (n)	**Average**[a]
Acceptability of consumption	1 – The physical demands of your profession make it acceptable to use medicines and/or supplements to increase energy.	49.1%	50.9%	100.0% (515)	3.24
	2 – The intellectual demands of your profession make it acceptable to use medicines and/or supplements to enhance performance.	47.8%	52.2%	100.0% (515)	3.29
	3 – The relational demands of your profession make it acceptable to use medicines and/or supplements to manage relationships with others.	63.0%	37.0%	100.0% (514)	2.91
Perception of consumption	4 – Only a small number of professionals* use medicines and/ or supplements to improve their professional and/or personal performance.	57.6%	42.4%	100.0% (425)	3.20
	5 – In workplaces, in general, there is some reluctance for professionals* to talk about their own use of medicines and/or supplements to improve professional and/or personal performance.	23.8%	76.2%	100.0% (475)	4.36

[a]Scale from 1 (strongly disagree) to 6 (strongly agree).
*In the questionnaires, the name of the respective professional group was mentioned (nurses, police officers and journalists).

addressed through consumption practices. This is not the case with relational demands, which, despite their high expression in everyday work (specifically emotional demands), tend to be perceived as extrinsic to the nature of the work and, therefore, less permeable to legitimation.

Regarding the prevalence of consumption (statement 4), the perception that consumption is relatively widespread prevails, with more than half of respondents (57.6%) disagreeing that 'only a small number of professionals resort to such consumption'. However, responses to statement 5 indicate a wide perception of the social invisibility of this consumption. A high percentage (76.2%) of respondents agree that people are 'reluctant to talk about their own consumption'.

This widespread reluctance to talk about or disclose one's use of medication points to the private nature of the consumption, a personal reserve for managing negative normative views about the disqualifying effect that the consumptions may entail (Gabe et al., 2016), especially if they are seen as markers of a personal vulnerability or deficit (Ballantyne, 2021).

Concerning the correlation between acceptability of consumption (statements 1–3) and actual consumption practices, it is noted that those who use these products are more likely to find it acceptable to use them in circumstances of intrinsic professional demands. Specifically, the average level of agreement is higher among those who consume (between 3.03 and 3.46), compared to those who do not (below 2.79).

Regarding perceptions of consumption (statement 4), respondents who have reported no consumption practices are more likely to agree that consumption is low (3.51). In contrast, those who do consume are less likely to agree with this statement (3.10).

In terms of the perceived reluctance to disclose use (statement 5), while those who consume are more likely to agree that such usage if often kept private (4.40), those who do not consume tend to perceive consumers as less reluctant to disclosure (4.25). This suggests that the receptivity to medicine or supplement use for performance management does not necessarily produce its normalisation within the specific work contexts where these products are used. This aligns with what has been described above as 'differentiated normalisation', indicating that some consumptions still largely remain a private matter. The performance pressures may well trigger performance investments, but the disclosure of these is managed with parsimonious visibility.

In this tension between receptivity to and invisibility of consumption, one of the factors that may induce some differentiation is a generational effect. Although dependent on the type of consumption and the circumstances that legitimise it, normalisation of consumption is slightly more prevalent among the younger age group. Cross-tabulating age with statements 1–3 shows that younger professionals (up to 34 years old) tend to agree with the acceptability towards consumption [statements: 1 (3.39), 2 (3.49), 3 (3.11)]. Older professionals (aged 50 +) present averages closer to disagreement [statements: 1 (3.13), 2 (3.19), 3 (2.86)].

Younger adults' greater permeability towards these investments reveals a less problematic acceptance of therapeutic resources for the performance management. In any of the three occupations under analysis, early stages of their careers are marked by intense levels of demand and pressures, and in more adverse conditions, denoting high levels of competitiveness and, therefore, an intense work culture (Bloomfield & Dale, 2015). As such, it simultaneously reinforces the evidence that work pressures encourage the use of medicines as means to manage professional performance. It also shows that these means are more easily adopted by individuals who are culturally more familiar with the presence of medicines in daily life and, therefore, more willing to explore their non-therapeutic uses (Lopes et al., 2015; Pawson & Kelly, 2021).

Differentiated normalisation and reasons for concealment

To delve deeper into perceptions of medicine and supplement use, the analysis will now focus on the extent to which the stigmatising effect of certain uses tends to result in their concealment.

The qualitative data from interviews corroborated the ambiguity of perceptions regarding levels of consumption among peers (statement 4), as well as the idea that certain types of consumption tend to be shared only within more restricted groups (statement 5), given the fears surrounding value judgments that may circulate – in a more or less hidden way – within the workplace. Beyond this circumscribed sharing, the (in)visibility of consumption, as well as the (non-)openness toward using medicinal aids to manage performance in work contexts, varies. These variations depend not only on the professional context itself, which may be more or less receptive to performance consumptions in general, but most importantly on the recognition of the challenges inherent in the professional demands of these same contexts.

As already highlighted, a greater openness to medicine use is mainly associated with managing intellectual demands, where issues like sleep and mental fatigue assume greater relevance:

> I don't consider it inevitable, but I think it's understandable (…) The colleagues who feel the need to be more awake or more available to work a greater number of hours, and for that they feel they need some kind of help, that's understandable (journalist, E7).

> At the end of shifts, when they went home, many of them said that they had to take something to relax (…) I had many colleagues who had to take medication to sleep, to rest (…) Nowadays, this kind of medication is more commonplace; the strange thing is when someone says that they don't take them (nurse, E1).

As these two quotes reveal, either due to extended working hours or flexible schedules, the need to use medication to manage the effects or demands inherent to work contexts gains legitimacy. However, while the medicated management of sleep appears as something normalised in shift work, using medication to stay 'more awake' or work longer hours – akin to an extreme worker – may be accepted but not considered inevitable.

This differentiated normalisation of performance consumption is also reflected in their (in)visibility, also differentiated, for fear of judgements that may question one's ability to work:

> [With regard to performance consumption], this is a matter that people manage quite discreetly, not least because it can be misinterpreted and can be interpreted as a sign of weakness (…) I also don't tell them that I do it, so I assume that people behave in a similar way to me (…) Although what the person is doing is to strengthen himself, it can be seen in the opposite way, that the person is being weak and any journalist is afraid of being looked at that way (journalist, E1).

> People are always reluctant to say it [using relaxants/sedatives] openly for fear of being seen as vulnerable or less trustworthy and that this will spill over to the professional side (nurse, E7).

What these quotes reveal is that the intensification of work and the growing normalisation of working extremely (Bloomfield & Dale, 2015) lead many individuals to manage their professional performance through medication (Coveney, 2014). Yet, such a (growing) phenomenon is concealed through careful secrecy to maintain a good reputation among colleagues and superiors. In some situations, the reluctance to share about certain consumption practices goes beyond the fear of presenting possible signs of weakness or professional and personal insufficiency, to include potential associations with illicit consumption (Cooper, 2021), thereby putting one's professional (and personal) integrity at risk:

> People prefer not to say anything, even for another reason; there are many people who can confuse this with other situations, in journalism there are many, namely, drug situations, illicit drugs, this exists a lot, nobody talks openly, but it exists, as there are also many cases of alcoholism (journalist, E13).

The concealment of consumption is seen as being even more necessary in professional contexts where, in addition to stigmatisation, the repercussions of certain consumption practices may be penalising. This seems to happen mainly when it comes to medication use associated with psychological issues:

> Whoever is in an operational service (…) if he is taking that kind of medication or if he is being supported at a psychiatric/psychological level, he would have to return the weapon,

> for example. It implies that those who have this kind of problems hide them, they don't tell (police officer, E6).

These are, therefore, contexts where professionals are subject not only to a high pressure to perform their duties, but also to greater scrutiny regarding the way they deal with that pressure. If stigmatisation does not lead to people abstaining from consumption, instead it ends up increasing its concealment. This secrecy stems from concerns that these consumptions may be perceived as an unfair resource that compensates for performance limitations and may also signal the importance of performance demands for which non-compliance is itself subject to derogatory connotations among peers. This 'hidden consumption' therefore reflects one less visible side of the differentiated normalisation of the processes of pharmaceuticalisation.

Conclusion

Exploring the phenomenon of pharmaceuticalisation within work contexts prompts a final set of considerations regarding the results previously presented and potential directions for further research on this topic.

The data reveal a widespread pattern of using medicines and supplements for performance purposes. This pattern is notably linked to work demands, especially those identified as primary work pressure factors, namely emotional and intellectual demands as well as the intensity of work pace.

While this first level of analysis suggests a trend towards the normalisation of pharmaceuticalisation in managing professional performance, it is the notion of differentiated normalisation that allows for a deeper analysis. As discussed above, this notion remains relatively unexplored in pharmaceuticalisation studies, but its operationalisation proved to be crucial to capture the social heterogeneity of the dynamics underpinning the dissemination of pharmaceuticalisation. This differentiated normalisation was observed at various levels in the results: the varied usage patterns and social legitimacy attributed to performance consumption practices; the context-dependent legitimacy conferred to specific purposes; and even the longer or shorter duration of the consumption and consequent risk of stigmatisation.

Another scope of differentiation refers to hidden consumptions, or consumptions shared only in restricted sociability circles. The contextual dependency of such concealment strongly varies according to the nature of the work and its associated organisational cultures. These configurations of differentiated normalisation, coupled with the contextual specificities that produce them, reinforce the need to deepen our understanding of pharmaceuticalisation processes and their social heterogeneity.

Furthermore, studying pharmaceuticalisation specifically in work contexts is critical given the impact of these contexts, and their associated work cultures, on personal life. This impact has been ascribed to the totalising character of work – represented by the image of the extreme worker – and accounts for the tendential dilution of the boundaries between work and personal life, as well as highlights work's structuring effect on private life. Alongside this dilution effect, other analytical challenges arise from the evolving configurations of work, marked by increasing digitalisation and consequent spatial and temporal decontextualisation. This emphasises the need for further empirical studies that explore the triangulation between work, pharmaceuticalisation and private life, to deepen

the dynamics of work pharmaceuticalisation. Also relevant to consider in this triangulation is the place of gender, which demands greater attention in pharmaceuticalisation studies.

The sociological relevance of the pharmaceuticalisation phenomenon – explored in this article through work contexts – stems from both its impacts at the contextual and micro-social level, and the macro-societal reconfigurations it generates. The growing individualisation of responsibility for work productivity often obscures the structural factors that either limit or enhance this productivity. As shown by the data discussed above, this process has been continuously enabled and reproduced by pharmaceuticalisation. In turn, the cultural normalisation of using medicines and supplements in response to performance demands has the effect of transforming societal problems into private ones (Ballantyne, 2021). Or, as other authors have pointed out, medicines provide an individualised solution to problems that often have a social and structural origin (Bloomfield & Dale, 2015).

In this social scenario, further research is essential to monitor the interconnections between work and pharmaceuticalisation both conceptually and empirically. Such an approach can broaden knowledge in this field and inform policy decisions that promote health and well-being in the workplace.

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The research was approved by the Ethics Committee of Egas Moniz (protocol code CE 857, February, 2020).

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