# TIME MANAGEMENT CHALLENGES FOR MIDDLE MANAGERS: A STUDY IN A HOSPITAL UNIT

Desafios da gestão do tempo em líderes intermédios: estudo numa unidade hospitalar

Desafíos de la gestión del tiempo para mandos intermedios: un estudio en una unidad hospitalaria

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**Abstract**

**Background:** healthcare units, such as hospitals, are complex and dynamic environments, requiring efficient management to achieve established objectives. Middle leaders play an essential role, and effective time management is key to improving productivity and performance. **Objective:** the main objective of this study was to investigate whether intermediate leaders at a Hospital Unit, in Portugal, can manage their time effectively. **Methodology:** the quantitative research used questionnaires applied to a non-probabilistic sample of 19 intermediate leaders. This allowed the analysis of variables such as the establishment of objectives and priorities, the use of time management tools, and the pressure to work overtime. **Results:** the results did not indicate a significant relationship between the leaders' professional group and time management, nor between years of experience and effectiveness in using these tools. Furthermore, frequent interruptions did not influence the analyzed variables. These results suggest that factors such as professional group or length of experience have a limited impact on time management. **Conclusion:** the study recommends that training programs focused on transversal skills can be more effective than approaches based on professional profile or experience.

**Keywords:** time management; leadership; quality

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**RESUMO**

**Enquadramento:** as unidades de saúde, como hospitais, são ambientes complexos e dinâmicos, exigindo uma gestão eficiente para alcançar os objetivos estabelecidos. Os líderes intermédios desempenham um papel essencial, e a gestão eficaz do tempo é fundamental para melhorar a produtividade e o desempenho**. Objetivo:** este estudo teve como objetivo principal investigar se os líderes intermédios de uma Unidade Hospitalar, em Portugal, conseguem gerir o seu tempo eficazmente. **Metodologia:** a pesquisa quantitativa, utilizou questionários aplicados a uma amostragem não probabilística de 19 líderes intermédios que permitiu analisar variáveis como o estabelecimento de objetivos e prioridades, o uso de ferramentas de gestão do tempo, e a pressão para trabalhar além do horário. **Resultados:** os resultados não indicaram uma relação significativa entre o grupo profissional dos líderes e a gestão do tempo, nem entre os anos de experiência e a eficácia na utilização dessas ferramentas. Além disso, interrupções frequentes não influenciaram as variáveis analisadas. Esses resultados sugerem que fatores como o grupo profissional ou o tempo de experiência têm impacto limitado na gestão do tempo. **Conclusão:** o estudo recomenda que programas de formação focados em competências transversais podem ser mais eficazes do que abordagens baseadas no perfil profissional ou na experiência.

**Palavras-chave:** gestão do tempo; liderança; melhoria de qualidade

**Resumen**

**Marco contextual:** las unidades sanitarias, como los hospitales, son entornos complejos y dinámicos, que requieren una gestión eficiente para alcanzar los objetivos establecidos. Los líderes intermedios desempeñan un papel esencial y la gestión eficaz del tiempo es clave para mejorar la productividad y el rendimiento. **Objetivo:** el objetivo principal de este estudio fue investigar si los líderes intermedios de una unidad hospitalaria en Portugal pueden gestionar su tiempo de forma eficaz. **Metodología:** la investigación cuantitativa utilizó cuestionarios aplicados a una muestra no probabilística de 19 líderes intermedios que permitieron analizar variables como el establecimiento de objetivos y prioridades, el uso de herramientas de gestión del tiempo y la presión para realizar horas extras. **Resultados:** los resultados no indicaron una relación significativa entre el grupo profesional de los líderes y la gestión del tiempo, ni entre los años de experiencia y la eficacia en el uso de estas herramientas. Además, las interrupciones frecuentes no influyeron en las variables analizadas. Estos resultados sugieren que factores como el grupo profesional o la duración de la experiencia tienen un impacto limitado en la gestión del tiempo. **Conclusión:** el estudio recomienda que los programas de formación centrados en habilidades transversales pueden ser más eficaces que los enfoques basados en el perfil profesional o la experiencia.

**Palabras clave:** administración del tiempo; liderazgo; mejoramiento de la calidad

## INTRODUCTION

Middle leadership occupies a crucial role within organisations, especially in complex environments such as hospitals, where time is a valuable resource. Middle leaders, responsible for managing teams and projects, face unique challenges when attending to (balancing) multiple tasks and daily demands. Effective time management is therefore a fundamental skill for optimising performance, reducing stress and guaranteeing quality patient care.

Middle leaders occupy a strategic position between supervisory levels and senior management, and are responsible for both the execution and supervision of teams. Other authors stress the importance of effective leadership for the functioning of teams and for organisational success (Embertson, 2006).

The literature suggests that time management is positively associated with the perception of control over work, satisfaction and health (Claessens et al., 2007), while ineffective practices increase stress levels (Grissom et al., 2015). Macan (1994) points out that planning, organising and setting priorities are behaviours directly related to performance and job satisfaction.

In the specific context of the hospital unit under study, it was observed that middle leaders often extend their working hours, which raises the question of whether these professionals manage their time effectively. This study therefore aims to identify practices and challenges in time management by middle managers, with a view to defining intervention proposals and institutional recommendations that promote good practices and improve organisational performance.

## BACKGROUND

Time management is a recurring challenge for middle managers in dynamic environments such as hospitals, where the intense pace and constant need to prioritise tasks require specific skills. Time is a critical and intangible resource, fundamental to organisational success, and its effective management depends on skills such as organisation and prioritisation (Camilo, 2016). In this context, leaders play a crucial role in regulating work rhythms and coordinating tasks to achieve the institution's objectives.

Studies highlight that good time management is positively correlated with reduced stress and increased job satisfaction (Claessens et al., 2004). Although the direct impact of time management training on organisational performance is not yet conclusive, there is evidence that efficient practices help to optimise resources, minimise stress and maximise productivity (Grissom et al., 2015).

Throughout history, the concept of time has been explored by different areas, following changes in organisational requirements and evolving to include practical management methods. At the beginning of the 20th century, various authors developed methods and tools to help with time management. Approaches centred on the application of scientific methods emerged, focusing on the standardisation of tasks and appropriate training as a means of ensuring efficiency. At the same time, management principles were developed that influenced general administration, but which were applicable to improving time management. Drucker (1967) emphasised time management as an individual responsibility essential for efficiency. In the 1990s, Covey (1995) proposed a

model based on prioritising what is important. These contributions have shaped current practices, integrating personal and organisational time management strategies.

In the hospital environment, characterised by complexity and uncertainty, time management becomes even more challenging. Middle leaders are responsible for transforming the strategies defined by senior management into practical actions on the ground, ensuring excellence in the services provided, and for balancing the demands of the organisation with the needs of the teams. This role requires skills such as problem-solving, communication and prioritisation.

The most common difficulties that jeopardise time management include work overload, constant interruptions and unproductive meetings (Zijlstra et al., 1999), which in turn affect both the productivity and well-being of professionals (Ribeiro, 2022).

To improve time management, effective strategies can be adopted, such as to-do lists and diaries. Studies show that specific training in this area can increase the feeling of control and reduce perceived stress, contributing to a better work-life balance (Häfner et al., 2015).

Work-life balance is increasingly recognised as an important factor for organisational performance. Institutions that promote prioritisation management practices manage to create healthier and more productive environments, which is reflected in employee satisfaction and the quality of services (Chaves, 2021).

In the health sector, efficient time management practices are essential for meeting high demands and maintaining quality standards. Efficient time management improves work performance and reduces stress (Golabli et al., 2013; Khan et al., 2016), and it is important to balance work and leisure for greater productivity (Safonov et al., 2018).

Middle leaders who manage Management Units (MUs) and Integrated Responsibility Centres (IRCs) face unique pressures that directly affect the quality of care provided to the community. Specific training in time management has emerged as a crucial need for these professionals to be able to deal with day-to-day challenges and ensure that institutional goals are achieved (Embertson, 2006).

Time management is therefore an essential skill for middle leaders, who must use intelligent and organised strategies to cope with the complexity of their roles. By optimising this limited resource, leaders contribute to the sustainability and success of organisations, promoting both the well-being of teams and excellence in customer service.

## METHODOLOGY

This study adopts a quantitative, non-experimental and descriptive approach to explore the time management practices of middle managers in hospitals. Data was collected using a self-administered questionnaire sent via *Google Forms*, covering open and closed questions. The cross-sectional time frame offers a snapshot of the practices of these leaders, with data collected in April 2024.

The target population includes middle leaders from a hospital unit made up of nine Management Units (MUs) and two Integrated Responsibility Centres (IRCs). The sample was made up of doctors, nurses and

hospital managers - the three professional groups most representative of middle management, in order to ensure relevance and diversity, covering 26 professionals. Leaders with less than a year's experience were excluded as they were still in the adaptation phase, thus ensuring consistency and maturity in time management. The non-probabilistic convenience sample made it possible to focus on the most relevant participants, optimising the collection process.

The study was authorised by the Ethics Committee (doc. no. 12/2024 -1) and the Board of Directors (doc. no. I07674-202402). Anonymity, data confidentiality and voluntary participation were guaranteed. Participants were informed of the objectives of the study and their rights, either in person or by telephone. Informed consent was deemed to have been obtained by completing and returning the questionnaire.

The questionnaire used was divided into three sections: sociodemographic data, time management behaviours based on the *Time Manager Behavior Scale* (TMBS) adapted by Andrade (2016), and perceived pressure for extra work, assessed by the Pressure for Extra Time (TPE) scale by Pereira (2011). The TMBS assesses 21 items on a *Likert* scale, while the TPE measures perceived pressure on five items. These tools offer a comprehensive analysis of leaders' practices and perceptions of time management and workload.

Data analysis combined quantitative and qualitative methods. The open-ended responses were treated through textual analysis, with descriptive coding to identify patterns and meaningful categories. The data was analysed using R (v.4.4.1) and IBM SPSS Amos 26® *software*, applying confirmatory factor analysis (CFA) to check the validity and reliability of the scales, following adjustment criteria such as CFI>0.95 and RMSEA<0.06 (Hu & Bentler, 1999).

Significant differences between activities and their importance were identified using the *Kruskal-Wallis* test*,* followed by multiple comparisons with the Dunn test and Bonferroni correction. The analyses revealed that "Administrative Activities" often competed in importance with "Personnel Management" and "Strategic Planning", while activities such as "Reading Emails" showed less comparative relevance.

Finally, a hierarchical linear regression tested the relationship between time management dimensions and pressure to work extra hours.

**RESULTS**

The sample consisted of 19 middle leaders, representing 73 per cent of the study population, from different professional groups, the majority being nurses (77.78 per cent), followed by hospital managers (75 per cent) and doctors (66.67 per cent). The distribution between the professional groups was proportional and representative. Most of the participants were female (73.7%), while 26.3% were male. With regard to marital status, 84.2 per cent of the participants were married or in a civil partnership, 10.5 per cent were single and 5.3 per cent were divorced. The predominant age group was 60 or over (42.1%), reflecting that leadership positions are mostly held by older and possibly more experienced professionals.

Table 1

Socio-demographic variables

| | | All (n=19) n (%) | | Nurse (n=7) n (%) | | Doctor (n=6) n (%) | | H. Manager (n=6) n (%) | |
|---|---|---|---|---|---|---|---|---|---|
| **Age** | ≥40 <50 years | 5 | (26.3) | 1 | (14.3) | 0 | (0.0) | 4 | (66.7) |
| | ≥50 <60 years | 6 | (31.6) | 2 | (28.6) | 2 | (33.3) | 2 | (33.3) |
| | ≥60 years | 8 | (42.1) | 4 | (57.1) | 4 | (66.7) | 0 | (0.0) |
| **Sex** | Female | 14 | (73.7) | 6 | (85.7) | 2 | (33.3) | 6 | (100.0) |
| | Male | 5 | (26.3) | 1 | (14.3) | 4 | (66.7) | 0 | (0.0) |
| **Marital status** | Single | 2 | (10.5) | 1 | (14.3) | 0 | (0.0) | 1 | (16.7) |
| | Married or in a civil partnership | 16 | (84.2) | 5 | (71.4) | 6 | (100.0) | 5 | (83.3) |
| | Divorced or separated | 1 | (5.3) | 1 | (14.3) | 0 | (0.0) | 0 | (0.0) |
| **Years of experience as middle leader** | <5 years | 1 | (5.3) | 0 | (0.0) | 0 | (0.0) | 1 | (16.7) |
| | ≥5 <10 years | 5 | (26.3) | 3 | (42.9) | 2 | (33.3) | 0 | (0.0) |
| | ≥10 <15 years | 1 | (5.3) | 0 | (0.0) | 0 | (0.0) | 1 | (16.7) |
| | ≥15 years | 12 | (63.2) | 4 | (57.1) | 4 | (66.7) | 4 | (66.7) |
| **Time spent on administrativ activities** | < 1 hour | 1 | (5.3) | 0 | (0.0) | 0 | (0.0) | 1 | (16.7) |
| | ≥1 <2 hours | 9 | (47.4) | 2 | (28.6) | 4 | (66.7) | 3 | (50.0) |
| | ≥2 <4 hours | 7 | (36.8) | 4 | (57.1) | 2 | (33.3) | 1 | (16.7) |
| | ≥4 hours | 2 | (10.5) | 1 | (14.3) | 0 | (0.0) | 1 | (16.7) |
| **No. of meetings per week** | ≥2 <4 meetings/week | 6 | (31.6) | 1 | (14.3) | 3 | (50.0) | 2 | (33.3) |
| | ≥4 <6 meetings/week | 7 | (36.8) | 4 | (57.1) | 2 | (33.3) | 1 | (16.7) |
| | ≥6 meetings/week | 6 | (31.6) | 2 | (28.6) | 1 | (16.7) | 3 | (50.0) |

As for their professional experience as middle managers, 63.2% of the participants reported having been in this role for 15 or more years, which indicates a strong base of knowledge and experience in management activities.

The quantitative analysis revealed that the majority of leaders (47.4%) devote between 1 and less than 2 hours a day to administrative activities, while 36.8% devote between 2 and less than 4 hours a day to these functions. With regard to weekly meetings, 36.8% of the participants reported attending between 4 and 5 meetings a week, while 31.6% reported attending 6 or more (Table 1). This data indicates a significant administrative burden, coupled with a high frequency of meetings that can interfere with leaders' availability for more strategic activities.

Frequent interruptions were identified by the majority of respondents as the main challenge in time management, especially those related to phone calls and interactions with colleagues. Lack of resources and work overload were also mentioned, albeit in smaller numbers, as factors that hinder effective time management.

These challenges demonstrate that middle leaders face considerable difficulties when trying to balance their administrative responsibilities with operational and strategic tasks. Work overload, in particular, seems to prevent leaders from focusing more time on

activities aimed at development and innovation, essential elements for the organisation's growth.

The data on leaders' ability to set and prioritise objectives (TMB) showed that 89% of leaders always complete high-priority tasks before less important ones, and 84% set deadlines for their tasks. However, only 42 per cent of leaders regularly review their objectives to determine whether adjustments are needed, and 37 per cent rarely assess whether the time planned for tasks was adequate. The analysis also showed that 95 per cent of leaders set short-term objectives and 89 per cent break down complex projects into smaller tasks, which reflects a structured approach to completing tasks.

Based on the answers related to TMM, which measures the use of techniques associated with time management, it was observed that the adoption of these techniques varies significantly between middle leaders. This suggests that there are differences in the way leaders use different time management methods, which may be related to factors such as experience, work context or individual preferences.

The TPE revealed that a significant proportion of leaders (79 per cent) feel the need to continue working from home, and 63 per cent reported feeling pressured to work more hours than they would like. Even so, 79 per cent disagreed with the idea that leaders who keep to their hours are not taken seriously within the institution. These results highlight the presence of an organisational culture where, although the pressure to work extra hours is acknowledged, there is not necessarily a broad social expectation to exceed the stipulated hours.

The study was structured on the basis of formulating guiding questions that seek to investigate how middle leaders manage their time.

To answer the questions raised, regression models were created and analyses of variance (ANOVA) performed on these models. In addition, the influence of sociodemographic control variables (age, gender and marital status) was tested using analyses of covariance (ANCOVA). The methodologies' applicability assumptions were assessed for each question. When necessary, corresponding non-parametric tests were applied.

The results obtained for each of the questions raised were as follows:

***Q1: Does setting goals and priorities (TMB) explain the variance in pressure for extra time (TPE)?***

The adjusted model was not significant ($F=2.385$, $p>0.05$), indicating that behaviours related to TMB do not significantly explain the variance in TPE. The inclusion of covariates (age, gender and marital status) revealed no significant effect on EPR ($p>0.05$).

***Q2: Do time management tools (TMM) explain the variance in pressure for extra time (TPE)?***

The model was marginally significant ($F=3.591$, $p=0.075$), suggesting a trend of association between the use of TMM and the perception of TPE, although without conventional significance ($p>0.05$). This points to a possible moderate effect of using TMM in reducing pressure for extra time, which, although not conclusive, merits future exploration with larger samples.

***Q3: Does setting goals and priorities (TMB) explain the variance in the use of time management tools (TMM)?***

The adjusted regression model revealed no statistically significant association (F=1.937, p>0.05), indicating that TMB does not explain the variance in the use of TMM. However, the age variable showed a significant effect (F=5.326, p<0.05), suggesting that age influences the use of BMT.

***Q4: Does pressure for extra time (TPE) explain the variance in work overload?***

The adjusted model did not find sufficient evidence for a significant relationship (p=0.136), indicating that EPT is not significantly associated with work overload. The covariates (age, gender and marital status) also had no statistically significant effect.

***Q5A: Does the professional group explain the variance in setting goals and priorities (TMB)?***

The professional group did not explain the variance in TMB in a statistically significant way (F=0.396; p>0.05). The covariates age, gender and marital status also had no significant effects (p>0.05).

***Q5B: Does professional group explain the variance in the use of time management tools (TMM)?***

With regard to the use of TMM, although the overall model was not statistically significant (F=1.950; p>0.05), there was a significant effect of professional group (F=4.024; p=0.049), as well as age (F=7.711; p<0.05) and marital status (F=5.709; p<0.05) (Table 2).

Table 2

ANCOVA of MMR in the Professional Group, with covariates Age, Sex and Marital Status

**ANCOVA[a]**

| Model | | Sum of squares | Degrees of freedom | Mean square | F | Sig. |
|---|---|---|---|---|---|---|
| 5B.1 | Professional group | 61,62 | 2 | 30,81 | 4,024 | 0,049[b] |
| | Age | 118,10 | 2 | 59,05 | 7,711 | 0,008[c] |
| | Sex | 3,90 | 1 | 3,90 | 0,509 | 0,491[c] |
| | Marital status | 87,44 | 2 | 43,72 | 5,709 | 0,020[c] |
| | Residue | 84,23 | 11 | 7,657 | | |
| | Total | 355,29 | 18 | | | |

*a. Dependent Variable: TMM*

*b. Predictors: (Constant), Professional group*

*c. Covariates: Age; Sex; Marital status*

***Q5C: Does professional group explain the variance in pressure for extra time (TPE)?***

Although there was no statistical significance in the adjusted model (F=2.369, p>0.05), the coefficient for the group of doctors showed a marginal tendency towards lower EPT (p=0.06). The covariates had no significant impact.

On the other hand, the results indicated that specific professional groups, such as doctors and nurses, perceive different pressures in extending working hours, with significant correlations (r=-0.48, p<0.05). These results highlight the need for organisational interventions to alleviate pressures and improve time management in different professional contexts.

***Q6A: Do years of experience as a middle leader explain the variance in setting objectives and priorities (TMB)?***

The adjusted model was not significant (F=1.291, p>0.05), but there was a marginal trend (p=0.08) towards lower adoption of TMB among leaders with

more than 15 years' experience (Table 3). This trend suggests that prolonged experience may be associated with a lower formal adoption of structured goal-setting practices, possibly due to reliance on consolidated routines.

Table 3

Coefficients of the TMB regression model on Years of Experience

**Coefficients[a]**

| Model | | Unstandardised coefficients | | Standardised coefficients | | |
|---|---|---|---|---|---|---|
| | | **B** | **Standard Error** | **Beta** | **t** | **Sig.** |
| **6A** | (Constant) | 24,000 | 2,505 | | 9,581 | 0,000 |
| | Exp. years ≥5 <10 | -4,600 | 2,744 | -0,811 | -1,676 | 0,114 |
| | Exp. years ≥10 <15 | -6,000 | 3,542 | -0,537 | -1,694 | 0,111 |
| | Exp. years ≥15 | -4,917 | 2,607 | -0,950 | -1,886 | 0,079 |

*a. Dependent Variable: TMB*

***Q6B: Do years of experience explain the variance in the use of time management tools (TMM)?***

Although the overall model was not significant (F=2.022, p>0.05), leaders with 5-10 years and more than 15 years of experience showed a statistically significant reduction in the use of TMM (p<0.05) (Table 4). The age of the leaders also showed a statistically significant effect (F=6.195, p<0.05).

Table 4

Coefficients of the TMM regression model on Years of Experience

**Coefficients[a]**

| Model | | Unstandardised coefficients | | Standardised coefficients | | |
|---|---|---|---|---|---|---|
| | | **B** | **Standard Error** | **Beta** | **t** | **Sig.** |
| **6B** | (Constant) | 28,000 | 3,772 | | 7,422 | 0,000 |
| | Years exp. ≥5 <10 | -9,200 | 4,132 | -1,020 | -2,226 | 0,042 |
| | Exp. years ≥10 <15 | -11,000 | 5,335 | -0,618 | -2,062 | 0,057 |
| | Exp. years ≥15 | -9,333 | 3,926 | -1,133 | -2,377 | 0,031 |

*a. Dependent Variable: TMM*

***Q6C: Do years of experience explain the variance in pressure for extra time (TPE)?***

The model did not show statistical significance (F=0.324; p>0.05), and none of the covariates showed significant effects

***Q7A: Do frequent interruptions moderate the relationship between TMB and TPE?***

The analysis revealed no significant moderating effect of frequent interruptions on the relationship between TMB and TPE (p>0.05), nor significant effects of the covariates.

***Q7B: Do frequent interruptions moderate the relationship between MBT and EPE?***

Similarly, there was no significant moderation of frequent interruptions in the relationship between BMR and EPE ($p>0.05$), and all the covariates were statistically non-significant ($p>0.05$).

## DISCUSSION

This study analysed the time management patterns of middle managers in a hospital unit. It is essential to interpret the data in the light of the research questions and the existing literature, comparing it with previous studies and contextualising its implications.

The main aim of the research was to identify whether the hospital's leaders are managing their time effectively.

The data suggests a still ineffective use of time by many leaders, reflected in the high number of hours dedicated to administrative tasks and the generalised perception of overload and pressure.

Although administrative tasks take up to four hours a day, many leaders resist delegating or prioritising them, possibly due to the perceived lower value associated with these functions (Jung & Sosik, 2002, cited by Antunes, 2013). This tendency can jeopardise the time available for strategic and leadership activities.

The scarcity of resources was pointed out as one of the main obstacles, reinforcing previous findings on structural and bureaucratic obstacles in healthcare organisations (Andrew & Sirkin, 2008, cited by Antunes, 2013). Although the literature points to the benefits of using time management tools (Claessens et al., 2004), in this study there was no significant effect of these practices in reducing the pressure to work beyond regular hours, which suggests the need for more systemic interventions.

It has been found that more experienced leaders tend to resort less to the use of TMM, relying on more informal approaches, possibly due to the internalisation of skills over time (Birkinshaw et al., 2020). This does not mean less effectiveness, but rather an adaptation of management style to accumulated experience.

Work overload was widely cited as one of the biggest challenges, reflecting possible structural dysfunctions in the organisation. Claessens et al. (2004) associate this overload with less time control and greater tension and dissatisfaction. However, in this study, the pressure to work overtime is not explained exclusively by this factor, diverging from Golabli et al. (2013), who point to workload as a central stress factor in similar contexts.

The results of this study indicate that the professional group of middle leaders does not significantly explain the variation in the use of BMT, the use of MMT and the perception of SPE, although there is evidence of the influence of the professional group on SPE. Macan (1994) points out that practices such as prioritisation and goal setting are applicable to various professions, although there are variations in perceived time control and associated stress. The hypothesis that different professional profiles would adopt different approaches to time management was not confirmed, possibly due to team collaboration and similar roles between doctors, nurses and hospital managers, which mitigate significant variations.

As for experience, years in post did not appear to significantly influence the use of TMB, but more

experienced leaders tended to use TMM less, relying more on acquired skills and informal methods. This finding is in line with Lyons et al. (2007), who describe young managers as orientated towards innovation and quick results, while more experienced ones value consistency and security. Mintzberg (1973) reinforces this view, suggesting that experienced managers rely less on structured tools, relying on experience for decision-making, which does not compromise the effectiveness of time management.

Finally, socio-demographic variables - such as age, gender, marital status and years of experience - do not significantly influence the perception of TPE. This may be related to the increasing autonomy that experience provides, since, according to Claessens et al. (2004), greater autonomy is associated with greater time control, less stress and greater productivity and job satisfaction.

Interruptions were mentioned as the biggest obstacle to effective time management, although they did not show a statistically significant moderating effect. Even so, their negative impact on focus and productivity is well documented in the literature (Zijlstra et al., 1999), justifying their inclusion as a priority target for intervention.

In view of the results obtained, it is recommended that transversal time management training programmes be implemented for all professional groups, with a special focus on prioritising tasks, effective delegation and strategies for dealing with interruptions.

At an organisational level, it is essential to review internal policies in order to reduce the impact of administrative tasks on leaders' productivity, promoting their simplification or redistribution. At the same time, institutional mechanisms should be created to mitigate non-urgent interruptions, such as the adoption of protected agendas and differentiated communication channels. The promotion of an efficiency-oriented organisational culture, which values the balance between operational and strategic tasks and encourages professional autonomy in time management, is another fundamental pillar.

Finally, adopting an institutional policy focused on improving time management processes would not only benefit individual leaders, but would contribute to the overall success of the organisation.

## CONCLUSION

In recent decades, there has been growing recognition of the importance of time management in organisational culture. However, in Portugal, there are still few studies on time management among leaders, especially in the healthcare sector. This study sought to assess whether middle leaders in a hospital organisation are managing their time effectively.

The results showed no statistically significant relationship between variables such as professional group, years of experience, use of time management tools and the perception of pressure to work overtime. This pattern of no direct association reinforces the complexity of time management and the need for multifactorial approaches, taking into account contextual and organisational factors in addition to the individual variables analysed. Even so, relevant trends were observed, such as the reduced use of management tools by more experienced leaders, possibly reflecting a greater reliance on informal practices.

Frequent interruptions, although identified as a challenge, did not prove to be a significant moderator of the relationship between the use of TMM and PTE, as well as between TMB and PTE.

These findings suggest that time management practices and the pressure for extra time are influenced by a combination of factors that go beyond the variables analysed, pointing to the importance of more personalised and adaptive management styles.

The limitations of this study - namely the size of the sample and the focus on a single institution - may have hindered the detection of significant effects, especially in the moderation analyses. In future research, it would be interesting to carry out comparisons with other healthcare units, not only in the northern region of the country, but also in different national contexts, in order to extend the external validity of the findings. In addition, the inclusion of qualitative approaches could offer a deeper understanding of middle leaders' perceptions and practices in relation to time management, providing insights that quantitative data does not fully capture.

Despite its limitations, this study makes a relevant contribution to knowledge about middle managers' time management, an area of growing importance in the hospital organisational context. It is hoped that this research will serve as a starting point for future investigations, highlighting the importance of effective time management strategies and raising awareness of the crucial role of self-management in leadership performance.

The fact that no significant relationships were found between the variables analysed reinforces the complexity of time management and the need for multifactorial approaches. Time management effectiveness does not seem to depend directly on factors such as professional group, years of experience or the use of specific tools, which suggests that these behaviours are influenced by broader, contextual dynamics.

Although middle leaders demonstrate time management practices, there is insufficient evidence to determine the effectiveness of these behaviours. For more robust conclusions, it will be necessary to investigate the relationship between these behaviours, organisational results and the personal satisfaction of the leaders themselves.

Although the results do not confirm deterministic relationships, this study contributes to clarifying what is not determinant, which in itself represents an advance in understanding the phenomenon. Rather than definitive conclusions, the data points to promising avenues of research and organisational intervention.

It is therefore concluded that although middle leaders apply time management practices, there is not enough evidence to determine their effectiveness. Time management remains a critical and multidimensional skill, the optimisation of which requires sustained training and institutional strategies. It is hoped that this research will encourage wider reflection on the role of self-management in leadership and motivate the implementation of programmes that promote a more efficient and sustainable organisational culture.

## CONFLICT OF INTEREST

The authors declare that there are no conflict of interest**.**

**REFERENCES**


Andrade, H. (2016). *Mediação dos comportamentos de gestão de tempo na relação da autoeficácia com o desempenho e com a satisfação no trabalho* [Tese de Mestrado, Instituto Universitário de Lisboa]. Repositório do Instituto Universitário de Lisboa. http://hdl.handle.net/10071/12988

Antunes, A. (2013). *A liderança nas organizações positivas: estudos de caso em Portugal* [Tese de Doutoramento, Universidade da Beira Interior]. Repositório Digital da Universidade Beira Interior. http://hdl.handle.net/10400.6/4399

Birkinshaw, J., Manktelow, J., D'amato, V., Tosca, E., & Macc, F. (2020). Mais velho, mais sábio? Como o estilo de gestão varia com a idade. *Mit Sloan Management Review*, 1, 15. https://mitsloanreview.com.br/mais-velho-mais-sabio-como-o-estilo-de-gestao-varia-com-a-idade/

Camilo, V. (2016) *The pace of the leader: pacing patterns, time management behaviors and temporal leadership* [Tese de Mestrado, Instituto Universitário de Lisboa]. Repositório do Instituto Universitário de Lisboa. http://hdl.handle.net/10071/12623

Chaves, E. (2021, 13 de janeiro). Administrar o tempo é planejar e gerenciar a vida. *Chaves Space*. https://chaves.space/2021/01/13/administrar-o-tempo-e-planejar-e-gerenciar-a-vida-v-5-2021-original-de-1998/

Claessens, B., Eerde, W., Rutte, C., & Roe, R. (2004). Planning behavior and perceived control of time at work. *Journal of Organizational Behavior,* 25(8), 937 - 950. https://doi.org/10.1002/job.292

Claessens, B., Eerde, W., Rutte, C. & Roe R. (2007). A review of time management literature. *Personnel review, 36*(2), 255-276. https://doi.org/10.1108/00483480710726136

Covey, S. (1995). *First things first: como definir prioridades num mundo sem tempo* (7ª ed.). Campus.

Drucker, P. (1967). *The effective executive*. Harper & Row.

Embertson, M. K. (2006). The importance of middle managers in healthcare organizations. *Journal of Healthcare Management*, *51*(4), 223-232. https://doi.org/10.1097/00115514-200607000-00005

Golabli, M., Rezaei, S., Najjar, L., & Nameghi, M. (2013) The survey of relationship between time management with job stress and performance in material and procurement management of N.I.S.O.C (National Iranian South Oil Company). *Journal of Basic and Applied Scientific Research, 3*(10), 33-39. https://api.semanticscholar.org/CorpusID:111361861

Grissom, J., Loeb, S., & Mitani, H. (2015). Principal time management skills. *Journal of Educational Administration*, 53, 773-793. https://doi.org/10.1108/JEA-09-2014-0117

Häfner, A., Stock, A., & Oberst, V. (2015). Decreasing students' stress through time management training: an intervention study. *European Journal of Psychology of Education*, *30*(1), 81–94. https://doi.org/10.1007/s10212-014-0229-2

Hu, L., & Bentler, P. (1999). Cutoff criterio for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1555. https://doi.org/10.1080/10705519909540118

Khan, H., Farooqi, M., Khalil, A., & Faisal, I. (2016). Exploring relationship of time management with teachers' performance. *Bulletin of Education and Research, 38*(2), 249-263. https://eric.ed.gov/?id=EJ1210299

Lyons, S. T., Duxbury, L., & Higgins, C. (2007). An empirical assessment of generational differences in basic human values. *Psychological Reports*, *101*(2), 339-352. https://doi.org/10.2466/pr0.101.2.339-352

Macan, T. H. (1994). Time management: test of a process model. *Journal of Applied Psychology*, *79*(3), 381–391. https://doi.org/10.1037/0021-9010.79.3.381

Mintzberg, H. (1973) *The nature of managerial work*. Harper and Row Publishers, Inc.

Pereira, C. P. (2011). *Can I have a life outsider my job? A model for work-life conflict predictors and outcomes* [Tese de Mestrado, Instituto Universitário de Lisboa]. Repositório aberto do Instituto Universitário de Lisboa. http://hdl.handle.net/10071/4502

Ribeiro, I. (2022). *O impacto da sobrecarga de trabalho e da conscienciosidade no bem-estar e desempenho dos profissionais de TI* [Tese de Mestrado, Instituto Superior de Economia e Gestão]. Repositório da Universidade de Lisboa. http://hdl.handle.net/10400.5/26405

Safonov, Y., Maslennikov, Y., & Lenska, N. (2018). Evolution and modern tendencies in the theory of

leadership. *Baltic Journal of Economic Studies, 4*(1), 304-310. https://doi.org/10.30525/2256-0742/2018-4-1-304-310

Zijlstra, F. R. H., Roe, R. A., Leonora, A. B., & Krediet, I. (1999). Temporal factors in mental work: efects of interrupted activities. *Journal of Occupational and Organizational Psychology, 72*(2), 163-185. https://doi.org/10.1348/09631799916658