# SAFETY CULTURE AND CONTINUING CARE

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**Abstract**
The COVID-19 pandemic, which began in 2020, placed immense pressure on healthcare systems worldwide, including the National Health Service and the National Network for Integrated Continuing Care. In this context, the management of safety culture in healthcare has gained particular relevance, although it remains relatively underexplored in Portugal. This study aimed to analyse the importance of safety culture management within an Integrated Continuing Care Unit, identifying good practices, factors associated with organisational learning, and the occurrence of adverse events. It is a single case study of an exploratory and descriptive nature, based on document analysis of institutional standards and reports, interviews conducted at various management levels, and questionnaires administered to unit professionals. The results revealed consistency between the analysed documentation, the professionals' perceptions, and the statements of those responsible for management. Overall, the institution demonstrates a proactive/sustainable level of maturity regarding safety culture. However, priority areas for improvement emerged, particularly in communication and training in occupational health and safety areas significantly affected by the pandemic and its impact on organisational structure and institutional priorities.

**Keywords:** Safety culture; Integrated Continuing Care Unit; National Network for Integrated Continuing Care; safety management.
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## 1. Introduction

The COVID-19 pandemic (2020–2022) exposed, with particular intensity, the vulnerabilities of healthcare systems across the globe, including Portugal's National Health Service. While the structural and organisational limitations of several institutions were widely reported, the National Network for Integrated Continuing Care remains relatively underexplored in scientific research. This is especially true with respect to the management of safety culture, a gap that is particularly relevant given the central role of these units in providing long-term care and responding to the needs of an ageing and increasingly dependent population. International research demonstrates that safety culture is a key determinant of care quality and of the protection of both professionals and service users (Hafezi et al., 2022; Finn et al., 2024). Nevertheless, in Portugal, most studies concentrate on hospital contexts and patient safety, often neglecting the organisational dimension and the specific characteristics of Integrated Continuing Care Units (Lousada et al., 2020; Resende et al., 2021). The limited attention given to this field highlights the need for further investigation. In response to this gap, the present study systematically examines the management of safety culture in a Portuguese Integrated Continuing Care Unit, employing both qualitative and quantitative approaches. The article also seeks to test the applicability of international assessment models in this setting, thereby expanding theoretical and practical understanding of safety culture in healthcare institutions beyond hospitals. The originality of this research lies in the adaptation of international safety culture assessment frameworks to the reality of Integrated Continuing Care Units, a field that remains scarcely addressed in Portuguese literature. Theoretically, the study demonstrates the usefulness of the model proposed by Gonçalves Filho et al. (2011) for healthcare institutions outside the hospital environment and confirms the relevance of Cooper's reciprocal model (2000) in capturing the psychological, behavioural, and situational dimensions of safety culture. On a practical level, it identifies strengths such as regular audits, sustained investment in safety, and an effective management system, while also highlighting areas requiring improvement, namely internal communication, safety training, and organisational learning, where traces of a blame culture persist. By addressing these issues, this article not only contributes to filling an important scientific gap in the field of safety culture management in Portugal but also offers concrete guidance for the formulation of policies and practices. These recommendations are directed towards strengthening communication, training, and professional engagement, which are essential steps in consolidating an integrated safety culture and in enhancing the quality and safety of care provided by the National Network for Integrated Continuing Care. This article follows a classical scientific structure: abstract, introduction, literature review, methodology and sample, results, discussion, and conclusion, ending with references.

## 2. Literature Review

The pandemic context that began in 2019 and significantly impacted Portugal from 2020 onwards exposed numerous vulnerabilities within the National Health Service (Varanda et al., 2020). These limitations, widely reported in the media and emphasised by the National Health Council (2022), reinforced the urgency of efficient resource management. Health economics, understood as the discipline that studies the allocation of scarce resources in response to unlimited needs, thus becomes a central axis for the sustainability of the system (Barros, 2023; Berezowski et al., 2023). Closely linked to this field is the concept of health management (Linnander et al., 2017), which, according to Giovanelli et al. (2024), represents the mechanism through which organisations define and achieve their objectives, serving as an essential element of contemporary social and economic organisation.

### 2.1 Key Concepts

Organisations can be interpreted as social communities grounded in the sharing of core values (Whyle & Olivier, 2020). Guldenmund (2010) proposes a three-level organisational structure, organisational, group and individual, highlighting that the organisational level, associated with top management, is particularly relevant for establishing safety practices. Culture, although abstract, has tangible consequences on attitudes and behaviours (Rider et al., 2021). According to Schein & Schein (2017), culture reflects invisible and often unconscious phenomena, shaping norms and practices that guide members of an organisation. Cameron & Quinn (2011) define organisational climate as a temporary set of perceptions, feelings and individual attitudes, subject to rapid change and linked to observable

organisational characteristics, while noting that organisational culture, although socially constructed, acts as a unifying element among members.

### 2.2 Safety Climate and Culture

Safety culture encompasses aspects of organisational culture that influence behaviours and attitudes towards safety (Yorio et al., 2019). The concept gained prominence following the Chernobyl nuclear disaster in 1986, when it was referenced in the International Nuclear Safety Advisory Group report (Gonçalves Filho et al., 2011). The notion of safety climate, introduced earlier in 1951, is often associated with safety culture, though they are distinct (Ellis et al., 2023). While the former reflects temporary and observable manifestations, the latter represents a deeper and more stable set of values and practices (Tadia et al., 2025). Safety culture emerges from the interaction between individual and collective values, requiring the active involvement of all professionals to achieve high performance standards (da Silva Stigger et al., 2020; Simsekler et al., 2025).

### 2.3 Safety Culture Assessment Models

Cooper (2000; 2018) describes the reciprocal model of safety culture as comprising three interrelated dimensions: psychological, behavioural and situational. The psychological dimension, typically assessed through questionnaires, corresponds to safety climate; the behavioural dimension refers to concrete actions linked to safe practices; and the situational dimension includes policies, standards, regulations, structures and management systems. Reason (1997) adds that an effective safety culture should be informed, reporting-oriented, just, flexible and focused on learning. Based on these principles, Hudson (2001) proposed five cultural maturity stages: pathological, reactive, calculative, proactive and generative. Gonçalves Filho et al. (2011) later adapted this model, developing an assessment grid based on five factors, information, organisational learning, involvement, communication and commitment, widely used in empirical studies. Gonçalves Filho & Waterson (2018) further adapted Hudson's model (2001) to the healthcare sector, replacing generic examples with hospital-specific practices, incorporating dimensions such as organisational learning and incident reporting, and refining evaluation criteria to allow for deeper analysis of internal and cultural processes in complex healthcare environments. Fosdick et al. (2024) developed a cultural maturity model for road safety, adapting Hudson's framework (2001) into five stages, Vulnerable, Emerging, Developing, Maturing and Advanced, based on observed attitudes, actions and processes, using interviews and document analysis, and integrating other organisational theories to deepen understanding of cultural evolution in complex settings.

### 2.4 Safety Culture in Healthcare and Its Management

Hudson (2003) argues that healthcare institutions generally exhibit lower cultural maturity compared to more advanced industrial sectors. Nonetheless, in recent decades, research in healthcare has increasingly focused on safety culture, albeit with greater emphasis on patient safety than on organisational safety (Halligan & Zecevic, 2011). Managing safety culture in healthcare requires active leadership engagement, promoting principles of open communication, teamwork, continuous learning and commitment to improvement (Reis, 2019). Liana et al. (2022) developed a self-assessment model for safety culture maturity in hospitals, adapting Hudson's framework (2001) and validating it through interviews and focus groups, based on six essential dimensions: management commitment, safety communication, rules and procedures, enabling environment, personal involvement and safety training. They recommend its use as a tool for continuously monitoring and improving safety culture in healthcare institutions. Kusma et al. (2024) incorporate safety culture as a key factor in assessing organisational maturity, highlighting evolutionary stages and elements such as leadership, communication, trust and staff engagement.

## 3. Sample and Methodology

### 3.1. Research Question and Objectives

Given the scarcity of studies on safety culture within institutions of the National Network for Integrated Continuing Care, the following research question was formulated: "What is the importance

of safety culture management in the provision of care within an Integrated Continuing Care Unit?" The general objectives were to understand the relevance of managing safety culture in care delivery within a Integrated Continuing Care Unit and to identify good practices related to learning from errors and adverse events. Specific objectives included characterising the Occupational Health and Safety Management System; describing safety culture through the categories of information, organisational learning, involvement, communication and commitment; identifying the maturity stage of the safety culture; and determining the contributing factors to its development.

### 3.2. Analytical Model

The analytical model was based on two conceptual frameworks: Cooper's reciprocal model (2000) and Hudson's (2001, 2003) safety culture maturity model, as adapted by Gonçalves Filho et al. (2011, 2013). The assessment focused on two dimensions of Cooper's model (2000): psychological aspects, which addressed safety climate through professionals' perceptions across five categories defined by Hudson (2001) (information, organisational learning, involvement, communication and commitment); and situational aspects, which encompassed policies, procedures, organisational structures and management systems, evaluated through document analysis. This approach enabled the identification of the safety culture maturity stage according to Hudson's (2001) scale (pathological, reactive, bureaucratic, proactive and generative).

Table 1 summarises the evolution of the safety culture across the five identified dimensions, progressing from reactive and fragmented behaviours and practices, typical of the pathological and reactive levels, towards the implementation of integrated systems and the consolidation of a proactive and sustainable culture, highlighting critical areas and guiding continuous improvement strategies.

**Table 1: Stages of Safety Culture Maturity by Dimension**

| Dimension / Stage | Pathological | Reactive | Bureaucratic | Proactive | Sustainable |
|---|---|---|---|---|---|
| Information | Reports are non-existent | Records only after accidents | Isolated, non-integrated data | Formal OHSMS; investment ensured; weaknesses in audits/fire scenarios | Integrated system with reliable indicators |
| Organisational Learning | Incidents are ignored | Ad-hoc post-incident analysis | Procedures rarely applied | Continuous learning; irregular training | Continuous improvement embedded |
| Engagement | Workers are disengaged | Limited participation | Occasional participation | Uneven involvement; difficult integration of external personnel | Full and shared involvement |
| Communication | Communication is non-existent | Communication only after incidents | Underused channels | Occurrences reported; no indicators; blame-focused approach | Open and bidirectional communication |
| Commitment | Resources are non-existent | Limited commitment | Incomplete Occupational Health and Safety Management System (OHSMS) | Committed management; investment ensured | Safety integrated into strategy |

Source: own elaboration

### 3.3. Study Characterisation

A single, descriptive, explanatory and cross-sectional case study was conducted at a Third Sector Organisation in Portimão (TSO). The research design aimed to understand and describe organisational safety culture using multiple sources of evidence, identifying critical factors for planning interventions. The cross-sectional nature of the study involved data collection at a single point in time (May 2021 to January 2022). A mixed-methods approach was adopted, combining qualitative and quantitative techniques to ensure data triangulation and provide a more comprehensive and accurate understanding of the phenomenon under investigation.

### 3.4. Target Population

The target population included all professionals working in the Integrated Continuing Care Unit of a TSO, regardless of employment status or role, totalling 116 individuals (87 from the Integrated Continuing Care Unit and 29 from shared services). A purposive sampling strategy was used to capture variation rather than uniformity. Two groups were formed: the first consisted of three managers responsible for Integrated Continuing Care Unit operations (the TSO provider at the strategic level, the Integrated Continuing Care Unit technical director at the tactical level, and the risk management officer also at the tactical level); the second group included 30 professionals who agreed to participate and complete the questionnaire, resulting in a response rate of 25.9%.

### 3.5. Data Collection Instruments

Three complementary data collection instruments were used to ensure methodological triangulation. Document analysis covered 15 institutional documents from 2013 to 2021, including internal Integrated Continuing Care Unit regulations, quality management manuals, audit reports, ergonomic assessments, occupational risk evaluations and staff satisfaction surveys. Semi-structured interviews were conducted with the three managers in August 2021, lasting an average of 45 minutes and following a guide that addressed sociodemographic data, safety culture and organisational maturity across the five defined categories. The structured questionnaire, based on Hudson's model (2001) as adapted by Gonçalves Filho et al. (2011), comprised two sections: sociodemographic and professional characterisation (nine variables), and assessment of professionals' perceptions regarding safety culture maturity through 21 questions distributed across the five categories. Each question corresponded to different stages of organisational maturity. A pre-test was conducted with ten participants to validate the instrument.

### 3.6. Data Analysis and Processing Procedures

Qualitative data from interviews and documents were subjected to categorical content analysis following Bardin's (2016) three-phase approach: pre-analysis (organisation and systematisation), material exploration (definition of recording units and context, coding and categorisation), and results processing with inference and interpretation. Quantitative data from the questionnaires were analysed using descriptive statistics via the Statistical Package for Social Science (SPSS), including absolute and relative frequency measures for qualitative variables and central tendency measures (mean, mode and median) for quantitative variables. Methodological triangulation allowed for the integration of methods and perspectives to draw valid conclusions about the phenomenon under study.

## 4. Results

### 4.1 Institutional Characterisation

Founded in the 16th century, TSO provides social and healthcare services across four areas: childhood, family and community, health (with two units integrated into the National Network for Integrated Continuing Care - Medium-Term and Rehabilitation Units and Convalescence Units), and senior care. The Integrated Continuing Care Unit of TSO employ a total of 87 professionals, with an additional 29 staff members from shared services, totalling 116 professionals.

### 4.2 Socio-professional Profile of Participants

The sample consists of 30 participants, the vast majority being professionals working exclusively within the Integrated Continuing Care Unit. The most represented professional group is operational assistants (33.3%), followed by nurses (30%). The average age of participants is 36 years, with a predominance of female professionals (76.7%). Most participants work directly with service users (83.3%), and half have been working in the Integrated Continuing Care Unit for more than three years.

### 4.3 Situational Aspects

The institution provided a set of documents demonstrating the existence of internal regulations, occupational health and safety reports, staff satisfaction data, and quality-related records. These documents were analysed and categorised under the dimensions of policies, procedures, organisational structures, and management systems. The internal regulations of the Integrated Continuing Care Unit highlight core principles and values such as humanised care, ethical assistance, family involvement, and continuity and proximity of care. Additionally, aspects such as quality and efficiency, rigour and

transparency, accountability and hierarchy, multidisciplinarity and interdisciplinarity are also emphasised.

### 4.4 Safety Culture – Psychological Aspects

#### 4.4.1 Information Dimension

Regarding the communication of abnormal occurrences, 56.7% of participants stated that all such events are reported to Integrated Continuing Care Unit managers, while 36.7% indicated that most are reported, reflecting a predominance of the sustainable and proactive maturity stages. As for the means of reporting, 83.3% confirmed the existence of channels to report any type of abnormal occurrence.

#### 4.4.2 Organisational Learning Dimension

In terms of analysing abnormal occurrences, 60% of participants reported that all such events are reviewed, indicating a sustainable stage. Regarding the handling of these events, 66.7% stated that the process involves the entire Integrated Continuing Care Unit. However, 23.3% noted that the analysis focuses solely on identifying those responsible, corresponding to the pathological stage.

#### 4.4.3 Involvement Dimension

This dimension showed significant variation in responses. Concerning staff participation, 30% believed that only a minority of professionals are involved, 26.7% said the majority participate, and 23.3% stated that all professionals are involved. Similar results were found regarding interest in contributing to occupational safety matters.

#### 4.4.4 Communication Dimension

When asked about the dissemination of safety-related news, responses indicated a predominance of the bureaucratic stage (36.7%) and the proactive/sustainable stage (40%). Regarding the existence of a communication channel, 33.3% believed there is an open channel, while 40% considered it merely formal.

#### 4.4.5 Commitment Dimension

This dimension included eight questions with varied responses. Concerning safety audits, 43.3% of participants stated that audits are conducted across all sectors, although 20% believed they do not occur. Regarding safety planning, 63.3% affirmed that it exists and is integrated with planning in other areas of the Integrated Continuing Care Unit. Most participants (73.3%) considered that investment in occupational safety is ongoing and implemented across all sectors.

### 4.5 Maturity Stage

The results indicate that Integrated Continuing Care Unit managers at TSO are concerned with safety culture. Questionnaire analysis reveals that most participants perceive the institution's overall maturity stage as proactive/sustainable, reflecting a high level of cultural maturity according to the adopted model. Managers described the safety culture as "positive, with much work to be done," and stated that "our institution has a good occupational health and safety system, but there are always improvements to consider." They identified two key areas for improvement: training and communication.

## 5. Summary of Results

The analysis shows that, at the organisational level, the institution has a formal OHSMS with audits and a risk plan, although there are weaknesses in specific areas such as the fire safety plan and the suspension of audits in 2020. At the psychological level, the safety climate reveals that abnormal occurrences are reported, but there are no consolidated internal indicators, with a perceived focus on blame in error analysis and communication channels that are not always effective. Uneven participation is observed, with irregular and insufficient safety training, and difficulties in integrating external providers. As summarised in Table 2, the maturity stage of the safety culture is predominantly between the proactive and sustainable levels, although weaknesses in communication, engagement, and training persist.

**Table 2: Maturity Stages and Safety Culture Results by Level of Analysis**

| Level of Analysis | Key Findings |
|---|---|
| Organisational | Formal OHSMS in place with audits and risk plan; weaknesses in fire safety plan; audits suspended in 2020; investment in safety ensured. |
| Psychological (Safety Climate) | Reporting of abnormal occurrences is carried out, but internal indicators are lacking; perception of blame-focused error analysis; communication channels exist but do not reach everyone. |
| Behavioural | Uneven participation, concentrated among management; irregular and insufficient safety training; absence of a dedicated team; safety practices extended to external providers, but with cultural integration challenges |
| Maturity Stage | Predominantly Proactive/Sustainable, with weaknesses in communication, engagement, and training. |

Source: own elaboration

## 6. Discussion

The data collected reveal key aspects of the institution's safety culture and how it is perceived by professionals (Vikan et al., 2023). The TSO's Integrated Continuing Care Unit are an integral part of the organisation, delivering healthcare with a consistent focus on patient safety (Sanchis et al., 2020). However, there appears to be less emphasis on the safety of the professionals themselves (Zabin et al., 2023). Safety is generally regarded as an institutional concern, as evidenced by the occupational health and safety evaluation system, which includes external audits, and the quality management manual, which, albeit indirectly, allows for an assessment of the institution's safety culture (Benson et al., 2024). As expected, the COVID-19 pandemic imposed limitations on quality assessment, leading to the temporary suspension of risk analysis, non-conformity reviews, and improvement potential evaluations (Lopes et al., 2024). Nevertheless, safety remains a continuous concern, with developments reflecting a high level of maturity in this domain (Huang et al., 2023). The "information" dimension reflects professionals' confidence in reporting errors, accidents, and incidents (Davis et al., 2025). The data show that both staff and managers acknowledge the existing practice of reporting abnormal occurrences, the availability of communication channels for this purpose, and their widespread use among professionals, indicating a high level of maturity in this area within TSO's Integrated Continuing Care Unit (Flott et al., 2018). In contrast, the "organisational learning" dimension presents greater potential for improvement (Glarchere Vaismoradi, 2025). Although learning is ensured through careful analysis of reported abnormal events, a blame culture still persists, consistent with findings by Van Baarle et al. (2022). The "engagement" dimension shows varied results across different maturity stages. There is consensus that staff participation does not extend to all professionals, although interviewees highlighted higher levels of involvement from managers across various departments (Tadia et al., 2025). "Communication" is clearly identified as an area for improvement (Howick et al., 2024). While there is agreement on the availability of communication channels, it is perceived that information does not reach all staff members (Kelly & Ostovar-Kermani, 2024). Failures in conveying the importance of safety were also noted, largely influenced by individual characteristics of each professional (Atinga et al., 2024). The "commitment" dimension shows positive signs from the institution, demonstrated through the implementation of occupational health and safety audits, the integration of safety into TSO's strategic plans, and ongoing investment in staff protection. However, gaps remain in specific safety training (Murray et al., 2023). In summary, safety culture is embedded in the institution's daily operations, although not experienced uniformly by all (Serran & Alberton, 2023). The safety culture management system is perceived as simple, effective, and comfortably mature by those responsible, despite the identified areas for improvement (Kolukısa Tarhan et al., 2020). Overall, the institution's safety culture is well-defined and evolving towards greater maturity (Kilcullen et al., 2022). This does not imply the absence of challenges, necessary measures, or improvements, but rather reflects an awareness of difficulties, a pursuit of improvement opportunities, and the initiation of consistent transformation processes (Tocco Tussardi et al., 2022).

## 7. Conclusion

This study enabled a deeper understanding of the importance of safety culture management in the provision of care within an Integrated Continuing Care Units, confirming the existence of established norms and practices related to safety, while also identifying areas for improvement that could enhance safety management and, consequently, the overall safety culture. Safety culture is clearly valued by both strategic and tactical-level managers, as evidenced by the implementation of improvements, the regular execution of audits, and a consistent concern with quality. TSO and its Integrated Continuing Care Unit have well-defined procedures and standards within their Occupational Health and Safety Management System and quality management framework, which contribute positively to the development of a robust safety culture. The research brought relevant contributions to the institution under analysis and its Integrated Continuing Care Unit, allowing for the identification of good practices such as the execution of audits and the presence of designated safety officers. The findings show that most professionals perceive the institution to be at a proactive/sustainable stage of safety culture maturity. It was possible to characterise the safety culture according to the dimensions defined by the implemented model. In the information dimension, there was alignment between staff and management regarding the reporting of abnormal occurrences. In the organisational learning dimension, opportunities for improvement were identified, particularly in promoting non-punitive analysis of incidents. The involvement dimension revealed a wide range of responses, suggesting the need for greater participation. Communication was highlighted as an area requiring reinforcement, while the commitment dimension showed positive aspects, although further investment in safety training remains necessary. From a theoretical perspective, this study contributes to the body of knowledge on safety culture in healthcare institutions in Portugal, a field that remains largely unexplored. The adaptation of the model proposed by Gonçalves Filho et al. (2011) to a healthcare setting proved useful, despite some limitations. The study confirms that safety culture in healthcare institutions can be effectively assessed through the five proposed dimensions: information, organisational learning, involvement, communication, and commitment. Furthermore, the research demonstrates that Cooper's model (2000), which addresses both situational and psychological aspects of safety culture, is applicable to the Integrated Continuing Care Units context, offering a holistic view of organisational safety culture. The findings suggest several practical recommendations for improving safety management: implementing specific safety training for all professionals; reinforcing safety education through workplace-based training sessions; ensuring that the designated safety officer fulfils their responsibilities; introducing strategies to facilitate communication channels; expanding the communication dimension within Integrated Continuing Care Units; and actively analysing abnormal occurrences with transparent dissemination of results. These recommendations aim to foster greater engagement with safety culture issues among all professionals, as a truly effective safety culture must be shared and embraced collectively. Although some limitations were encountered, such as the relatively low questionnaire response rate (25.9%) and the constraints imposed by the COVID-19 pandemic, which affected mobility and perceptions within healthcare institutions, these did not compromise the overall relevance of the study. The absence of prior research on safety culture within National Network for Integrated Continuing Care institutions limited comparative analysis, and the exclusion of observational components due to pandemic restrictions was a methodological constraint. Nonetheless, this pioneering study on safety culture in a Portuguese Integrated Continuing Care Units lays important groundwork for future research and improvements in safety management, ultimately contributing to the quality and safety of care provided to both service users and healthcare professionals.

## References

Atinga, R. A., Gmaligan, M. N., Ayawine, A., & Yambah, J. K. (2024). "It's the patient that suffers from poor communication": Analyzing communication gaps and associated consequences in handover events from nurses' experiences. *SSM-Qualitative Research in Health*, *6*, 100482. https://doi.org/10.1016/j.ssmqr.2024.100482.

Benson, C., Obasi, I. C., Akinwande, D. V., & Ile, C. (2024). The impact of interventions on health, safety and environment in the process industry. *Heliyon*, *10*(1). https://doi.org/10.1016/j.heliyon.2023.e23604.

Berezowski, J., Czapla, M., Manulik, S., & Ross, C. (2023). Rationing in healthcare - a scoping review. *Frontiers in Public Health*, *11*, 1160691. https://doi.org/10.3389/fpubh.2023.1160691.

Cameron, K. S., e Quinn, R. E. (2011) Diagnosing and changing organizational culture: Based on the competing values framework, 3rd ed., San Francisco, John Wiley e Sons.

Cooper, M. D. (2000). Towards a model of safety culture. *Safety science*, *36*(2), 111-136. https://doi.org/10.1016/S0925-7535(00)00035-7.

Cooper, M. D. (2018). The safety culture construct: theory and practice. In *Safety cultures, safety models: Taking stock and moving forward* (pp. 47-61). Cham: Springer International Publishing.

Corvo T., Pescada S., Krasniqi A., Vidal J., Teixeira F., Ruxho F., 2024. "The importance of organizational culture in the performance of family health units – model b in the Algarve region", Regional Science Inquiry, Vol. XVI, (2), pp. 93-102

Davis, T. R., Straatmann, K., Snyder, N., Shiner, D., Evans, A., Caruso, C., & Alton, M. (2025). Promoting a Culture of Patient Safety: Using the Principles of Just Culture to Improve Transparency and Risk Reporting in the Hospital Setting. *Patient Safety*, *7*(2). https://doi.org/10.33940/001c.137737.

Dionisio A., Rolim C., Rego C., 2025. "Determinants of demand for cities with higher education institutions: An approach based on fractional regression", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 81-93

Dionisio A., Rolim C., Rego C., 2025. "Determinants of demand for cities with higher education institutions: An approach based on fractional regression", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 81-93

Ellis, L. A., Falkland, E., Hibbert, P., Wiig, S., Ree, E., Schultz, T. J., Pirone, C., & Braithwaite, J. (2023). Issues and complexities in safety culture assessment in healthcare. *Frontiers in Public Health*, *11*, 1217542. https://doi.org/10.3389/fpubh.2023.1217542.

Finn, M., Walsh, A., Rafter, N., Mellon, L., Chong, H. Y., Naji, A., .O'Brien, N., Williams, D. & McCarthy, S. E. (2024). Effect of interventions to improve safety culture on healthcare workers in hospital settings: a systematic review of the international literature. *BMJ open quality*, *13*(2) https://doi.org/10.1136/bmjoq-2023-002506.

FJ Teixeira, SSPV Pescada, F Ruxho, C Palma, F Beha, 2024. "GLAMPING IN LOW-DENSITY TERRITORIES: THE CASE OF SANTO ALEIXO DA REASTAURA?? O, Regional Science Inquiry 16 (1), 71-80

Flott, K., Nelson, D., Moorcroft, T., Mayer, E. K., Gage, W., Redhead, J., & Darzi, A. W. (2018). Enhancing safety culture through improved incident reporting: a case study in translational research. *Health Affairs*, *37*(11), 1797-1804. https://doi.org/10.1377/hlthaff.2018.0706.

Fosdick, T., Campsall, D., Kamran, M., & Scott, S. (2024). Creating a cultural maturity model to assess safe system readiness within road safety organisations. *Journal of road safety*, *35*(1), 52-64. https://doi.org/10.33492/JRS-D-24-1-2125507.

Giovanelli, L., Rotondo, F., & Fadda, N. (2024). Management training programs in healthcare: effectiveness factors, challenges and outcomes. *BMC Health Services Research*, *24*(1), 904. https://doi.org/10.1186/s12913-024-11229-z.

Glarcher, M., & Vaismoradi, M. (2025). Promoting just culture in nursing education: A systematic integrative review on enhancing patient safety. *Nurse education today*, 106776. https://doi.org/10.1016/j.nedt.2025.106776.

Goncalves Filho, A. P., & Waterson, P. (2018). Maturity models and safety culture: A critical review. *Safety science*, *105*, 192-211. https://doi.org/10.1016/j.ssci.2018.02.017.

Gonçalves Filho, A. P., Andrade, J. C. S., & Marinho, M. M. D. O. (2011). Cultura e gestão da segurança no trabalho: uma proposta de modelo. *Gestão & Produção*, *18*, 205-220. https://doi.org/10.1590/S0104-530X2011000100015.

Gonçalves Filho, A. P., Andrade, J. C. S., & Marinho, M. M. D. O. (2013). Modelo para a gestão da cultura de segurança do trabalho em organizações industriais. *Production*, *23*, 178-188. https://doi.org/10.1590/S0103-65132012005000044.

Hafezi, A., Babaii, A., Aghaie, B., & Abbasinia, M. (2022). The relationship between patient safety culture and patient safety competency with adverse events: a multicenter cross-sectional study. *BMC nursing*, *21*(1), 292. https://doi.org/10.1186/s12912-022-01076-w.

Halligan, M., & Zecevic, A. (2011). Safety culture in healthcare: a review of concepts, dimensions, measures and progress. *BMJ quality & safety*, *20*(4), 338-343. https://doi.org/10.1136/bmjqs.2010.040964.

Hamiti A., 2025. "The relationship between forms of bullying and academic success of high school students in the region of Prishtina, Kosovo", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 54-66

Howick, J., Bennett-Weston, A, Solomon, J., Nockels, K., Bostock, J., & Keshtkar, L. (2024). How does communication affect patient safety? Protocol for a systematic review and logic model. *BMJ open*, *14*(5), e085312. https://doi.org/10.1136/bmjopen-2024-085312.

Huang, C. H., Wu, H. H., & Lee, Y. C. (2023). A comparative study on patient safety culture among high-risk hospital staff in the context of the COVID-19 and non-COVID-19 pandemic: a cross-sectional study in Taiwan. *Frontiers in Public Health*, *11*, 1200764. https://doi.org/10.3389/fpubh.2023.1200764.

Kallioras D., Niavis S., 2025. "Regional inequalities: Knowledge frontiers and debates", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 67-80

Kallioras D., Niavis S., 2025. "Regional inequalities: Knowledge frontiers and debates", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 67-80

Kelly, D., & Ostovar-Kermani, T. G. (2024). Systematic Literature Review of Disseminating Health Information to BIPOC Communities. *Health Open Research*, *6*, 19. https://doi.org/10.12688/healthopenres.13682.1.

Khan A., Tripathi S., Chandiramani J., 2024. "Smart city initiatives and economic growth in india: an empirical analysis", Sustainable Regional Development Scientific Journal, Vol. I, (2): Special Issue, pp. 41-56

Kilcullen, M. P., Bisbey, T. M., Ottosen, M. J., Tsao, K., Salas, E., & Thomas, E. J. (2022). The safer culture framework: an application to healthcare based on a multi-industry review of safety culture literature. *Human factors*, *64*(1), 207-227. https://doi.org/10.1177/00187208211060891.

Kolukısa Tarhan, A., Garousi, V., Turetken, O., Söylemez, M., & Garossi, S. (2020). Maturity assessment and maturity models in health care: A multivocal literature review. *Digital health*, *6*, 2055207620914772. https://doi.org/10.1177/2055207620914772.

Krupavicius, A., Sarkute, L., Krasniqi, A., Ladias, Christos Ap. 2024. "Perceived and desired images of society: how (un)equal is society?" Regional Science Inquiry, 16(1), pp. 55-70

Krupavicius, A., Šarkute, L., Krasniqi, A., Ladias, Christos Ap. 2024. "Perceived and desired images of society: how (un)equal is society?" Regional Science Inquiry, 16(1), pp. 55-70

Kusma, V. V., Gerônimo, B. M., Zola, F. C., Aragão, F. V., Chiroli, D. M. D. G., & Kovaleski, J. L. (2024). A maturity model of occupational safety and health in industry 4.0: An analysis in Brazilian organizations. *Journal of Safety and Sustainability*, *1*(4), 234-246. https://doi.org/10.1016/j.jsasus.2024.11.002.

Ladias C.A., Ruxho F., Teixeira F., Pescada S., 2023, "The regional economic indicators and economic development of Kosovo", Regional Science Inquiry, Vol. XV, (1), pp. 73-83

Lampreia M., Teixeira F., Pescada S. P. V., 2024. "The predictive power of technical analysis: evidence from the gbp/usd exchange rate", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 67-75

Liana, D., Lestari, F., Sutoto, S., Modjo, R., & Bachtiar, A. (2022). A self-assessment model for hospital safety culture maturity. *Journal of Public Health Research*, *11*(2). https://doi.org/10.4081/jphr.2022.2530.

Lincaru C., Tudose G., Cosnita D., Pirciog S., Grigorescu A., Ciuca V., 2024. "Clusters as engines of sustainable employment growth in Romania1", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 10-27

Linnander, E. L., Mantopoulos, J. M., Allen, N., Nembhard, I. M., & Bradley, E. H. (2017). Professionalizing healthcare management: a descriptive case study. *International journal of health policy and management*, *6*(10), 555. https://doi.org/10.15171/ijhpm.2017.40.

Lopes, A. L., Pereira, R. A., Pereira, L. M. V., Castilho, F. M. C. D., & Gimenes, F. R. E. (2024). Cultura de segurança do paciente em tempos de pandemia de COVID-19: estudo transversal em hospital. *Revista Brasileira de Enfermagem*, *77*, e20230187. https://doi.org/10.1590/0034-7167-2023-0187pt.

Lousada, L. M., da Silva Dutra, F. C., da Silva, B. V., de Oliveira, N. L. L., Bastos, I. B., de Vasconcelos, P. F., & de Carvalho, R. E. F. L. (2020). Patient safety culture in primary and home care services. *BMC Family Practice*, *21*(1), 188. https://doi.org/10.1186/s12875-020-01263-1.

Marta-Costa A., Martinho V., Santos M., 2017. "Productive efficiency of Portuguese vineyard regions", Regional Science Inquiry, vol. ix, (2), pp. 97-107

Murray, J. S., Clifford, J., Larson, S., Lee, J. K., & Sculli, G. L. (2023). Implementing just culture to improve patient safety. *Military Medicine*, *188*(7-8), 1596-1599. https://doi.org/10.1093/milmed/usac115.

Papajorgji P., Tordi A., 2024. "Using quantitative tools to understand political issues", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 28-35

Pescada S., Teixeira F., Pereira W., 2025. "Organisational culture at public hospital of Algarve: Internal medicine staff perception", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 11-21

Polo A., Caca E., Zyberi I., Ladias C.A, Ruxho F., 2025. "Foreign direct investment in real estate in Albania and its impact on GDP", Regional Science Inquiry, Vol. XVII, (1), 2025, pp. 135-142

Polyzos S., Tsiotas D., 2025. "The viable business practice of optimizing the occupational accidents cost: A microeconomic approach", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 32-43

Reason, J. (2016). *Managing the risks of organizational accidents*. Routledge.
https://doi.org/10.4324/9781315543543.

Resende, J., Quaresma, G., & Lucas, P. (2021). A Cultura de Segurança em Estruturas Residenciais para Pessoas Idosas. *New Trends in Qualitative Research*, *8*, 663-675. https://doi.org/10.36367/ntqr.8.2021.663-675.

Rider, E. A., Frost, J. S., & Longmaid III, H. E. (2021). Embedding shared interprofessional values in healthcare organizational culture: The National Academies of Practice experience. *Journal of Interprofessional Education & Practice*, *23*, 100348. https://doi.org/10.1016/j.xjep.2020.100348.

Ruxho F., 2024. "Kosovo employee's perception of economic growth and decent work according to sustainability", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 53-66

Ruxho F., Ladias C.A, 2022. "Increasing funding for the regional industry of Kosovo and impact on economic growth" Regional Science Inquiry Journal, Vol. XIV. (1), pp. 117-126

Ruxho F., Ladias C.A, Tafarshiku A., Abazi E., 2023. "Regional employee's perceptions on decent work and economic growth: labour market of Albania and Kosovo", Regional Science Inquiry, Vol. XV, (2), pp.13-23.

Ruxho F., Ladias C.A., 2022. "The logistic drivers as a powerful performance indicator in the development of regional companies of Kosovo" Regional Science Inquiry Journal, Vol. XIV. (2), pp. 95-106

Ruxho F., Petropoulos D., Negoro D.A. 2024. "Public debt as a determinant of the economic growth in Kosovo", Sustainable Regional Development Scientific Journal, Vol. I, (1), pp. 55-67

Sanchis, D. Z., Haddad, M. D. C. F. L., Girotto, E., & Silva, A. M. R. (2020). Patient safety culture: perception of nursing professionals in high complexity institutions. *Revista brasileira de enfermagem*, *73*, e20190174. https://doi.org/10.1590/0034-7167-2019-0174.

Sarkute L., Sina D., Bello, K., Vercuni A., 2024. "Strategic management decisions in the context of foreign direct investment. The role of institutions and economic determinants", Sustainable Regional Development Scientific Journal, Vol. I, (1), pp. 40-54

Sepetis A., Krupavičius A., Ladias Ap. C. 2024 "Social protection in Greece and sustainable development leaving no one behind", Sustainable Regional Development Scientific Journal, Vol. I, (1), pp. 83-92

Sequeira T., Rego C., Dionisio A., 2024. "Investment and productivity in the agro-industrial sector: a case study", Sustainable Regional Development Scientific Journal, Vol. I, (2): Special Issue, pp. 13-26

Serran, F. J., & Alberton, A. (2023). Maturidade da cultura de segurança: relação com as práticas de gestão de saúde e segurança ocupacional e qualidade de vida no trabalho. *REUNIR Revista de Administração Contabilidade e Sustentabilidade*, *13*(3), 182-199. https://doi.org/10.18696/reunir.v13i3.1350.

Simsekler, M. C. E., Qazi, A., & Ozonoff, A. (2025). Exploring the role of safety culture dimensions in patient safety using a Bayesian Belief Network model. *Safety Science*, *186*, 106817. https://doi.org/10.1016/j.ssci.2025.106817.

Stavara M., Tsiotas D., 2024. "A combined graph theoretic and transport planning framework for the economic 10 Sustainable Regional Development Scientific Journal, Vol. I, (2): Special Issue, Oct. 2024 and functional analysis of large-scale road networks", Sustainable Regional Development Scientific Journal, Vol. I, (2): Special Issue, pp. 27-40

Tadia, V. K., Kotwal, N., & Jalaunia, R. S. (2025). Patient safety culture: Insights from a cross-sectional study among healthcare professionals. *Journal of Family Medicine and Primary Care*, *14*(1), 90-96. https://doi.org/10.4103/jfmpc.jfmpc_904_24.

Teixeira F., Pescada, S.S.P.V., Ladias C.A., Hulaj M., Ruxho F., Machado V., 2025. "Stablecoin dp2p: innovation and sustainability in fiat currencies", Regional Science Inquiry, Vol. XVII, (1), pp. 95-106

Tocco Tussardi, I., Moretti, F., Capasso, M., Niero, V., Visentin, D., Dalla Barba, L., & Tardivo, S. (2022). Improving the culture of safety among healthcare workers: Integration of different instruments to gain major insights and drive effective changes. *The International journal of health planning and management*, *37*(1), 429-451. https://doi.org/10.1002/hpm.3348.

Todri A., Sejdini I., Sejdini I. Balukja I., 2025. Stakeholders` perceptions on corporate engagement in social responsibility and sustainable development: Insights from domestic and foreign-owned corporations in Albania", Sustainable Regional Development Scientific Journal, Vol. II, (1), 2025, pp. 22-31

Tsiotas D., Giannakis E., Papadas C., 2025. "A modularity decomposition model of evolving input-output sectorial structure, Regional Science Inquiry, Vol. XVII, (1), pp. 107-133

Tsiotas D., Polyzos S., 2024. "Analyzing the spatial interactions in the nationwide regional capitals network of Greece", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 36-52

Tsiotas D., Polyzos S., 2024. "Analyzing the spatial interactions in the nationwide regional capitals network of Greece", Sustainable Regional Development Scientific Journal, Vol. I, (3), pp. 36-52

Tsiotas, D., Krabokoukis, T., & Polyzos, S. 2020. "Detecting interregional patterns in tourism seasonality of Greece: A principal components analysis approach", Regional Science Inquiry, 12(2), 91-112.

Tsiotas, D., Polyzos, S., 2024. "Transportation networks and regional development: the conceptual and empirical framework in Greece", Sustainable Regional Development Scientific Journal, Vol. I, (1), pp. 15-39

Van Baarle, E., Hartman, L., Rooijakkers, S., Wallenburg, I., Weenink, J. W., Bal, R., & Widdershoven, G. (2022). Fostering a just culture in healthcare organizations: experiences in practice. *BMC Health Services Research*, *22*(1), 1035. https://doi.org/10.1186/s12913-022-08418-z.

Varanda, J., Gonçalves, L., & Craveiro, I. (2020). The unlikely saviour: Portugal's national health system and the initial impact of the COVID-19 pandemic?. *Development*, *63*(2), 291-297. https://doi.org/10.1057/s41301-020-00268-8.

Vikan, M., Haugen, A. S., Bjørnnes, A. K., Valeberg, B. T., Deilkås, E. C. T., & Danielsen, S. O. (2023). The association between patient safety culture and adverse events–a scoping review. *BMC health services research*, *23*(1), 300. https://doi.org/10.1186/s12913-023-09332-8.

Whyle, E. B., & Olivier, J. (2020). Towards an explanation of the social value of health systems: an interpretive synthesis. *International Journal of Health Policy and Management*, *10*(7), 414. https://doi.org/10.34172/ijhpm.2020.159.

Yorio, P. L., Edwards, J., & Hoeneveld, D. (2019). Safety culture across cultures. *Safety science*, *120*, 402-410. https://doi.org/10.1016/j.ssci.2019.07.021.

Zabin, L. M., Zaitoun, R. S. A., Sweity, E. M., & de Tantillo, L. (2023). The relationship between job stress and patient safety culture among nurses: a systematic review. *BMC nursing*, *22*(1), 39. https://doi.org/10.1186/s12912-023-01198-9.