



**Universidade da Maia**

Departamento de Ciências da Educação Física e Desporto

The Skills Profile of the Portuguese Lifeguard

Paulo Miguel Pinto Moreira Santiago

Tese de Doutoramento em Ciências do Desporto  
Especialidade - Exercício e Saúde

Orientação:

Professor Doutor Pedro Humberto Araújo Teques

Setembro 2022





**PAULO MIGUEL PINTO MOREIRA SANTIAGO**

**THE SKILLS PROFILE OF THE PORTUGUESE LIFEGUARD**

Doctoral Thesis of the Doctoral Program in Sport Sciences, specialisation in Exercise and Health, supervised by Professor Doctor Pedro Teques.

MAIA

2022

Santiago, P. (2022). *The Skills Profile of the Portuguese Lifeguard*. [Doctoral Thesis, University of Maia]. University of Maia.

*Anyone can drown, no one should.*

World Health Organization

## **Acknowledgements**

I would like to thank the University of Maia for the years of training that led me here, in particular:

My supervisor, Professor Pedro Teques, for the constant support, guiding suggestions and objective and constructive criticism essential for the development of this research.

Professor João Viana, PhD coordinator, for the opportunity to integrate this cycle of studies with an unknown and challenging subject.

I thank Professor Daniel Duarte for all the support, encouragement and constant willingness over these years.

I thank Professor Célio Sousa for the support and encouragement provided throughout this process.

Filipe Maia, PhD student, colleague and friend, for the precious help he gave me along this path.

A special thanks to the Instituto de Socorros a Náufragos for collaborating in the development of the studies.

I thank all the participants in this research for their total commitment and dedication, which were crucial for its accomplishment and enrichment.

I would like to thank my friends and my family, in the broadest sense, for their affection, encouragement and understanding in relation to my absences.

I thank, in particular, my parents for their unconditional love and incessant support.

Finally, my special thanks to my wife, Sandra, for her unconditional love and support and for her constant encouragement; and to my son, Miguel, for his love and for surprising me positively in his daily attitude and behaviour. May this work and endeavour inspire him to achieve his dreams.

## **This thesis includes the following scientific production:**

### **Publications and articles accepted or submitted:**

Santiago, P., Maia, F., Santiago, S., Duarte, D., & Teques, P. (2022). Lifeguard performance skills: a systematic review. *International Journal of Aquatic Research and Education*, 134(4), 1-11. <https://doi.org/10.25035/ijare.13.04.05>

Santiago, P., Teques, P., Duarte, D., & Palácios-Aguilar, J. (2020). Study of the Skills Profile of the Portuguese Lifeguard. *RETOS. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 37, 673-679. <https://doi.org/10.47197/retos.v37i37.74342>

Santiago, P., Maia, F., Santiago, S., Duarte, D., & Teques, P. (2022). Psychosocial training program for lifeguards: A pilot study. *International Journal of Training and Development*. (Under review).

### **Oral communications in international scientific congress:**

Santiago, P. (2018, November 08). *Estudo do Perfil de Competências do Nadador-Salvador Português* [Scientific communication]. XIX Jornadas da Sociedade Portuguesa de Psicologia do Desporto, Instituto Politécnico da Maia.

Teques, P., & Santiago, P. (2020, February 08). *Comunicar não verbalmente em situações de stress: Recomendações para Nadadores-Salvadores* [Scientific communication]. I Seminário Internacional de Salvamento Aquático,

Faculdade de Ciências do Desporto e Educação Física da Universidade de Coimbra.

Santiago, P., & Teques, P. (2020, February 08). *Necessidade de uma abordagem psicossocial no salvamento aquático: Uma revisão sistemática da literatura* [Scientific communication]. I Seminário Internacional de Salvamento Aquático, Faculdade de Ciências do Desporto e Educação Física da Universidade de Coimbra.

Santiago, P. (2020, November 14). *Desenvolvimento e Validação da Escala de Competências Comportamentais do Nadador-Salvador* [Scientific communication]. XXI Jornadas da Sociedade Portuguesa de Psicologia do Desporto, Faculdade de Ciências do Desporto e Educação Física da Universidade de Coimbra.

Santiago, P. (2021, November 04). *Programa de Treino Psicossocial para Nadadores-Salvadores: um Projeto Piloto* [Scientific communication]. XXII Jornadas da Sociedade Portuguesa de Psicologia do Desporto, Instituto Politécnico de Leiria.

**Publication of abstract in book of proceedings of international congress:**

Santiago, P., & Teques, P. (2020). Necessidade de uma abordagem psicossocial no salvamento aquático. Uma revisão sistemática da literatura. In L. Rama, H. Sarmento, J. Faria & V. Vaz (Eds.), *Book of abstracts of the I Seminário Internacional de Salvamento Aquático - FCDEF – UC* (pp. 47-52). Universidade de Coimbra. Faculdade de Ciências do Desporto e Educação Física.

Teques, P., & Santiago, P. (2020). Comunicar não verbalmente em situações de stress: Recomendações para Nadadores-Salvadores. In L. Rama, H. Sarmiento, J. Faria & V. Vaz (Eds.), *Book of abstracts of the I Seminário Internacional de Salvamento Aquático - FCDEF – UC* (pp. 53-55). Universidade de Coimbra. Faculdade de Ciências do Desporto e Educação Física.

Santiago, P., Maia, F., Santiago, S., Duarte, D., & Teques, P. (2021). Psychosocial training program for lifeguards: A pilot study. In D. Monteiro, R. Antunes, M. Jacinto, R. Matos, N. Amaro, R. Salvador, R. Rebelo-Gonçalves, P. Morouço, L. Coelho & F. Rodrigues (Eds.), *Book of abstract of the XXII Jornadas da Sociedade Portuguesa de Psicologia do Desporto* (p. 117). ESECS - Politécnico de Leiria. <https://doi.org/10.25766/rk2q-ap09>

## Contents

Acknowledgements .....	VI
List of Tables .....	XI
List of Figures.....	XII
List of abbreviations .....	XIII
Abstract.....	XIV
Resumen .....	XVI
Resumo .....	XVIII
1 Introduction .....	1
1.1 Presentation and contextualization of the problem.....	1
1.2 Relevance.....	3
1.3 Research questions and the main hypothesis of the study .....	4
1.4 Research objectives.....	5
1.5 Research structuring .....	5
2 Studies .....	7
2.1 Study I - Lifeguard Performance Skills: A Systematic Review .....	8
2.2 Study II - Study of the Skills Profile of the Portuguese Lifeguard.....	30
2.3 Study III - Psychosocial Training Programme for Lifeguards: A Pilot Study.	57
3 General Discussion.....	89
4 Conclusion.....	103
5 References .....	106
6 Appendix .....	114

## List of Tables

Table 1 - Lifeguard training course .....	100
---	-----

## List of Figures

Figure 1 - Structure of the development of the thesis studies .....	6
---	---

## **List of abbreviations**

AMN – Autoridade Marítima Nacional

BLS – Basic Life Support

ISN – Instituto de Socorros a Náufragos

UN – United Nations

WHO – World Health Organization

## **Abstract**

Drowning is one of the leading causes of unintentional death worldwide; there are an estimated 372 000 drowning deaths every year. Drowning is quick and silent and it can occur in less than a minute. It is already considered a public health problem. The lifeguard's action can be regarded as a significant contribution to a change in this reality. However, in order to intervene safely, the lifeguard must possess a set of technical, physical and psychological skills that enable an effective rescue. There is relevant scientific literature on the technical and physical components, but the psychological component is poorly developed and studied in this activity. Thus, the present work represents an investigation consisting of three studies with the purpose of exploring the psychosocial dimension of lifeguards, examining the psychological and social skills profile of lifeguards and enhancing their development in a psychosocial skills training programme during lifeguard training. In Study I, a systematic review of the literature on "Lifeguard performance skills" was conducted. It was found that the research on lifeguard performance in the psychosocial component is scarce. Study II aimed at identifying the skills profile of a lifeguard to understand the psychosocial variables that define an excellent lifeguard. The results showed that skills related to work ethics, responsibility, teamwork, communication integrity, courtesy and interpersonal relationships were identified by all participants. Study III addresses a psychosocial skills training programme applied to lifeguards. A randomized study was developed to test the effectiveness of a skills training programme aimed at improving the focus of attention, social intelligence, and the lifeguard's emotional regulation. The effectiveness of the programme was assessed by analysing any changes in the variables between the pre- and post-execution periods of the programme. The results seem to indicate positive effects on the improvement of skills associated with preventive actions and the importance of including

psychosocial contents in the general training of lifeguards. In conclusion, the results of this research seem to show that these skills may be relevant for the lifeguard's action, promoting greater preventive capacity and psychological preparation of these professionals.

Keywords: Lifeguard, skills, rescue, drowning, training.

## Resumen

El ahogamiento es una de las principales causas de muerte no intencional en todo el mundo y se calcula que cada año se produzcan 372 000 muertes por ahogamiento. El ahogamiento es rápido y silencioso y puede ocurrir en menos de un minuto, y ya se considera un problema de salud pública. La acción del socorrista acuático puede considerarse una contribución significativa para cambiar esa realidad. Sin embargo, para realizar una intervención segura, el socorrista acuático debe poseer un conjunto de habilidades técnicas, físicas y psicológicas que permitan la realización de un rescate eficaz. Existe literatura científica relevante sobre los componentes técnicos y físicos, mientras que el componente psicológico está poco desarrollado y estudiado en esta actividad. Así, el presente trabajo representa una investigación que consta de tres estudios con el propósito de explorar la dimensión psicosocial de los socorristas acuáticos, examinar el perfil de las habilidades psicológicas y sociales de los socorristas acuáticos y potenciar su desarrollo en un programa de entrenamiento de habilidades psicosociales en la formación del socorrista acuático. En el Estudio I, se realizó una revisión sistemática de la literatura sobre «Lifeguard performance skills». Se constata que la investigación sobre el rendimiento del socorrista acuático es escasa en lo que se refiere al componente psicosocial. El Estudio II tuvo como propósito identificar el perfil de habilidades de un socorrista acuático para comprender las variables psicosociales que definen a un socorrista acuático de excelencia. Los resultados han evidenciado que las habilidades relacionadas con la ética en el trabajo, responsabilidad, trabajo en equipo, comunicación, integridad, cortesía y relacionamiento interpersonal fueron identificadas por todos los participantes. El Estudio III aborda un programa de entrenamiento de habilidades psicosociales aplicado a los socorristas acuáticos. Se desarrolló un estudio aleatorio cuya finalidad es comprobar la eficacia de un programa de entrenamiento de habilidades

destinado a mejorar el foco de atención, la inteligencia social y la regulación emocional de los socorristas acuáticos. La eficacia del programa se evaluó mediante el análisis de los eventuales cambios en las variables entre los momentos de ejecución previa y posterior del programa. Los resultados parecen indicar efectos positivos en la mejora de las habilidades asociadas a las acciones de prevención y la importancia de la inclusión de contenidos psicosociales en la formación general de los socorristas acuáticos. En suma, los resultados de esta investigación parecen evidenciar que estas habilidades podrán ser relevantes para la actuación del socorrista acuático, promoviendo una mayor capacidad preventiva y preparación psicológica de estos profesionales.

Palabras clave: Socorrista acuático, habilidades, salvamento, ahogamiento, formación.

## **Resumo**

O afogamento é uma das principais causas de morte não intencional em todo o mundo e estima-se que haja 372 000 mortes por afogamento todos os anos. O afogamento é rápido e silencioso e pode ocorrer em menos de um minuto, sendo já considerado um problema de saúde pública. A ação do nadador-salvador pode ser considerada como um contributo significativo para mudar essa realidade. No entanto, para realizar uma intervenção segura o nadador-salvador deverá possuir um conjunto de competências técnicas, físicas e psicológicas que permitam a realização de um salvamento eficaz. Existe literatura científica relevante acerca das componentes técnicas e físicas, contudo a componente psicológica está pouco desenvolvida e estudada nesta atividade. Assim, o presente trabalho representa uma investigação constituída por três estudos com o propósito de explorar a dimensão psicossocial dos nadadores-salvadores, examinando o perfil de competências psicológicas e sociais do nadador-salvador e potenciar o seu desenvolvimento num programa de treino de competências psicossociais na formação do nadador-salvador. No Estudo I realizou-se uma revisão sistemática da literatura sobre “Lifeguard performance skills”. Verifica-se que a investigação sobre a performance do nadador-salvador é escassa na componente psicossocial. O Estudo II teve como propósito identificar o perfil de competências de um nadador-salvador para compreender as variáveis psicossociais que definem um nadador-salvador de excelência. Os resultados evidenciaram que as competências relacionadas com a ética no trabalho, responsabilidade, trabalho em equipa, comunicação integridade, cortesia e relacionamento interpessoal foram identificadas por todos os participantes. O Estudo III aborda um programa de treino de competências psicossociais aplicado a nadadores-salvadores. Desenvolveu-se um estudo randomizado que visa testar a eficácia de um programa de treino de competências com o objetivo de melhorar o foco da atenção, a

inteligência social e a regulação emocional dos nadadores-salvadores. A eficácia do programa foi realizada através da análise às eventuais mudanças nas variáveis entre os momentos de pré e a pós execução do programa. Os resultados parecem indicar efeitos positivos na melhoria das competências associadas às ações de prevenção e a importância da inclusão de conteúdos psicossociais na formação geral dos nadadores-salvadores. Em suma, os resultados desta investigação parecem evidenciar que estas competências poderão ser relevantes para a ação do nadador-salvador, promovendo uma maior capacidade preventiva e preparação psicológica destes profissionais.

Palavras-chave: Nadador-salvador, competências, salvamento, afogamento, formação.

# **1 Introduction**

## **1.1 Presentation and contextualization of the problem**

The mild climate and the extensive and diversified coastline of Portugal make it a very popular tourist destination. The aquatic environment has major attraction potential. The maritime border of mainland Portugal is more than 800 km long, from the mouth of the Minho River to the mouth of the Guadiana River. It is a coastal country with a sea coast from the north to the south and two archipelagos, Madeira and Azores. The beaches, lake areas, dams, swimming pools and water parks are increasingly sought after by the Portuguese, and by foreign tourists throughout the year. It is therefore essential to ensure the safety of people in these places and the respective assistance, in order to avoid drowning accidents (Cortés et al., 2006). This type of accident is a problem that does not occur just in Portugal, but worldwide. According to the World Health Organization (WHO), drowning is the process resulting in primary respiratory failure by immersion or submersion in liquid (van Beeck et al., 2005). Every year about 372 000 people die worldwide from drowning, making it a major public health problem. More than half of these drownings happen to young people under the age of 25 and, according to WHO statistics men are twice as likely to drown compared to women (World Health Organization, 2014). More recent WHO data refer that, in 2019, an estimated 236 000 people died from drowning worldwide (World Health Organization, 2021). In Portugal there were 6 057 drowning deaths between 1992 and 2019 (Queiroga et al., 2021) and, considering the data made available by the Drowning Observatory of the Portuguese Lifesaving Federation, between 2017 and 2021, 575 people died from drowning, which is an annual average of 115 drowning deaths (FEPONS, 2021). Given the extent of this problem, the United Nations (UN) unanimously passed the first resolution for the

prevention of drowning decreeing 25 July as World Day for the Prevention of Drowning. In this resolution, all member states and organisations linked to rescue are asked to act in an attempt to minimise this problem (United Nations Organization, 2021).

Recently, the WHO (2022) issued recommendations to prevent drowning accidents. The basis for these recommendations is the teaching of swimming to schoolchildren aged 6 years and above and raising their awareness of safety issues and risk assessment. There is an urgent need to raise society's awareness of the importance of the practice of swimming. Education is the best way to prevent drowning (Palacios & Barcala, 2012). Cultural differences can both positively and negatively influence the perception of risk. Several studies have implied that low cultural levels increase the possibility of drowning, as there is a lower perception of risk. This is a factor to consider in communication and language style when disseminating safety messages to communities (Willcox-Pidgeon et al., 2020).

Similarly, to reduce the risk of drowning, supervision and childcare of pre-school children should be ensured, as well as rescue and resuscitation training made available to the whole population (World Health Organization, 2022). Developing the culture and knowledge of the population on how to prevent and act in the presence of drowning is health education. In this regard, activities have been undertaken in Portugal to minimise these accidents, such as the introduction of swimming in School Sports, for example. Adapting to the aquatic environment and learning swimming techniques enable participants to acquire aquatic skills that are fundamental in preventing drowning. Most drowning accidents occur in the presence of friends or relatives of the victims. This situation could be avoided if there was awareness of the dangers and knowledge of preventive actions for risky behaviour. Ignorance or imprudence in the face of danger are the main causes of these accidents in the water. In this context, the lifeguard plays an

important role in accident prevention, in the surveillance of these places and in risk monitoring.

The lifeguard is a professional with a lifeguard course certified by the Maritime National Authority (*Instituto de Socorros a Náufragos* - ISN). The activity of the lifeguard requires constant and disciplined physical and mental training. The job comprises several functions such as informing, preventing, saving and rescuing bathers, providing Basic Life Support (BLS) whenever necessary, in concessionary zones and in places where aquatic activities take place. Drowning situations determine that lifeguards must have a set of technical skills (Wilkins & Brons, 2014). However, it is equally important to include content related to psychosocial skills in lifeguard training. It has been observed that, currently, lifeguard training focuses on technical and physical skills, with psychosocial skills scarcely covered (Autoridade Marítima Nacional, 2015).

Thus, the purpose of the present research focuses on exploring the psychosocial dimension of lifeguards, examining their psychological and social skills profile, with a view to obtaining indicators to enhance their personal and professional development. In this regard, the studies undertaken aim to (1) identify and examine the psychosocial and behavioural skills profile of the Portuguese lifeguard in order to understand the psychosocial variables that define an elite lifeguard, and (2) assess the effectiveness of a psychosocial skills training programme for lifeguards.

## 1.2 Relevance

Drowning is the third leading cause of death from unintentional injury worldwide and accounts for almost 8% of total global deaths. It is estimated to have caused more than 236 000 deaths in 2019 (World Health Organization, 2021). In addition, non-fatal drownings often cause lifelong sequelae. Drowning is a real danger in a global context

and the most important tool to avoid it is prevention (Szpilman, Sempsrott, et al., 2018). Thus, the lifeguard may contribute to the reduction of these numbers. According to Szpilman (Szpilman, Oliveira, et al., 2018), 99.8% of the lifeguard's work is spent developing preventive actions. These actions imply clear, effective and constant verbal and non-verbal communication with bathers, which promotes the development of interpersonal relationships that can facilitate compliance with safety rules and avoid risky behaviour (Fernández-Abascal & Martín-Díaz, 2015).

The scarcity of scientific literature on the psychosocial skills associated with lifeguards highlights the importance of this thesis, which aims to contribute to the development of the knowledge of the skills profile of this professional and mitigate the problem of drowning. To date, and from the knowledge developed during the course of this research, there is no scientifically proven behavioural skills profile. Therefore, it is necessary to identify the excellence performance profile of lifeguards and provide lifeguards with psychosocial skills, which may help them in preventive actions, thus avoiding rescue situations.

### 1.3 Research questions and the main hypothesis of the study

After conducting a systematic review of the literature on the behavioural and psychosocial characteristics of the lifeguard, two independent studies were conducted in order to obtain answers to the following questions:

- Which skills profile is associated with an excellent lifeguard?
- Does the training of psychosocial variables contribute to the promotion of the skills of an excellent lifeguard?

In line with this last research question, the hypothesis is that lifeguards who participate in the training programme develop the psychosocial skills (i.e., focus of attention, social intelligence, and emotional intelligence) associated with elite performance.

#### 1.4 Research objectives

The general objective of this research is to explore the psychosocial dimension of lifeguards by examining the psychological and social skills profile of the lifeguard and to enhance its development in a training programme.

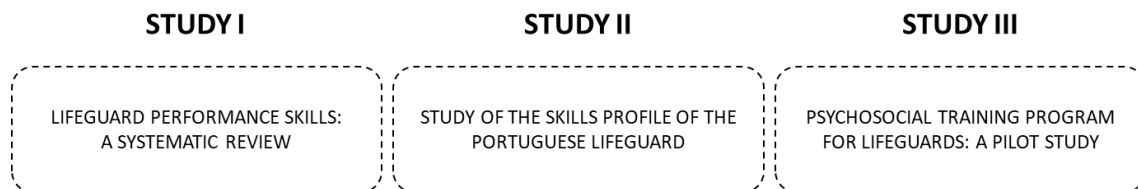
As specific objectives, the aim of this research is to systematically identify the scientific literature on lifeguard behaviour; to identify the key factors for the performance of lifeguard functions; to define a behavioural skills profile of the excellent lifeguard; and to develop and assess a training programme that enhances the psychosocial characteristics of lifeguards.

#### 1.5 Research structuring

This thesis is organized into four chapters, presented as follows:

Chapter 1, entitled “Introduction”, introduces and contextualises the problem, presents the relevance of the topic, the research objectives, the research questions and the organisation of the thesis. Chapter 2 describes the studies carried out and their methodological design, namely: Study I, already published in the *International Journal of Aquatic Research and Education*, entitled *Lifeguard Performance Skills: A Systematic Review*; Study II, which has also already been published in *Retos - Nuevas perspectivas de Educación Física, Deporte y Recreación* entitled *Study of the Skills Profile of the Portuguese Lifeguard*; and Study III, already submitted for publication to the

International Journal of Training and Development, entitled *Psychosocial Training Program for Lifeguards: A Pilot Study*. Chapter 3 presents the general discussion of the studies. Finally, chapter 4 presents the conclusions and limitations of our research and future research.



*Figure 1 - Structure of the development of the thesis studies*

## 2 Studies

The lifeguard is the host of the aquatic space. This professional's main functions are to inform, prevent, rescue and provide Basic Life Support (BLS). However, his/her activity is, above all, preventive. Preventive actions involve a risk analysis and control, and careful observation of the verbal and non-verbal communication of all people involved (Forjuoh, 2013). In this regard, in addition to technical and physical skills training, it is essential to include psychosocial and behavioural skills training in the training of lifeguards in order to improve their performance. This research focuses on exploring the psychosocial dimension of lifeguards by examining the psychological and social skills profile of lifeguards and enhancing its development through a training programme.

In Study I, a systematic review of the literature on "Lifeguard performance skills" is conducted. This systematic review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) methodology. Several reference databases were examined, analysing articles reviewed or published up to August 2020. Study II identifies and defines the skills profile of the excellent lifeguard. It is a qualitative and exploratory study related to the behavioural and psychosocial skills of the lifeguard.

Finally, in Study III a psychosocial skills training programme is carried out based on the profile identified in Study II. This is a pilot study with a control group and an experimental group.

## 2.1 Study I - Lifeguard Performance Skills: A Systematic Review

Santiago, P., Maia, F., Santiago, S., Duarte, D., & Teques, P. (2022). Lifeguard performance skills: a systematic review. *International Journal of Aquatic Research and Education*, 134(4), 1-11. <https://doi.org/10.25035/ijare.13.04.05>

## **Abstract**

Drowning is one of the leading causes of death worldwide and lifeguards' action can be regarded as a significant contribution to change that reality. In this regard, the purpose of this systematic review was to identify factors associated with lifeguards' performance. After extensive research on PsycArticles, PsycBooks, PsycInfo, SportDiscus, Web of Science, PubMed, Scopus and SportDiscus databases, containing the keywords "lifeguard" AND "performance", "lifeguard" AND "skills" and "lifeguard" AND "drowning", we obtained 429 research articles. After eliminating duplicates, excluding those that had no relevance to the study, and screening against set criteria, a total of five articles were fully reviewed. Four quantitative studies and one qualitative study were included in the present review. An analysis of the data was carried out and the findings indicated that there are determining factors for the successful performance of the lifeguard's activity. Results indicate that factors related to the physical, technical, and psychological components are essential for an improved lifeguard's performance. The analysis of the data also highlights the lack of studies related to behavioural competencies.

**Keywords:** drowning prevention, competencies, lifeguards, performance.

## **Introduction**

Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid (van Beeck et al., 2005). According to the World Health Organization (2014), drowning is the 3rd leading cause of unintentional injury death worldwide. It is estimated that there are 372 000 drowning deaths per year worldwide, and more than 90% of these deaths occur in low and middle-income countries. Data from World Health Organization (2014) reported that everyday around the world about 42 people die per hour from drowning. As a result, drowning is considered a major public health problem. It is twice as common in men than in women, and over half of drowning deaths are among people under the age of 25 years. The recently released World Health Organization (2021) guideline on the prevention of drowning reports that approximately 236 000 people died from drowning in 2019, highlighting that these global estimates may significantly underestimate the actual public health problem concerning drowning.

Drowning is among the 10 leading causes of death in children and young adults worldwide. Leading the way is the Western Pacific Region, with drowning being the leading cause of death in children aged 5 to 14 years, followed by the South-East Asia Region, with drowning being the second leading cause of death in children aged 10 to 14 years. In the Region of the Americas, drowning is the third leading cause of death in children aged 5 to 14 years. In the European Region, drowning ranks fourth in ages 10 to 14 years. In the Eastern Mediterranean Region, drowning is the fifth cause of death in children aged 10 to 14 years. Finally, the African Region records drowning as the ninth cause of death in children aged 10 to 14 years. In the age groups of new-borns to 5 years and 15 to 24 years drowning is also one of the leading causes of death in the different geographical areas analysed (World Health Organization, 2014).

The lifeguard actively contributes to safeguard human life and seeks to counteract this reality through prevention, awareness, and rescue actions (Koon et al., 2020). Specifically in rescue actions, the training process of lifeguards allows them to intervene in any aquatic scenario. These professionals acquire technical training that allows them to perform safer and less risky rescue actions and have extensive training on rescue techniques applicable to rescue in the aquatic environment, such as rescue belt, torpedo buoy, rescue board among other equipment (Barcala et al., 2016).

Regarding physical skills, lifeguards develop physical fitness training, which allows them to perform the rescue action with a higher probability of successful intervention. The physical demands in the rescue action are associated with running, locomotion, rescue, and resuscitation techniques (Sousa et al., 2017).

Behavioural and psychological skills are crucial for the achievement of better prevention, since the way the lifeguard can influence the behaviour of other people (DePaulo & Friedman, 1998). Effective prevention translates into a set of practices of risk analysis and control which may prevent drowning situations. The topic of prevention is widely addressed in the training of lifeguards. However, non-verbal communication may contribute to a better preventive performance, although it is not addressed in the training of these professionals. Through certain behaviours such as the appropriate use of the whistle in the timing of the infraction and/or warning, the performance of assertive gestures, the posture and body movement of the professional, his/her facial expression through eye contact and control, style and composure, the lifeguard will be more respected, and his/her orientations will be better accepted by the bathers (Santiago et al., 2020).

Despite the growth of the research on lifeguard skills, there is a need to contextualize this knowledge. Thus, through this systematic review we sought to identify

the technical, physical, and psychological factors associated with improved performance of lifeguards. It is known that 99% of lifeguards working time is based on preventive behaviours (Szpilman, Oliveira, et al., 2018). Hence, preventive factors may be crucial for a better detection of drowning situations, ability to act swiftly and improve the quality of life of victims who faced this situation. Although few articles discuss factors that influence lifeguard's performance or skills, there are no studies that review preventive behaviours. Prevention seems to be the key factor to lifeguard's performance (World Health Organization, 2017), given that the first step to save people from drowning is avoiding rescues.

## **Method**

### **Search Strategy: Databases and Inclusion Criteria**

A systematic review was performed according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guidelines (Page et al., 2021). The databases searched were PsycArticles, PsycBooks, PsycInfo, Web of Science, PubMed, Scopus and SPORTDiscus. The following keywords and Boolean operator were used: "lifeguard" AND "performance," "lifeguard" AND "skills" and "lifeguard" AND "drowning." The research included articles up to August 2020. Only reviewed and published articles were considered in the analysis.

### **Quality of the Studies and Extraction of Data**

All articles resulting from research were analysed and the assessment guidelines of qualitative (Letts et al., 2007) were followed. Authors answered the following criteria: 1) Was the purpose and/or research question stated clearly?; 2) Was relevant background literature reviewed?; 3) What was the design?; 4) Was a theoretical perspective identified?; 5) Method(s) used?; 6) Was the process of purposeful selection described?;

7) Was sampling done until redundancy in data was reached?; 8) Was informed consent obtained?; 9) Clear and complete description of site and participants?; 10) Role of researcher and relationship with participants; 11) Identification of assumptions and biases of researcher; 12) Procedural rigor was used in data collection strategies?; 13) Data analyses were inductive?; 14) Findings were consistent with reflective of data?; 15) Decision trail developed?; 16) Process of analysing the data was described adequately?; 17) Did a meaningful picture of the phenomenon under study emerge?; 18) Was there evidence of the four components of trustworthiness?; 19) Conclusions were appropriate given the study findings?; 20) The findings contributed to theory development & future OT practice/ research?

For quantitative study, the authors followed the critical review form criteria proposed (Law et al., 1998). In this case, the authors responded to the following questions:

1) Was the purpose stated clearly? 2) Was relevant background literature reviewed? 3) What is the study design?; 4) What is the size of the sample?; 5) Was the sample described in detail?; 6) Was sample size justified?; 7) Were the outcome measures reliable?; 8) Were the outcome measures valid?; 9) Intervention was described in detail?; 10) Contamination was avoided?; 11) Co-intervention was avoided?; 12) Results were reported in terms of statistical significance?; 13) Were the analysis of methods appropriate?; 14) Clinical importance was reported?; 15) Drop-outs were reported?; 16) Conclusions were appropriate given study methods and results. In case of disagreement in the classification, the authors of the study discuss until they reach a consensus.

## **Results**

### **Search, Selection and Inclusion of Publications**

The initial search identified 429 titles in the previously mentioned databases. Any duplicates were eliminated automatically (n = 210), leaving 219 articles for analysis. These data were exported to reference manager software EndNote™ 20, and the articles were then screened for relevance based on their title and abstract; 205 articles were rejected due to lack of relevance and because they did not meet the inclusion criteria. The full text of the remaining 14 articles was examined in more detail. The factors for study exclusion were “included data from other areas” (n = 4) and “missing scientific data” (n = 5). After screening against set criteria, a total of five articles were fully reviewed.

### **Quality of the Studies**

Four quantitative studies and one qualitative study were included in the present review. These studies were evaluated and rated for their quality and obtained a score ranging from 84% to 90% (Letts et al., 2007).

### ***General Description of the Studies***

In order to assess the effectiveness and efficiency of lifeguards, studies have been conducted to prove that physical factors such as running, and swimming are crucial for the rapid intervention and survival of drowning victims. Likewise, technical factors such as swimming technique and mastery of basic life support algorithms are critical for the successful reversal of a serious situation. Psychological/behavioural factors such as distraction can easily lead to a drowning situation. To identify the factors associated with improved performance of the lifeguard, please see Table 1 with information of the analysed studies in which the assumptions, the methodology and the results obtained are presented.

## **Discussion**

In the present review, we analysed studies exploring preventive behaviours among lifeguards. To our knowledge, no previous studies have investigated prevention behaviours on lifeguards.

According to Connelly et al. (2018), integrity and competence are key factors to achieve an improved performance at work. The most relevant soft skills needed for today's workplace and after analysing the studies, we identified three broad areas that we consider essential for the improved performance of lifeguards: technical, physical, and psychological (Robles, 2012).

Accordingly, technical and physical factors are analysed together, since in these studies the evaluation of the results did not allow their dissociation as they are interconnected. Psychological factors refer to lifeguards' behaviour and thoughts. Physical and technical factors refer to lifeguards' physical capacities and their technical skills refer to the ability to perform job specific tasks.

*PRISMA 2020 Flow Diagram*

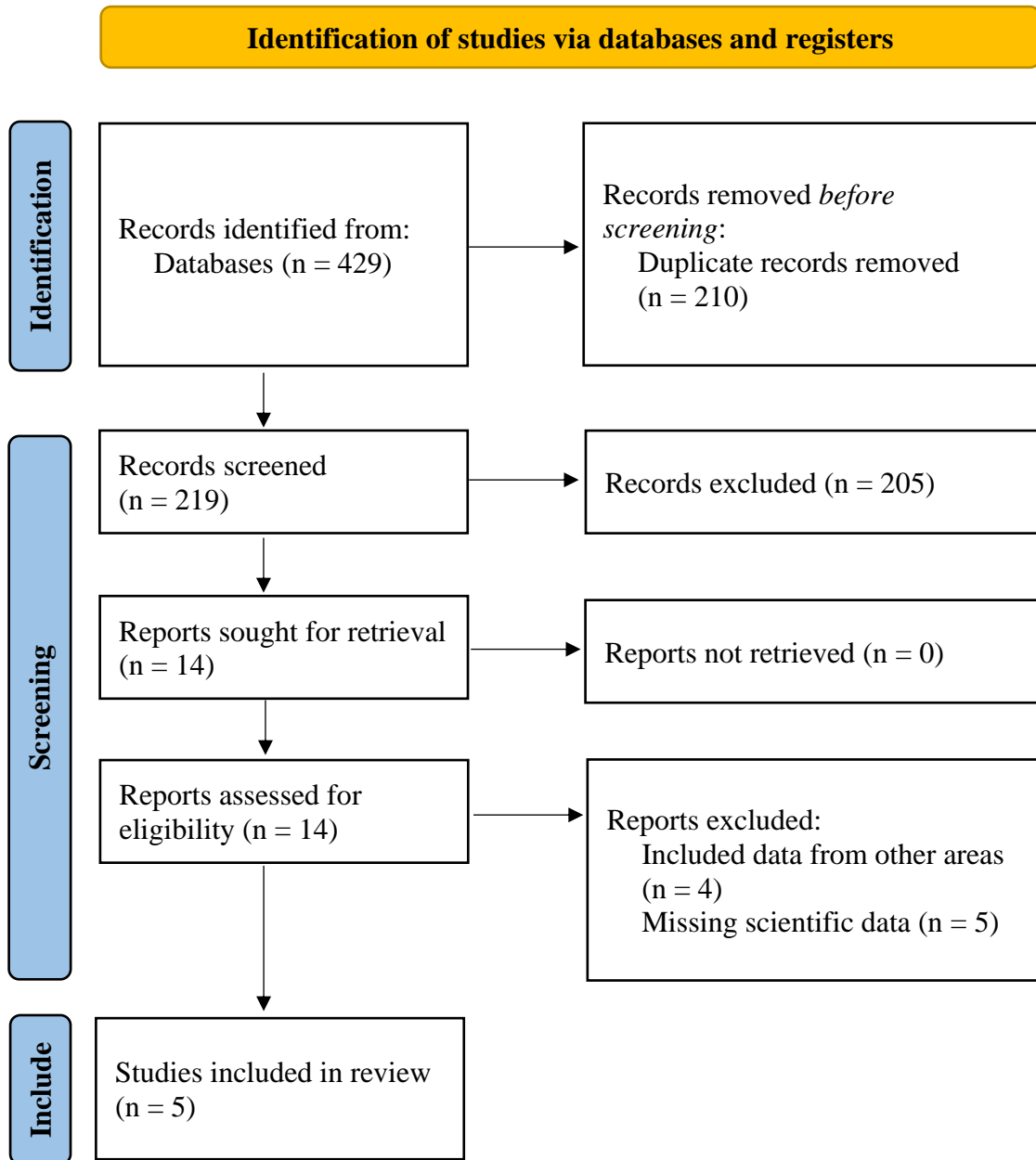


Figure 1 - *Flow chart of the procedures used for the article search*

Table 1 - *Studies analysis*

<b>Study</b>	<b>Sample</b>	<b>Main variables</b>	<b>Strategies used</b>	<b>Quality score (%)</b>	<b>Identified factors</b>	<b>Results</b>
<b>(Tipton et al., 2008)</b>	65 beach lifeguards	Lifeguards with surf experience	swimming capacity, assessment in calm sea and pool	88	Technical and physical	There is a significant and measurable difference in lifeguards' performance with experience in the surfing activity.
<b>(Page et al., 2011)</b>	69 lifeguards	Lifeguards with and without experience	Screen with video simulations	84	Technical	There was a significant difference in detection rates between experienced and less experienced lifeguards. Experienced lifeguards are 4.9 times more likely ( $p = 0.044$ ) to detect a person exposed to the risk of drowning.

<b>(Griffiths &amp; Griffiths, 2013)</b>	839 lifeguards	Lifeguards with experience	Online survey	84	Psychological	The most prominent topics lifeguards mentioned they thought about while on duty were: “pool” (n = 239), “relationships” (n = 184), “patrons” (n = 115), “family” (n = 111), “plans after work” (n = 108), “weekend plans” (n = 91) and “doing after work” (n = 76).
<b>(Reilly et al., 2006)</b>	91 lifeguards	Lifeguards with and without experience	Beach running, swimming in the sea, board paddling and swimming in a pool	88	Technical and physical	The most demanding strength-related tasks were casualty handling onto a rescue boat, board, or beach. The most demanding endurance-related tasks were sea swimming while towing a casualty, board paddling with a casualty and beach running.
<b>(Moran &amp; Webber, 2013)</b>	252 lifeguards	Lifeguards with	Skill Reporter manikins to measure a range	90	Technical and physical	Most of the lifeguards (72%) ensured safety conditions. Almost all lifeguards checked whether the victim responded to stimuli (98%) and performed airway management (92%), then assessed breathing (94%) and initiated chest

surf of resuscitation  
experience parameters

compressions (98%), establishing a correct  
compression/ventilation ratio of 30:2 (90%). Only 48% of  
participants complied with the correct basic life support  
algorithm sequence.

---

In Tipton et al. (2008) study we note that experience and the relationship with the aquatic environment through the practice of surfing significantly improve the lifeguard's performance. In the tests performed, swimmers who had little, or no surf swimming experience were on average 9.3 seconds slower than those who had experience. This experience in adverse conditions allows lifeguards to have greater ease of movement in the water and contributes significantly to the mastery of the techniques used in rescue with the rescue board.

However, the calm sea swim times of the two groups did not differ significantly. On the contrary, the same test performed in surf sea (with waves) shows a marked difference, since the swimmers with a high level of surf swimming experience were faster. As surfing is developed in rough sea conditions (with waves) it is natural that the adaptation to the aquatic environment is better developed, resulting in a better performance than non-surfers. When comparing the pool swim times, the two groups did not differ. These findings indicate that in calm waters the surfing experience factor is not determinant. The aquatic conditions existing in a pool environment are very similar to the conditions found in a sea with few waves. Possibly, because of this fact, surfers do not stand out from pool swimmers.

Moreover, the ability to detect drowning victims was studied by Page et al. (2011). This study has shown that the rates of detection of a drowning victim differed significantly between groups of lifeguards (experienced and inexperienced). Experienced lifeguards were able to detect 4.9 times more drowning situations. In this sense, we realise that the experience factor is determinant for a better performance in the identification of possible drowning. The time factor is also decisive for the possible survival of those who find themselves in this situation. Therefore, the prompt identification of these events is

crucial. We can then perceive that the practice of board sports and professional experience are key factors in reducing drowning situations.

As regards the use of strength by lifeguards required for the performance of their duties, the study of Reilly et al. (2006) identified that the most physically demanding tasks are lifeboat, board, or sea rescues. Another factor associated with strength is endurance. Endurance is a key factor for a successful rescue. The most demanding tasks were running, rescue swimming, towing, and board paddling.

In the procedures for approaching a drowning victim, Moran and Webber (2013) investigated the performance of the basic life support protocol and the resuscitation technical implementation. Most of the lifeguards (98%) checked whether the victim responded to stimuli. However, the study identified some situations that might jeopardise the victim's recovery, namely poor external cardiac compression, 4% of lifeguards performed incomplete releases, 9% placed their hands too low, 18% compressed the chest too deeply, 25% compressed the chest using a wrong hand position, and 35% compressed too superficially. Another compromising factor is ventilation. Most lifeguards (87%) over-ventilated the lungs on each rescue breath. Thus, we found that the techniques used in performing compressions and ventilation technique are crucial for the victim's recovery. The development of these skills should be performed through regular training on CPR training manikins that monitor and identify errors during performance (Perkins et al., 2015).

Griffiths and Griffiths (2013) study defines that internal noise, as thoughts and emotions, distract the lifeguard from a task. A small distraction may be enough to lose a life. This study explores two analysis categories: thoughts and emotions. External distraction factors were also identified such as talking on the phone and texting. Avert one's gaze from the surface of the water can compromise effective prevention, as well as

the number of working hours associated with the work routine can contribute to this type of behaviour. Death by drowning is quick and silent so any distraction can be potentially fatal (Salomez & Vincent, 2004).

The lifeguard experience proves to be a key and decisive factor in the proper performance of the lifeguard's functions in detecting and assisting victims in pre-drowning/drowning situations. This is expected to happen, since these are skills that are grounded during the training process, but only consolidated with the practice and knowledge that the lifeguard acquires (Page et al., 2011). Likewise, surfing experience develops skills that enable better performance in the aquatic environment (Tipton et al., 2008).

Moran and Webber (2013) found that the quality of basic life support is higher in younger and less experienced lifeguards. This fact may be due to the lack of practice of basic life support manoeuvres throughout their career. Recently graduated lifeguards have practiced these manoeuvres several times in their course, so it is expected that they have more quality in the resuscitation process than more experienced lifeguards, since the provision of basic life support is not a recurrent practice in the lifeguard's work.

The lifeguards' decreased ability to concentrate is largely due to their shifts being too long and characterised by some monotony inherent in the profession. Griffiths and Griffiths (2013) show in their study the most frequent distracting thoughts of lifeguards during their working hours. Given this, it is important to train lifeguards to be aware of this issue. Distractions caused by thoughts can mean the difference between life or death of a victim. Training the focus of attention and awareness of how we can move from a narrow or wide internal focus to an external focus will help combat this problem of thoughts and consequent distractions (Sherwood et al., 2020).

Also, physical dexterity also proves to be a determining factor for the success of lifeguards in their work, since in the last instance, the lifeguard will have to render aid to victims in a pre-drowning/drowning situation. Specifically, Reilly et al. (2006) show that the most physically demanding activities in the performance of the lifeguard's duties are: running, swimming, and paddling on the board. This is a recurring practice in almost all rescue actions and is part of the training framework of these professionals (Tipton & Wooler, 2016).

Sousa et al. (2017) show in their study that trained lifeguards are able to maintain the quality of basic life support manoeuvres after performing a simulated rescue over the 100m distance. Moran and Webber (2013) discuss the quality of the provision of basic life support. Although this algorithm is not one of the most demanding activities performed by lifeguards, it is also an activity that, over time, leads to fatigue and loss of technical quality of compressions-inflations, thus further increasing the importance of this professional's physical fitness.

### **Limitations and Future Research**

A possible limitation of this systematic review is that it only includes studies in English from the databases searched, since no other relevant publications were available in other languages (e.g., Portuguese, Spanish, French, Italian). Several limitations of research on lifeguard skills can be highlighted. First, since most of lifeguards' service time is focused on hazard avoidance attitudes (Szpilman, Oliveira, et al., 2018), further research should consider lifeguards' drowning prevention skills given the lack of studies. Second, there is a need for longitudinal studies that look at the long-term effects of lifeguard training and the annual refreshing skills activities. Third, the analysis and identification of water incidents should be the subject of further in-depth studies that prove a better efficiency of

the ability to use peripheral vision, as in driving (Wolfe et al., 2017). Fourth, future studies should also continue to examine the impact of internal noise on lifeguards' vigilance (Baek & Chong, 2020), namely assessing the influence of thoughts on concentration ability.

Evidence from other areas of research suggests that fatigue has a significant effect on attention span (Holtzer et al., 2011). Therefore, it would be relevant to analyse the effects of fatigue on the preventive actions of lifeguards. Finally, social, psychological, and behavioural skills are fundamental for effective prevention. Even experienced lifeguards reveal the need to obtain formal knowledge in the development of behavioural skills, and it will be necessary to further explore this topic in the future (Santiago et al., 2020).

## **Conclusions**

Drowning is a real and dangerous risk, and the most important tool to avoid it is prevention (Szpilman, Sempsrott, et al., 2018). The assessment of the available data allows us to conclude that the factors associated with improved performance of the lifeguard can be categorized as physical, technical, and psychological factors. The combination of the identified factors can undoubtedly lead to improved lifeguard performance. Lifeguards' presence in the aquatic environment may give a false sense of security if they are not vigilant, since a small distraction can be costly, and an accident may occur (Modell, 2010). Research addressing the performance of lifeguard's is scarce and, to our knowledge, there is no scientific evidence regarding the lifeguard's psychosocial and behavioural skills to deal with potentially stressful situations. The scarcity of scientific work in the field of lifeguards' performance assessment is remarkable. According to (Szpilman, Oliveira, et al., 2018) lifeguards spend 99% of the

time carrying out preventive actions, so it is essential to promote the conduct of new scientific studies in the psychological/behavioural field, which might highlight the best way to prevent drowning accidents. This study aimed to revise and introduce a new line of study in aquatic rescue.

## References

- Baek, J., & Chong, S. (2020). Distributed attention model of perceptual averaging. *Attention, Perception, & Psychophysics*, 82(1), 63-79. <https://doi.org/10.3758/s13414-019-01827-z>
- Barcala, R., Szpilman, D., Palacios, J., Costas, J., Abelairas, C., Bores, A., Lopez, S., & Rodriguez, A. (2016). Assessing the efficacy of rescue equipment in lifeguard resuscitation efforts for drowning. *American Journal of Emergency Medicine*, 34(3), 480-485. <https://doi.org/10.1016/j.ajem.2015.12.006>
- Connelly, B., Crook, T., Combs, J., Ketchen, D., & Aguinis, H. (2018). Competence and Integrity Based Trust in Interorganizational Relationships: Which Matters More? *Journal of Management*, 44(3), 919-945. <https://doi.org/10.1177/0149206315596813>
- DePaulo, B., & Friedman, H. (1998). Nonverbal communication. In *The handbook of social psychology* (Vol. 2, pp. 3-34). McGraw-Hill.
- Griffiths, R., & Griffiths, T. (2013). Internal Noise Distractions in Lifeguarding. *International Journal of Aquatic Research and Education*, 7, 56-71. <https://doi.org/10.25035/ijare.07.01.06>
- Holtzer, R., Shuman, M., Mahoney, J., Lipton, R., & Verghese, J. (2011). Cognitive fatigue defined in the context of attention networks. *Neuropsychology*,

*Development, and Cognition. Section B, Aging, Neuropsychology and Cognition*, 18(1), 108-128. <https://doi.org/10.1080/13825585.2010.517826>

Koon, W., Schmidt, A., Queiroga, A., Sempstrott, J., Szpilman, D., Webber, J., & Brander, R. (2020). Need for consistent beach lifeguard data collection: results from an international survey. *Injury Prevention*. <https://doi.org/10.1136/injuryprev-2020-043793>

Law, M., Stewart, D., Pollock, N., Letts, L., Bosch, J., & Westmorland, M. (1998). *Critical review form: quantitative studies*. McMaster University.

Letts, L., Wilkins, S., Law, M., Stewart, D., Stewart, D., Bosch, J., & Westmorland, M. (2007). *Critical review form: qualitative studies (version 2.0)*. McMaster University.

Modell, J. (2010). Prevention of Needless Deaths from Drowning. *Southern Medical Journal*, 103(7), 650-653. <https://doi.org/10.1097/SMJ.0b013e3181e10564>

Moran, K., & Webber, J. (2013). Too Much Puff, Not Enough Push Surf Lifeguard Simulated CPR Performance. *International Journal of Aquatic Research and Education*, 7, 13-23. <https://doi.org/10.25035/ijare.07.01.03>

Page, J., Bates, V., Long, G., Dawes, P., & Tipton, M. (2011). Beach lifeguards: visual search patterns, detection rates and the influence of experience. *Ophthalmic and Physiological Optics*, 31(3), 216-224. <https://doi.org/10.1111/j.1475-1313.2011.00824.x>

Page, J., McKenzie, E., Bossuyt, M., Boutron, I., Hoffmann, C., Mulrow, D., Shamseer, L., Tetzlaff, M., Akl, A., Brennan, E., Chou, R., Glanville, J., Grimshaw, M., Hróbjartsson, A., Lalu, M., Li, T., Loder, W., Mayo-Wilson, E., McDonald, S., . . . Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for

- reporting systematic reviews. *British Medical Journal*, 71.  
<https://doi.org/10.1136/bmj.n71>
- Perkins, G., Handley, A., Koster, R., Castren, M., Smyth, M., Olasveengen, T., Monsieurs, K., Raffay, V., Grasner, J., Wenzel, V., Ristagno, G., & Soar, J. (2015). European Resuscitation Council Guidelines for Resuscitation 2015: Section 2. Adult basic life support and automated external defibrillation. *Resuscitation*, 95, 81-99. <https://doi.org/10.1016/j.resuscitation.2015.07.015>
- Reilly, T., Wooler, A., & Tipton, M. (2006). Occupational fitness standards for beach lifeguards. Phase 1: the physiological demands of beach lifeguarding. *Occupational Medicine-Oxford*, 56(1), 6-11.  
<https://doi.org/10.1093/occmed/kqi169>
- Robles, M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75, 453-465.  
<https://doi.org/10.1177/1080569912460400>
- Salomez, F., & Vincent, J. (2004). Drowning: a review of epidemiology, pathophysiology, treatment and prevention. *Resuscitation*, 63(3), 261-268.  
<https://doi.org/10.1016/j.resuscitation.2004.06.007>
- Santiago, P., Teques, P., Duarte, D., & Palacios, J. (2020). Estudio do Perfil de Competências do Nadador-Salvador Português. *RETOS - Nuevas tendencias en Educación Física, Deporte y Recreación.*, 673-679.  
<https://doi.org/10.47197/retos.v37i37.74342>
- Sherwood, D., Lohse, K., & Healy, A. (2020). The effect of an external and internal focus of attention on dual-task performance. *Journal of Experimental Psychology: Human Perception and Performance*, 46(1), 91-104.  
<https://doi.org/10.1037/xhp0000698>

- Sousa, A., Fernandes, R., Rodriguez, N., & Abraldes, J. (2017). Influence of a 100-M Simulated In-Water Rescue on Cardiopulmonary Parameters. *Prehospital Emergency Care*, 21(3), 301-308. <https://doi.org/10.1080/10903127.2016.1254695>
- Szpilman, D., Oliveira, R., Mocellin, O., & Webber, J. (2018). Is drowning a mere matter of resuscitation? *Resuscitation*, 129, 103-106. <https://doi.org/10.1016/j.resuscitation.2018.06.018>
- Szpilman, D., Sempstrott, J., Webber, J., Hawkins, S., Barcala, R., Schmidt, A., & Queiroga, A. (2018). Dry drowning and other myths. *Cleveland Clinic Journal of Medicine*, 85, 529-535. <https://doi.org/10.3949/ccjm.85a.17070>
- Tipton, M., Reilly, T., Rees, A., Spray, G., & Golden, F. (2008). Swimming Performance in Surf: The Influence of Experience. *International Journal of Sports Medicine*, 29(11), 895-898. <https://doi.org/10.1055/s-2008-1038510>
- Tipton, M., & Wooler, A. (2016). *The Science of Beach Lifeguarding*. CRC Press.
- van Beeck, E., Branche, C., Szpilman, D., Modell, J., & Bierens, J. (2005). A new definition of drowning: towards documentation and prevention of a global public health problem. *Bulletin of the World Health Organization*, 83(11), 853-856. <https://www.webofscience.com/wos/woscc/full-record/WOS:000233185100014?SID=D58weXFgd6px1pEscca>
- Wolfe, B., Dobres, J., Rosenholtz, R., & Reimer, B. (2017). More than the Useful Field: Considering peripheral vision in driving. *Applied Ergonomics*, 65, 316-325. <https://doi.org/10.1016/j.apergo.2017.07.009>
- World Health Organization. (2014). *Global Report On Drowning* (9789241564786). [https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786_eng.pdf?sequence=1)

World Health Organization. (2017). *Preventing drowning: an implementation guide*.

<https://www.who.int/publications/i/item/preventing-drowning-an-implementation-guide>

World Health Organization. (2021). *WHO Guideline on the prevention of drowning through provision of day-care and basic swimming and water safety skills*.

<https://www.who.int/publications/i/item/9789240030008>

## 2.2 Study II - Study of the Skills Profile of the Portuguese Lifeguard

Santiago, P., Teques, P., Duarte, D., & Palácios-Aguilar, J. (2020). Study of the Skills Profile of the Portuguese Lifeguard. *RETOS. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 37, 673-679.  
<https://doi.org/10.47197/retos.v37i37.74342>

## **El perfil del socorrista acuático portugués**

### **Resumen**

El ahogamiento es una de las principales causas de muerte en todo el mundo y la acción del socorrista acuático puede ser una contribución para la modificación de esta realidad. En este sentido, el propósito de la investigación es examinar el perfil de competencias del socorrista acuático portugués, considerando el método de la “Grounded Theory” (Strauss y Corbin, 2010) para comprender las variables psicosociales que definen un socorrista acuático de élite. Participaron en el estudio 22 socorristas acuáticos de élite con edades comprendidas entre los 30 y los 67 años, los cuales dieron voluntariamente su opinión sobre las competencias asociadas a la acción de un socorrista acuático. Los criterios de inclusión fueron: formación especializada, más de 10 años de actividad profesional y socorristas acuáticos con medallas de mérito. La recogida de datos fue realizada mediante una entrevista etnográfica semiestructurada. Los datos fueron grabados y transcritos literalmente. Los socorristas acuáticos con más de 10 años de actividad profesional fueron contactados para la realización de la entrevista personalmente, por correo electrónico o por teléfono. El análisis de los datos fue ejecutado mediante el método Grounded Theory (Strauss y Corbin, 2010). Los resultados indican que las competencias relacionadas con la ética en el trabajo, responsabilidad, trabajo en equipo, comunicación, integridad, cortesía y relacionamiento interpersonal fueron identificadas por todos los entrevistados. En síntesis, el presente estudio proporciona orientaciones con respecto a la formación de los socorristas acuáticos, en particular en lo que se relaciona con las competencias comportamentales (Robles, 2012). El aspecto exploratorio de este estudio es reforzado por tratarse de la primera investigación relacionada con las competencias comportamentales de los socorristas acuáticos.

**Palabras clave:** Socorrista acuático, habilidades sociales, salvamento, ahogamiento, formación.

## **A skills profile of the Portuguese lifeguard**

### **Abstract**

Drowning is one of the leading causes of death worldwide and lifeguard action can be considered as a substantial contribution to change this reality. In this regard, the purpose of this research is to examine the skills profile of the Portuguese lifeguard considering the «Grounded Theory» method (Strauss & Corbin, 2010) to understand the psychosocial variables that define an elite lifeguard. In this study participated 22 Portuguese elite lifeguards, aged between 30 and 67, who voluntarily expressed their opinion concerning the skills associated to the lifeguard action. The inclusion criteria were specialised training, more than 10 years of professional activity and lifeguards awarded with a meritorious medal. Data collection was carried out through a semi-structured ethnographic interview. Data were audio recorded and a verbatim transcription of the interviews was done. Lifeguards with more than 10 years of professional activity were contacted in order to be interviewed in person, by telephone or email. Data analysis was carried out using the Grounded Theory method (Strauss & Corbin, 2010). Results indicate that skills related to work ethic, responsibility, teamwork, communication, integrity, courtesy, and interpersonal relationship were identified by all participants interviewed. In summary, this study provides guidelines on lifeguards training, mainly related to behavioural skills (Robles, 2012). The exploratory aspect of this study is reinforced by the fact that it is the first research concerning lifeguard behavioural skills.

**Keywords:** Lifeguard, soft skills, lifesaving, drowning, training.

# **Study of the Competencies Profile of the Portuguese Lifeguard**

## **Resumo**

O afogamento é uma das principais causas de morte em todo o mundo e a ação do nadador-salvador (NS) pode ser considerada como um contributo para a alteração desta realidade. Neste sentido, o propósito desta investigação é examinar o perfil de competências do nadador-salvador português, considerando o método da “Grounded Theory” (Strauss & Corbin, 2010) para compreender as variáveis psicossociais que definem um nadador-salvador de elite. Participaram no estudo 22 nadadores-salvadores de elite, com idades compreendidas entre os 30 e 67 anos, que deram voluntariamente a sua opinião sobre as competências associadas à ação de um nadador-salvador. Os critérios de inclusão foram: formação especializada, mais de 10 anos de atividade profissional e nadadores-salvadores medalhados por mérito. A recolha dos dados foi realizada através de uma entrevista semiestruturada etnográfica. Os dados foram gravados e transcritos verbatim. Os nadadores-salvadores com mais de 10 anos de atividade profissional foram contactados para a realização da entrevista pessoalmente, via email ou via telefone. A análise dos dados foi executada através do método Grounded Theory (Strauss & Corbin, 2010). Os resultados indicam que as competências relacionadas com a ética no trabalho, responsabilidade, trabalho em equipa, comunicação integridade, cortesia e relacionamento interpessoal foram identificadas por todos os entrevistados. Em síntese, o presente estudo providencia orientações relativas à formação dos nadadores-salvadores relacionadas sobretudo com as competências comportamentais (Robles, 2012). O aspeto exploratório deste estudo é reforçado por ser a primeira investigação sobre as competências comportamentais do nadador-salvador.

**Palavras-chave:** Nadador-salvador, competências sociopsicológicas, salvamento, afogamento, formação.

## **Introduction**

Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid (van Beeck et al., 2005). According to the World Health Organization (2014), more than half of these drownings happen to young people under the age of 25, and men are twice as likely to drown compared to women. According to data from the Drowning Observatory, there were 122 drowning deaths in 2017 (FEPONS, 2017). In fact, as the Portuguese coast is approximately 850 km long, 49.2% of drowning deaths occurred at sea. On rivers occurred 19.7% and 9.8% on wells (FEPONS, 2017). Drowning situations determine that lifeguards must have a set of technical skills (AMN, 2015). However, after a simple search of the PsycArticles, PsycBooks, PsycInfo, PubMed e SportDiscus databases containing the keywords lifeguard, soft skills, lifesaving, drowning, and training, no papers were found in the behavioural area of lifeguarding. Research addressing the performance of the Portuguese lifeguard is scarce and, to our knowledge, there is no scientific evidence regarding the lifeguard's psychosocial and behavioural skills to deal with potentially stressful situations.

Currently, there is a growing awareness regarding the relevance of human resource development models, both at individual and organisational levels (Esteves & Caetano, 2010). Many of these models were designed and developed to support employees and employers by implementing these models in organizations and thus contributing to their performance improvement (Bernthal, 2004; McLagan, 1983; McLagan, 1989). Most of these models pay special attention to the skills profile, which is directly related to the job profile.

In this context, a competence is a concept that implies a certain level of knowledge and expertise, as well as abilities. A specific competence is, usually, conceived as a competence which comprises knowledge, skills, attitudes and predispositions. It can be

acquired, developed or lost. It relates not only to excellent performance, but also to individual's ability to adapt (Braun et al., 2012; Weinert, 2001).

Therefore, the purpose of this study is to identify and examine the psychosocial and behavioural skills of Portuguese lifeguards. Considering the scarce scientific literature on the lifeguard's action and taking into account the lack of a basic theoretical model to address this issue, we aimed at gaining knowledge through an approach according to the Grounded Theory concerning the psychosocial and behavioural skills of the Portuguese lifeguard.

## **Method**

### ***Participants***

Twenty-two elite lifeguards gave their opinion on the skills associated to the lifeguard's action. The inclusion criteria were specialised training, more than 10 years of professional activity or meritorious medal-winning lifeguards. Participants aged between 28 and 67 years ( $M = 41.00$ ,  $SD = 8.33$ ). Years of experience ranged from 10 to 49 with an average experience of 19 years ( $M = 19.18$ ,  $SD = 9.13$ ). 84% of the respondents had an academic degree equal or higher than a bachelor's degree (50% with bachelor's degree, 27% with master's degree and 9% with PhD degree). Only 14% had an academic degree corresponding to the minimum compulsory education. All participants were or had been lifeguard trainers at the *Instituto de Socorros a Náufragos* (Maritime National Authority). Swimming was the sport mentioned most often as a maintenance sport (77%), followed by football (32%) and athletics (27%). In geographical terms, 9 participants came from the North (7 from the coastal and 2 from the interior), 8 from the Centre (5 from the

coastal and 2 from the interior) and 5 from the South (4 from the coastal and 1 from the interior).

### ***Data collection***

After receiving the ethical approval of the study by the Scientific Committee of the Research Centre of the Polytechnic Institute of Maia (REF.004/05/18), participants were contacted for the interview. Prior to the interview, participants had access to the informed consent, ensuring data confidentiality and anonymity, as well as the consent and authorisation for audio recording (Patton, 2002). The interviews were conducted in a quiet place that enabled the adequate development of the interview.

The interviews lasted between 12 to 49 minutes. The interview script was developed and validated by three experts (i.e., a lifeguard with more than 10 years of experience, a psychologist with more than 10 years of practice in performance psychology and a university lecturer-researcher specialized in skills profiling in various areas of human performance, including business and sport) and consisted of 27 open and closed questions, distributed in three sections (Rubin & Rubin, 2005): (1) introductory questions (e.g., "How old are you and how many years have you been a lifeguard?"), (2) transitional questions (e.g., "What were the practical consequences of being an excellent lifeguard?"), and (3) key questions (e.g., "What are the most important actions you control that promote adequate behaviour of bathers?"). The introductory questions focused on generic aspects of lifeguard action with the aim of developing a relationship with the researcher and giving the participant the opportunity to start his/her reflections on the topic. The remaining questions focused on more specific aspects of the lifeguard action, mainly considering what an experienced lifeguard and a less experienced lifeguard do to ensure the description of the key skills of the lifeguard action.

## ***Data analysis***

Data analysis in this study was based on the Grounded Theory method by Corbin and Strauss (2010), involving a progressive set of coding techniques which aims to enable the analysis to proceed from description, through conceptual sorting, to the theorisation of the phenomenon. Thus, firstly, the data were recorded and transcribed *verbatim*. Then, as the interviews were conducted, each transcription was read to ensure understanding and text analysis. Following this initial approach to the text, we proceeded to open coding which involves the identification of text segments and the development of categories and subcategories (Corbin & Strauss, 2010). After defining categories and subcategories, axial coding was performed which aims to refine and accommodate the various categories and subcategories that represent the meaning associated with lifeguard skills. Finally, the various categories and subcategories were integrated and organised into a theoretical model format that aims to identify and explain the relationships between the various skills associated with lifeguards, through a process called selective coding. In addition to these analysis steps, the first author took notes during the interviews and in the transcripts themselves which served as support for the theorisation of the phenomenon under study (Corbin & Strauss, 2008). According to the Grounded Theory theoretical saturation criterion, the collection and analysis process ended when no new categories emerged to be contextualised in the theoretical model. To assess the credibility of the coding process, the categories of the model were discussed among the research team members. In situations of disagreement, consensus was reached through constructive debate.

### ***Methodological rigour***

A set of steps was developed during data collection and analysis to ensure methodological rigour (Pardal & Correia, 2011). The first author of this study is a lifeguard with more than 10 years of experience in this field of activity, therefore understanding the context of the lifeguard's action. This fact allowed the researcher to be able to understand the experiences that participants were reporting. Additionally, the practical connection that the first author has with the institutions that formalise the training of lifeguards in Portugal (AMN, 2015) allowed informal conversations that enabled the clarification of some emerging topics and the discussion of ideas regarding the skills needed to be a good lifeguard.

After the first author had completed the initial analysis, a list of categories, subcategories and their quotes were provided to the second author. The second author reviewed the categories and quotes to ensure that the coding represented the data. Subsequently, the four authors developed discussions regarding the categories and their contextualisation in the theoretical model. These discussions continued right up to the writing of the results of the scientific report.

### ***Results***

After collecting and analysing the data from the 22 lifeguards, a set of variables associated with the lifeguard skills profile emerged. Specifically, the results indicate first and second order variables defined as preventive skills, interpersonal relationship skills and professional skills. These skills are facilitators of the lifeguard's performance of excellence. Figure 1 represents the emergent concepts and illustrates their interrelationships in a Grounded Theory model.

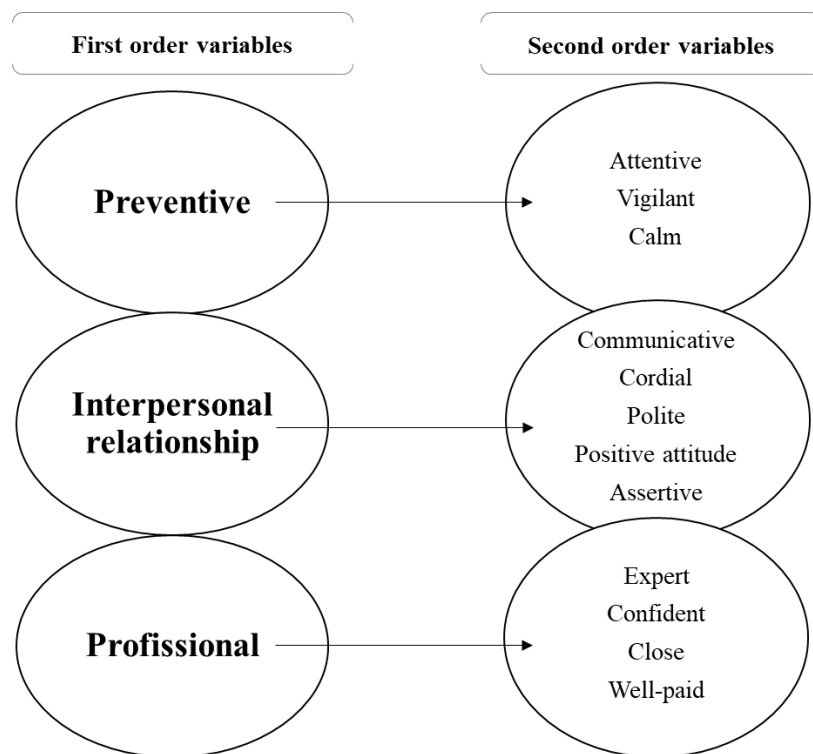


Figure 1 - Variables identified and emerging concepts of the study based on a Grounded Theory model

## Preventive skills

The first variable identified was preventive. The lifeguard's prevention is based on the observation of the surrounding aquatic environment, assessing the events that occur there and intervening in advance in situations of potential danger (Fenner et al., 1999). Participants described how excellent lifeguards acted, and 73% reported that they were preventive:

"The excellent lifeguards were very attentive, responsible, they did not neglect the observation of the bathers, of the space and they dialogued a lot with bathers, draw their attention. They created a good environment over there, a good relationship so that they could then be heard." (Lifeguard 2)

"In my opinion, an excellent professional is the lifeguard who has the ability to anticipate the events and to monitor the bathers, to alert them, to help them and inform them that the behaviour they are having could trigger in some situation that might cause damage." (Lifeguard 10)

As practical consequences of this behaviour and attitude, 55% of the participants mentioned the fact that they are respected by bathers (Dunning, 2017) and do not have to perform rescues. The respect for the lifeguard makes bathers comply with the indications and directions given by the lifeguard.

"The consequences of this behaviour are to maintain and get the respect of the target audience, which are the bathers, in your area of intervention, making people really absorb the indications, the information that the lifeguard has to give, in order to then make the control and prevention much better." (Lifeguard 1)

"As practical consequences, I consider zero rescues in a whole summer to be the best possible." (Lifeguard 13)

Participants mentioned that when it is necessary to make an intervention, an expert lifeguard approaches the situation as they have learned (64%), must stop to think before acting and must act calmly, safely and quietly (36%) while 18% of the participants mentioned the need for the lifeguard to take responsibility.

"When intervention is needed, the expert lifeguard acts calmly, safely, transmits tranquillity, while the bad one panics, gets a bit confused and gives orders, maybe inappropriate to the situation." (Lifeguard 2)

"The expert lifeguard stops to think before he acts. The bad lifeguard either panics and does not even act or he acts in a thoughtless way, thus putting himself and the victim at risk." (Lifeguard 4)

"An expert lifeguard takes responsibility; he approaches the situation according to what he has learned. A bad lifeguard does not take responsibility, tries to make excuses, tries to run away, tries to come up with alternatives and excuses to act on the situation." (Lifeguard 9)

"An expert lifeguard tries to minimise the risk and increase the capacity for success. He tries to make a more accurate and immediate assessment of the emergency response and bring to bear the capacity for complementary help, either from another lifeguard or from other complementary means. He tries to minimise all costs and increase the probability of a successful rescue. The bad lifeguard ends up performing the tasks alone, compromising the whole chain." (Lifeguard 20)

In performing their duties as lifeguards, participants defined themselves as being good lifeguards (87%), identified themselves as being responsible (36%) and as being preventive, professional and attentive (27%).

"I think I've always been a good lifeguard; I wouldn't say an excellent lifeguard. I have my flaws and maybe nobody is a good counsellor talking about himself. In any case, I think that if there is one thing that I have always been guided by, it is to comply. In that respect, I think the word that most defines me is compliant. (Lifeguard 4)

"I always try to act in a vigilant way and prevent risky situations." (Lifeguard 18)

"I, as a lifeguard, consider myself a person with a sense of responsibility. In terms of my work as a lifeguard, to date, I think I have always done a good job because I have always worked in the area of prevention and much in the social area, in other words, giving advice to people, explaining what is going on in the surroundings, what dangers they may face, in other words, whenever I am on the beach, people

who are by my side are not totally dependent on me, but are part of my team to help save others." (Lifeguard 8)

## **Interpersonal relationship skills**

Communicational skills (Gallego-Ortega & Rodríguez-Fuentes, 2018) are fundamental to lifeguards' actions as they prevent risky behaviours and allow controlling potentially dangerous situations.

Participants identified communication and interaction with bathers as being characteristics of a good lifeguard (73%) and the good relationship between lifeguards and bathers was identified by 36% of participants.

"In my opinion, a lifeguard with experience and that wants to have, let's say, a healthy working environment has to interact with people, has to communicate with them, has to know the sea and his working area and anticipate problems. When groups of children come from nursery schools or kindergartens, when we have older people, we must be close to them, we must anticipate danger situations and talk to them. Communicating will always be the best way." (Lifeguard 7)

"The characteristic of the lifeguard that I think is associated with the best performance is, above all, communication." (Lifeguard 14)

Concerning the relationship with bathers, 50% of the participants identified the need to be polite and communicative, 41% mentioned that it was very important to maintain a close relationship with them and 23% as being a cordial and assertive relationship:

"I have always had a close relationship as I have always implemented prevention interventions and informative speeches on water rescue. I have always had a

behaviour based on correctness and respect for people without any discrimination."

(Lifeguard 6)

"My relationship with bathers is one of proximity and communication with everyone, socialization above all and mainly politeness." (Lifeguard 19)

"My relationship with bathers is as cordial as possible." (Lifeguard 21)

"The good lifeguard is assertive, he or she is friendly with bathers and tries, in a non-authoritarian way, to pass on the message of existing potential dangers to bathers." (Lifeguard 9)

Concerning the lifeguard characteristics that are associated with better performance at the social level, 55% of the participants mentioned being communicative (Jelphs, 2006) and having a positive attitude.

"Having the ability to be able to analyse the environment in which one fits in, having the ability to know that there are different people with different needs and, therefore, the lifeguard must have different levels of approach and make use of some psychological techniques of approach. Not just ask them to leave one area but ask them to leave one area and move to another, therefore give a viable alternative to the bather. The lifeguard has to know that he fits into a context and that he is not someone isolated but has to behave in a way that enables social interaction with others, not only the bathers but also the marine police, like other entities related to the environment. Thus, they can together reach the best possible performance within the scope of their action." (Lifeguard 12)

"Communication above all. Assertiveness is also very important, but the communication component is the most important." (Lifeguard 21)

"Having the right behaviour for prevention functions, a positive attitude and posture to motivate people are determining aspects for a lifeguard". (Lifeguard 6)

## **Professional skills**

One of the professional characteristics identified by participants that may be associated with better lifeguard performance is remuneration. Remuneration could benefit the motivational levels of lifeguards in performing their job (Moreira et al., 2016). This variable was identified by 82% of the participants.

"The remuneration, I think the salary here in Portugal is very poorly paid. Of course, it varies from place to place, but it is poorly paid. This implies that after two years you stop being interested in working as a lifeguard and you change your job to something else, and after 10 years you give up working as a lifeguard because the remuneration is very low. It's roughly half of what a cleaner earns an hour and if a cleaner is worth more than a human life, that's the reality that we have." (Lifeguard 11)

"The remuneration can be a barrier for me. The remuneration is inherent, the training is already starting to be adequate for this purpose, but there is still a whole contractual background that needs to be urgently improved in order to be more attractive and have the same professionals every year. The percentage of lifeguards who stay from one year to the next is very low." (Lifeguard 13)

Expertise and confidence were variables identified by 36% of participants.

"The lifeguard has to get in the water, has to understand if there are currents or not, has to have perception of his body in the water, has to have emotional control. The lifeguard has to try to know more about the sea, he has to know how to listen and observe the sea and then try to interpret it. The information gathered leads the lifeguard to have a more assertive and much safer behaviour." (Lifeguard 15)

"The expert lifeguard must be confident. He must keep calm, act normal, follow the normal parameters regardless of the context and do the established procedures. He then draws lessons from what went wrong to avoid new situations." (Lifeguard 16)

Proximity to the waterline was a variable identified by 27% of participants as enhancing preventive behaviour among bathers.

"Proximity in relation to the water and the bather. Always being in the front line." (Lifeguard 14)

"Communication, prevention, staying close to the waterline. Therefore, proximity to the bather is the first factor that leads to enhance positive behaviour." (Lifeguard 19)

## **Discussion**

This study considered the Grounded Theory (Corbin & Strauss, 2008) in order to understand the psychosocial and behavioural skills of the Portuguese lifeguard. The study of the lifeguard skills profile may enhance the improvement of the training process and, consequently, provide a service of excellence and improve the safety of those seeking aquatic spaces.

After analysing the first and second order variables, the results revealed a set of preventive skills, interpersonal relationship skills and professional skills. In fact, the lifeguard's behaviour can be determinant in influencing the bathers' behaviour (Dunning, 2017). Prevention is one of the most important actions of the lifeguard, because attention, being vigilant, calm and close to the waterline are variables that may prevent many incidents (Szpilman et al., 2018).

However, prevention is not enough, lifeguards must have social skills. Being able to communicate in a cordial and polite way enables a better interaction with bathers,

promoting the development of interpersonal relationships that benefit the compliance with the safety rules established by the lifeguard. They must also maintain a positive attitude in solving any problem or clarifying any action required.

In articulation with the identified skills, the lifeguard must be professional. The lifeguard's professional attitude is a key competence on several levels. The most important aspect is to be respected by bathers. A competent, assertive and confident professional will gain the respect of bathers. Having this conduct will avoid many accidents and will benefit his professional class. The image associated to lifeguards is not always positive. With this type of skills and behaviour, lifeguards will give society a positive image of their activity.

In interpreting the results, positive points should be highlighted, and limitations considered that should deserve attention in future research. A strong point of this study is the inclusion of participants with a quite advanced level of specialisation in the area of aquatic first aid. In this regard, Simonton (1999) states that the study of exceptional athletes enriches the study about sporting excellence due to their significance and distinction within their population. Additionally, to the best of our knowledge, there are no studies to date that examine the psychosocial variables of lifeguards. In this context, this is the first study at national and international level that aimed to specify the role of psychological, social and behavioural factors in lifeguard performance.

Despite these points of emphasis, limitations that are inherent to the retrospective nature of the study should be considered. Specifically, it is possible that participants may have had distorted perceptions of their experiences, despite the techniques that were used throughout the interviews to promote effective recall, such as giving participants time in quiet moments to recall aspects of past experiences and suggesting the recall of places and people who were involved in the events (Thomsen & Brinkmann, 2009).

Furthermore, the participants in this study are limited to Portuguese lifeguards. Therefore, it is not known to what extent the results of the present study may be representative of the lifeguards' experiences in other countries. Finally, this study does not assess bathers' perceptions of lifeguards' skills. Future research should examine the relationship between lifeguard skills and the consequences perceived by bathers.

## **Conclusion**

In terms of practice, there are numerous implications that can be suggested by the findings of this study. The theoretical model emerging from this study may provide both technicians and organisations with a comprehensive model about the psychological, social and behavioural skills that are related to excellent lifeguard performance. Technicians operating in water rescue teaching-learning should identify and monitor emerging skills (i.e., preventive, interpersonal, professional) that lifeguards should develop in order to achieve higher levels of performance. Additionally, lifeguards should be assessed not only for hard-skills, but also for soft-skills in order to stimulate and promote the psychosocial factors that are inherent to excellent performance. The assessment can be of an experiential nature, included in training programmes that enhance problem-solving and require the implementation of preventive, interpersonal and professional skills. To support these strategies, trainees may be exposed to various psychosocial training experiences, such as the development of communication, assertiveness or psychological decision-making skills.

## References

- AMN. (2015). *Manual Técnico do Nadador-Salvador*. Imprensa da Universidade de Coimbra.
- Baker, J., Côté, J., & Deakin, J. (2005). Cognitive characteristics of expert, middle of the pack, and back of the pack ultra-endurance triathletes. *Psychology of Sport and Exercise*, 6, 551-558. <https://doi.org/10.1016/j.psychsport.2004.04.005>
- Bernthal, P. (2004). *ASTD 2004 competency study: Mapping the future: New workplace learning and performance competencies*. American Society for Training and Development.
- Bierens, J. J. (2014). *Drowning*. Springer.
- Bonanno, G. A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources and life stress. *Journal of Consulting and Clinical Psychology*, 75, 671-682. <https://doi.org/10.1037/0022-006X.75.5.671>
- Braun, E., Woodley, A., Richardson, J., & Leidner, B. (2012). Self-rated competences questionnaires from a design perspective. *Educational Research Review*, 7, 1-18.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Grounded theory procedures and techniques* (3rd ed.). Sage.
- Curtis, W. J., & Cicchetti, D. (2003). Moving research on resilience into the 21st century: theoretical and methodological considerations in examining the biological contributors to resilience. *Development and Psychopathology*, 15, 773-810. <https://doi.org/10.1017/S0954579403000373>
- Denz-Penhey, H., & Murdoch, J. C. (2008). Personal resiliency: serious diagnosis and prognosis with unexpected quality outcomes. *Qualitative Health Research*, 18, 391-404. <https://doi.org/10.1177/1049732307313431>

- Dugdale, J. R., Eklund, R. C., & Gordon, S. (2002). Expected and unexpected stressors in major international competition: appraisal, coping, and performance. *The Sport Psychologist, 16*, 20-33. <http://journals.humankinetics.com/tsp>.
- Dunn, L. B., Iglewicz, A., & Moutier, C. (2008). A conceptual model of medical student well-being: promoting resilience and preventing burnout. *Academic Psychiatry, 32*, 44-53. <http://ap.psychiatryonline.org>.
- Dunning, David. (2017). Normative goals and the regulation of social behavior: The case of respect. *Motivation and Emotion, 41*, 285-293.
- Esteves & Caetano. (2010). Práticas de Gestão de Recursos Humanos e Resultados Organizacionais: Estudos, Controvérsias Teóricas e Metodológicas. *Revista Psicologia: Organizações e Trabalho, 10*, 159-176.
- Fenner, P., Leahy, S., Buhk, A., & Dawes, P. (1999). Prevention of drowning: Visual scanning and attention span in lifeguards. *The Journal of Occupational Health and Safety - Australia and New Zealand, 15*, 61-66.
- FEPONS. (2017). *Relatório Nacional do Afogamento*. [http://www.fepons.org/image/Relatorio\\_Nacional\\_Afogamento\\_2017.pdf](http://www.fepons.org/image/Relatorio_Nacional_Afogamento_2017.pdf)
- Fick, U. (2005). *Métodos qualitativos na investigação científica*. Onitor.
- Fletcher, D., & Fletcher, J. (2005). A meta-model of stress, emotions and performance: conceptual foundations, theoretical framework, and research directions. *Journal of Sports Sciences, 23*, 157-158. <https://doi.org/10.1080/02640410512331334413>
- Fletcher, D., & Sarkar, M. (2012). A grounded theory of psychological resilience in Olympic champions. *Psychology of Sport and Exercise, 13*, 669-678. <https://doi.org/10.1016/j.psychsport.2012.04.007>
- Gallego-Ortega, J. L., & Rodríguez-Fuentes, A. (2018). Percepciones del profesorado sobre competencias comunicativas de futuros maestros de educación física

- [Perceptions of teachers about communicative competences of the future physical education teachers]. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, 18, 479-492. <https://doi.org/10.15366/rimcafd2018.71.005>
- Holt, N. L., & Dunn, J. G. H. (2004). Longitudinal analysis of appraisal and coping responses in sport. *Psychology of Sport and Exercise*, 5, 213-222. <https://doi.org/10.1080/10413200490437949>
- Holt, N. L., & Tamminen, K. A. (2010a). Improving grounded theory research in sport and exercise psychology: further reflections as a response to Mike Weed. *Psychology of Sport and Exercise*, 11, 405-413. <https://doi.org/10.1016/j.psychsport.2009.12.002>
- Holt, N. L., & Tamminen, K. A. (2010b). Moving forward with grounded theory in sport and exercise psychology. *Psychology of Sport and Exercise*, 11, 419-422. <https://doi.org/10.1016/j.psychsport.2010.07.009>
- ILSE. (2005). *European Basic Guidance for Safety in Swimming pools*. Version 2005-01.
- Jelphs, K. (2006). Communication: soft skill, hard impact? *Clinician in Management*, 14, 33-37.
- Laxton, V. & Crundall, D. (2017). The Effect of Lifeguard Experience upon the Detection of Drowning Victims in a Realistic Dynamic Visual Search Task. *Applied Cognitive Psychology*, 32, 14-23.
- Lazarus, R. S., & Folkman, S. (2007). *Stress, appraisal and coping*. Springer.
- Linnan, M., Rahman, A., Scarr, J., Reiten-Reynolds, T., Linnan, H. W., Rui-Wei, J., Mashreky, S., Shafinaz, S., Bose, S., Finkelstein, E., & Rahman, F. (2012). *Child Drowning: Evidence for a newly recognized cause of child mortality in low and middle-income countries and its prevention*. Working Paper 2012-07, Special Series on Child Injury No. 2. UNICEF Office of Research.

- Luthar, S. S. (2006). Resilience in development: a synthesis of research across five decades. In D. Cicchetti, & D. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (pp. 739-795). Wiley.
- McLagan, P. (1983). *Models of Excellence. The Conclusions and Recommendations of the ASTD Training and Development Competency Study*. American Society for Training and Development.
- McLagan, P. (1989). Models for HRD Practice. *Training and Development Journal*, 43(9), 49-59.
- Meursing, B. (2014). The history of resuscitation. In J. Bierens (Ed.), *Drowning: Prevention, Rescue, Treatment* (pp. 25-36). Springer.
- Moreira, P., Bento, P., Borges, R., & Muritiba, P. (2016). Remuneration Model in People Management: Can Traditional Structure of Positions and Wages Still Bring Benefits? *Future Studies Research Journal: Trends & Strategies*, 8, 3-23.
- Morse, J., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1, 1-19. <http://ejournals.library.ualberta.ca/index.php/IJQM/index>.
- Nolan, J., Ornato, J., Parr, M., Perkins, G., & Soar, J. (2019). Resuscitation highlights in 2018. *Resuscitation*, 135, 168-175. <https://doi.org/10.1016/j.resuscitation.2019.01.019>
- Page, J., Bates, V., Long, G., Dawes, P., & Tipton M. (2010). Beach lifeguards: visual search patterns, detection rates and the influence of experience. *Ophthalmic and Physiological Optics*, 31, 216-224. <https://doi.org/10.1111/j.1475-1313.2011.00824>

- Palácios, J. (2008). *Socorrismo acuático profesional – 2ª edición. Formación para la prevención y la intervención ante accidentes en el medio acuático*. Publicaciones Didáticas SADEGA.
- Pardal, L., & Correia, E. (2011). *Métodos e técnicas de investigação social (2ª Ed)*. Areal Editores.
- Patton, M. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative social work, 1*(3), 261-283.
- Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly, 75*, 453-465.
- Rubin, H. J., & Rubin, I. (2005). *Qualitative interviewing: The art of hearing data*. Sage.
- Sebastiani, F. (2012). *Guarda-Vidas de Piscinas: Proposta de um Curso de Formação no Estado de Santa Catarina. Monografia*. Corpo de Bombeiros Militares de Santa Catarina.
- Simonton, D. K. (1999). Significant samples: the psychological study of eminent individuals. *Psychological Methods, 4*, 425-451. <https://doi.org/10.1037/1082-989X.4.4.425>
- Sousa, P. H. (2014). *Manual Técnico Salvamento Aquático*. Optagraf Editora & Gráfica.
- Strauss, A. & Corbin, J. (2010). *Basics of Qualitative Research*. (3th ed.). Sage Publications.
- Surf Life Saving Australia (2012). *Bronze Medallion (IRB Driver)*. Forsyth Publishing Services (Version 2.6).
- Szpilman, D., Bierens, J., Handley, A., & Orłowski, J.P. (2012). Drowning: Currents concepts. *New England Journal of Medicine, 366*, 2102-2110.

- Szpilman, D., de Barros Oliveira, R., Mocellin, O., & Webber, J. (2018). Is drowning a mere matter of resuscitation? *Resuscitation*, *129*, 103-106.  
<https://doi.org/10.1016/j.resuscitation.2018.06.018>
- Szpilman, D., Tipton, M., Sempstrott, J., Webber, J., Bierens, J., Seabra, R., Barcala-Furelos, R., & Queiroga, A. (2016). Drowning timeline: a new systematic model of the drowning process. *American Journal of Emergency Medicine*.  
<https://doi.org/10.1016/j.ajem.2016.07.063>
- Szpilman, D., Webber, J., Quan, L., Bierens, J., Moriizot-Leite, L., Langendorfer, S., Beerman, S., & Lofgren, B. (2014). Creating a Drowning Chain of Survival, *Resuscitation*, *85*, 1149-52.
- Thomsen, D. K., & Brinkmann, S. (2009). An interviewer's guide to autobiographical memory: ways to elicit concrete experiences and to avoid pitfalls in interpreting them. *Qualitative Research in Psychology*, *6*, 294-312.  
<https://doi.org/10.1080/14780880802396806>
- van Beeck, E., Branche, C., Szpilman, D., Modell, J., & Bierens, J. (2005). A new definition of drowning: towards documentation and prevention of a global public health problem. *Bulletin of the World Health Organization*, *83*, 853-856.
- von Treuer, K. M., & Reynolds, N. (2017). A Competency Model of Psychology Practice: Articulating Complex Skills and Practices. *Frontiers in Education*. *2*.  
<https://doi.org/10.3389/feduc.2017.00054>
- Weinert, F. (2001). Concept of competence. A conceptual clarification. In D. Rychen & L. Salganik (Eds.), *Defining and selecting key competencies* (pp. 17-31). Hogrefe & Huber Publishers.
- World Health Organization. (2008). *World report child injury prevention*. WHO Press - World Health Organization.

World Health Organization. (2014). *Global Report on Drowning: Preventing a Leading Killer*. WHO Press - World Health Organization.

### 2.3 Study III - Psychosocial Training Programme for Lifeguards: A Pilot Study

Santiago, P., Maia, F., Santiago, S., Duarte, D., & Teques, P. (2022). Psychosocial training programme for lifeguards: A pilot study. *International Journal of Training and Development*. (Under review).

## **Psychosocial training programme for lifeguards: a pilot study**

### **Abstract**

Research has highlighted the need for training in lifeguards' psychosocial skills. Therefore, the aim of this study is to analyse the effectiveness of a short 10-hour training programme encompassing dimensions associated with emotional management, focus of attention, interpersonal relationship and lifeguard behaviour, and its effects on their psychosocial skills. A total of 64 lifeguards with experience ranging from 1 to 25 years ( $M = 5.93$ ,  $SD = 6.07$ ), randomly divided into experimental and control groups, participated in this study. The d2 Test of Attention (Brickenkamp, 1962), the Social Intelligence Test (O'Sullivan & Guilford, 1977), and the MSCEIT Emotional Intelligence Test (Mayer, Salovey, & Caruso, 2002) were used to assess psychosocial skills. A multivariate analysis of variance for repeated measures ( $2 \times 2$  (Group  $\times$  Time) MANOVA) was performed to analyse the effects of the training programme on psychosocial skills. The results revealed that the experimental group showed statistically significant improvements in focus of attention and emotional intelligence compared to the control group. Personal relationships revealed no significant differences between the two groups. These results seem to highlight the importance of including psychosocial contents in the general training of lifeguards.

**Keywords:** psychological skills, focus of attention, emotional intelligence, lifeguards, training programme.

## **Introduction**

Drowning is the third leading cause of unintentional injury death worldwide (World Health Organization, 2014) and the preventive action of the lifeguard can change this reality (Koon et al., 2018). The lifeguard develops his/her activity at sea beaches, lakes, pools, aqua parks, among other aquatic spaces. Although the capabilities associated with water rescue are extremely important for lifeguards, it is known that 99.8% of their work is carried out in preventive actions (Szpilman, Oliveira, et al., 2018) in order to avoid potentially dangerous situations for others and for themselves.

In a study with expert lifeguards, Santiago et al. (2020) identified different variables that prove to be fundamental for an excellent professional lifeguard, such as the preventive character (e.g., attention, surveillance and emotional regulation) and the interpersonal relationship skills (e.g., communication, politeness, positive attitude and assertiveness). Regarding the variable of attention, that represents the cognitive state in which the subject focuses on a certain aspect, information or event (de Greeff et al., 2018), it seems to be essential for lifeguards, since a drowning situation can occur in brief moments and the prevention of potentially dangerous situations is fundamental and part of the duties of this professional (Szpilman, Sempsrott, et al., 2018). It is observed that, frequently, lifeguards go through moments of distraction during their working time, which may lead to extreme and irreversible situations such as drowning (Schwebel et al., 2010). Acts such as prolonged use of mobile phones, reading magazines and non-professional activities (e.g., cleaning or tidying up supplies) can lead to fatalities in the lifeguard's workplace under his/her responsibility (Schwebel et al., 2010). The lifeguard's work schedule is 8 to 10 hours per day, and the ability to maintain constant high levels of surveillance requires the capacity to respond to fatigue and stress (Warm et al., 2008; Wendling et al., 2007).

Another variable that seems to be associated with lifeguard competence is the ability to influence one's own or others' emotions. In this regard, expert lifeguards understand the importance of recognising and regulating emotions during their prevention actions (Griffiths & Griffiths, 2013). Knowing how to interpret emotions may allow lifeguards to adapt their communication and interact in a more assertive way with bathers (Vagos & Pereira, 2016). Emotional regulation develops over time and takes into account social, cognitive, biological and personality traits (Ahmed et al., 2015). It represents the state of absence of stress, worries or tension. It also represents a state of peace, calmness, and well-being (Gross, 2015; McRae & Gross, 2020).

Considering the teaching profession, emotional regulation correlates with favourable outcomes associated with behaviour (Fried, 2011), capable of meeting the emotional demands of teaching and life, whereas reactivity and suppression can be considered enemies of emotional regulation (Hulburt et al., 2020), which applied to the lifeguard may represent the ability to maintain composure under conditions of greater tension and uncomfortable situations. The lifeguard's appropriate attitude enables the transmission of feelings of confidence and comfort to the users of the space.

The capacity of interpersonal relationship is also recognised as fundamental to the lifeguard's action (Khodayari et al., 2015). Specifically, the lifeguard's non-verbal communication driven by emotions, these being shown through facial expressions (Bitti, 2014), body posture, gestures, body movement, eye contact, personal space management, among others (Santiago & Teques, 2020; Sutiyatno, 2018; Teques & Santiago, 2020). On the other hand, verbal communication provokes specific emotions and distinct responses in the human being (Sutiyatno, 2018). Factors such as the tone of voice and appropriate vocabulary for the circumstances must be mastered by lifeguards to ensure that the interaction with bathers is guided by a correct and adapted speech. Communication skills

also represent fundamental tools to regulate behaviour and disciplinary problems (Ulfah, 2018).

However, due to the lack of specific training in psychological and behavioural components, lifeguards have been reporting difficulties in doing preventive actions and positive relationships with bathers (Fien et al., 2021). In particular, lifeguards reveal that communication with people who violate safety regulations is not always easy. An aggressive approach leads to aggressive behaviour. On the other hand, a passive approach may be interpreted as a lack of authority. Nevertheless, this type of approach may lead to totally different behaviours depending on education, social background and possible emotional changes in which people find themselves (Santiago et al., 2020; Tipton & Wooler, 2016). Additionally, lifeguards present weaknesses in concentration due to the routine of their surveillance activity. As a consequence, lifeguards experience situations of fatigue and tiredness that hinder their performance in their preventive function (Fenner, 1999). Previous studies have reported the effectiveness of training programmes on the development of emotional intelligence, social intelligence skills (Beigi & Shirmohammadi, 2011; Clarke, 2010; Fletcher et al., 2009), and on the focus of attention (Calmels et al., 2004; Dunne et al., 2019). In the training programmes, different approaches were taken to the following variables: emotion perception, use of emotions to facilitate thinking, understanding emotions, self-awareness, self-management of emotions, recognition of social behaviour, relationship management and focus of attention, resulting in the promotion of participants' skills.

Taken together, these results highlighted the usefulness of skills training programmes targeting groups of about 30 participants for a minimum of 10 hours. The effectiveness of this type of skills training programmes has not yet been studied with lifeguards. The basic Lifeguards course is usually about 150 hours of training. In this

regard, assessing the effectiveness of a short training programme (10 hours) that could possibly be included in the course content may be key to improving the lifeguards' working skills, namely the emotional intelligence, social intelligence skills and the focus of attention. These topics require some specificity in the teaching of these contents addressed to the lifeguard action. More specifically, the knowledge of the framework of the reality experienced by the lifeguard that allows a better assimilation of the contents. Similarly, the interpretation of non-verbal language may be a decisive factor in avoiding confrontations and allowing a greater respect for safety rules.

Considering the lifeguards profession, the need to keep an attentive behaviour is mandatory for a successful action (Langendorfer et al., 2022; Page et al., 2011). In addition, lifeguards have to deal with people in a regular basis, in which both social and emotional intelligence may be determinant (Chrusciel, 2006; Wawra, 2011). Thus, understand how these variables can be impacted with a training program may be fundamental to enhance lifeguards' performance and working safety.

In this sense, a randomized study was developed to test the effectiveness of a skills training programme aimed at improving the focus of attention, social intelligence, and emotional regulation of lifeguards. The effectiveness of the programme will be assessed by analysing any changes in the variables between the pre- and post-execution of the programme. Based on the literature on the analysis of the effectiveness of skills training programmes (Dunne et al., 2019), it is expected that participants in the programme will show improvements in the variables of focus of attention, emotional intelligence and social intelligence, and participants in the control group will not show significant changes in these variables.

## Methods

### *Participants*

Sixty-four professional lifeguards participated in this study (forty-four men and twenty women). After randomly dividing the participants, the control group was composed by twenty-three men and nine women, while the experimental group was composed by twenty-one men and eleven women. All participants had completed at least one bathing season corresponding to a minimum of 50 working days at the time of the study. Participants aged between 19 and 50 years ( $M = 26.84$ ,  $SD = 7.63$ ). The years of working experience varied between 1 and 25, with an average experience of 5 years ( $M = 5.93$ ,  $SD = 6.07$ ). Fifty-three percent of the participants had an academic degree equal to or higher than bachelor's (42% with bachelor's degree, 9% with master's degree, and 2% with PhD degree). Forty-seven percent had an academic degree corresponding to complete high school education. All participants were lifeguards recognized by the Portuguese *Instituto de Socorros a Náufragos* - ISN (Maritime National Authority). In geographical terms, 36 participants were from the North (53%), 16 participants from the Centre (25%), 9 participants from the South (14%) and 3 participants from Madeira (5%).

### *Study Design*

The sixty-four participants were randomly divided into an experimental group and a control group. Initially, both groups performed the psychosocial skills assessment by responding to psychometric instruments (M1). Subsequently, only the experimental group participated in the 10-hour programme promoting psychosocial skills (i.e., focus of attention, social intelligence, and emotional intelligence). The training sessions were developed online through Microsoft Teams (Microsoft Corp, Redmond, WA, USA). At

the end of this training both groups were submitted to a re-evaluation (M2). After 3 months, a follow-up session was held for a re-evaluation (M3). After M3, the control group had the opportunity to attend the training programme.

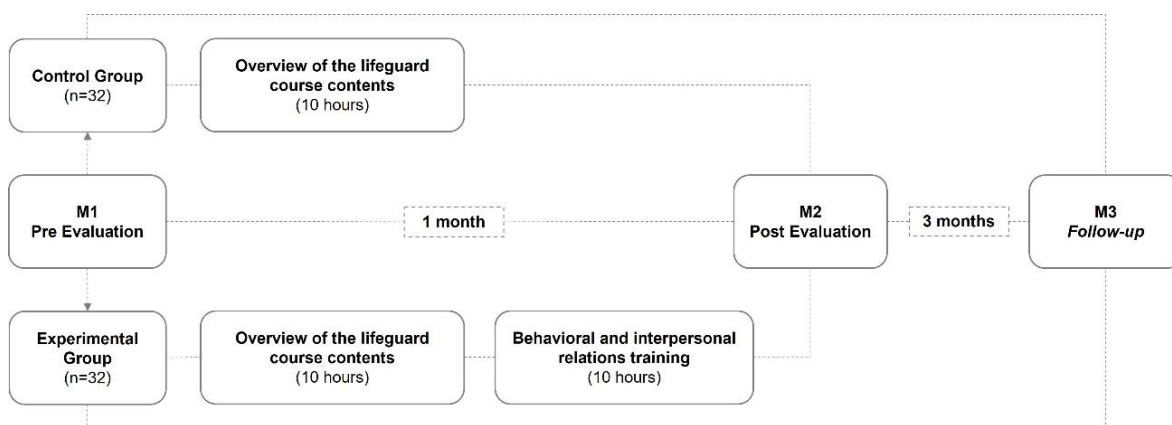


Figure 1 - Diagram of the study

### ***Training Programme***

The participants completed a free and informed consent about the characteristics of the study and its purposes. All procedures were approved by the Scientific Committee of the Research Centre of the Polytechnic Institute of Maia (REF.004/05/18) and followed the guidelines of the Helsinki declaration.

Based on the framework of the competencies of the lifeguard excellence performance (Santiago et al., 2020), training contents were addressed within the dimensions of emotional management, focus of attention, interpersonal relationships and lifeguard behaviour throughout one week totalling ten hours of training, as described in Table 1.

Table 1. Contents of the training programme

Framework of the competencies of the lifeguard excellence performance in the training objectives (Santiago et al., 2020)		Dimensions	Objectives	Contents	Duration (hours)	Session number
Preventive interpersonal relationship	and	Emotional management	<ol style="list-style-type: none"> <li>1. Understand the relevance of emotional awareness and the assessment of one's own emotions;</li> <li>2. Assessing the emotions of others;</li> </ol>	<ol style="list-style-type: none"> <li>a) Emotional awareness and assessment of one's own emotion</li> <li>b) Assessment of the emotions of others;</li> <li>c) Stress management;</li> <li>d) Practical exercises.</li> </ol>	2h	1

			3. Regulate emotions in situations of emotional adversity;			
			4. Use emotional knowledge in interpersonal relationships.			
				a) Techniques to keep focus and attention;		
				b) Styles of attention;		
Preventive professional	and Focus of attention	5. Understand the focus of attention and its influence in the performance of duties.	c) Unfavourable weather conditions to the focus of attention;		2h	2
			d) Ability to observe several different plans;			
			e) Practical exercises.			
	Interpersonal					
Preventive professional	and relationship and Lifeguard Behaviour	6. Know how to use the whistle as a communication tool.	a) Know in which situations the whistle should be used;		1h	3

				<ul style="list-style-type: none"> <li>b) The importance of the whistle tone (high or high-pitched) in managing negative actions;</li> <li>c) What is the timing of the use?</li> </ul>		
Preventive and interpersonal relationship	Interpersonal relationship and Lifeguard Behaviour	7. Understanding the importance of eye contact.	<ul style="list-style-type: none"> <li>a) Eye contact with bathers;</li> <li>b) Eye contact with the surrounding area near the incident site;</li> <li>c) Eye contact with the transgressor.</li> </ul>	1h		
Preventive, interpersonal relationship and professional	Interpersonal relationship and Lifeguard Behaviour	8. Identify the importance of body posture/movement in the performance of prevention duties.	<ul style="list-style-type: none"> <li>a) Shortening the distance in the direction of the incident;</li> <li>b) Shortening the distance in the direction of the transgressor;</li> <li>c) Being firm on the spot;</li> <li>d) Physical proximity to bathers as a prevention factor;</li> </ul>	30m	4	

			<ul style="list-style-type: none"> <li>e) The management of physical proximity with the transgressor;</li> <li>f) Importance of body language in transmitting calm to bathers.</li> </ul>	
Preventive professional	Interpersonal and relationship and Lifeguard Behaviour	9. Defining the importance of gestures/signs as a non-verbal communication tool.	<ul style="list-style-type: none"> <li>a) Performing signalling with firmness and conviction;</li> <li>b) Identifying the transgressor and the infraction;</li> <li>c) How to perform purposeful gestures adjusted to the situation.</li> </ul>	30m

---

Interpersonal relationship and professional	Interpersonal relationship and Lifeguard Behaviour	10. Implementing behavioural control, style, and composure.	<ul style="list-style-type: none"> <li>a) Interpersonal space management and control;</li> <li>b) The timing control of interactions with bathers;</li> <li>c) The isolation/identification of the transgressor;</li> <li>d) The importance of being dominant/positive in the interpersonal relationship;</li> <li>e) Communication in incident management;</li> <li>f) Being safe in decision-making;</li> <li>g) The composure/body contact in the performance of duties.</li> </ul>	1h
---	---	--	--	----

---

---

Preventive and interpersonal relationship	Interpersonal relationship and Lifeguard Behaviour	11. Understanding the use of verbal interaction as a tool for conflict prevention and management.	a) Communication as a means of prevention;	2h	5
			b) The importance of politeness and cordiality in communication;		
			c) Verbalizing the decision during the interaction with the bather;		
			d) The positive attitude in the interaction with the bather;		
			e) Situations where you should not verbalize;		
			f) How to avoid confrontation/argumentation;		
			g) Conflict management (between colleagues and bather);		

---

- 
- h) Interrogate the transgressor in an assertive way;
  - i) Appropriate tone of voice;
  - j) How to communicate bad news to family/friends.

---

**TOTAL**

**10h**

---

## ***Competencies assessment tools***

In the initial and final assessment process the d2 Test of Attention of Brickenkamp (1962), the Social Intelligence Test of O'Sullivan and Guilford (1975) and the MSCEIT Emotional Intelligence Test of Mayer-Salovey-Caruso were used (2002). All tests were previously validated for the purposes of this study (Bates & Lemay, 2004; Mayer et al., 2012; O'Sullivan et al., 1965)

***Attention.*** The d2 assessment test was used (Brickenkamp, 1962), which assesses attention span and is a time-limited test to measure continuous attention, selective attention and mental concentration. It was applied individually with a duration of 4 minutes and 40 seconds. The test includes 14 lines with 47 stimuli (letters "d" or "p" with dashes). The task consisted of going through each line and marking each letter "d" with two dashes. The scores resulting from the d2 test are derived from the ratio between correct and incorrect answers.

***Social Intelligence.*** This competency was assessed using the Social Intelligence Test of O'Sullivan and Guilford (1975). Social intelligence is the ability to decode non-verbal and behavioural messages and is characterised by the ability to interact and mediate relationships with others (Molina et al., 2019). The Social Intelligence Test applied consisted in the attentive observation of 3 images on the left-hand side. Subsequently, the participants should observe the 4 images on the right side and select the number of the image that most related to the images on the left.

***Emotional Intelligence.*** Emotional intelligence was assessed with the dimension dedicated to this competency of the Mayer-Salovey-Caruso MSCEIT (2002). This competency correlates with skills and abilities that enable awareness of one's own and others' emotional states. The ability to regulate or use emotions positively affects performance (Mayer et al., 1999; Salovey & Mayer, 1990). In the MSCEIT Test we

assessed the ability to interpret emotions and the use of emotion in improving thinking. The ability to identify, understand and regulate emotions was assessed in order to measure the best way to regulate one's own emotions and those of others. This task measures the participant's ability to incorporate emotions into the decision-making process involving other people. Participants were also asked to assess the effectiveness of different actions in different social contexts (Mayer, 2002).

### ***Statistical analysis***

Data were statistically analysed in SPSS (Statistical Package for Social Sciences) version 27.0. Descriptive statistics, means (*M*) and standard deviations (*SD*) were calculated for each of the variables. The reliability of the measures was analysed through Cronbach's alpha internal consistency index. A preliminary analysis of the data was carried out by performing the Student's t-test for independent samples, comparing the experimental group with the control group, whose purpose was to check if the two groups were homogeneous. Then, considering the recommendation of Arnau and Bono (2008), we used the multivariate analysis of variance of repeated measures (RM) ( $2 \times 2$  (Group  $\times$  Time) MANOVA) to analyse the effects of the training programme. Wilks' Lambda was used to assess all multivariate effects, with significance level set at 0.05. Effect sizes for F-statistics were analysed according to Tabachnick et al. (2007), in which  $\eta^2 = .01$  corresponds to a small effect,  $\eta^2 = .09$  corresponds to a medium effect and  $\eta^2 = .25$  represents a large effect.

## Results

In order to assess the differences in the variables under study between the groups in the pre-intervention phase (baseline), a t-test for independent samples was performed. No significant differences were found at baseline for selective attention ( $t(62) = 1.261, p = .189$ ), emotional intelligence ( $t(62) = 1.870, p = .066$ ), and social intelligence ( $t(62) = 1.044, p = .301$ ).

To assess the effects of the intervention on psychosocial skills, a repeated measures MANOVA was performed, in which selective attention, emotional intelligence, and social intelligence were included as independent variables, and time (i.e., pre- and post-intervention) and group (i.e., experimental, control) as dependent variables. The results showed a statistically significant overall effect of the variable time \* group (Wilks  $\lambda = 0.126, F(18,220) = 19.16, p < .001, \eta^2 = .69$ ).

Then, comparisons between the control group and the experimental group in the time \* group interaction were analysed with the other dependent variables: selective attention, emotional intelligence, and social intelligence. Specifically, participants in the training programme showed significant improvement in selective attention ( $F(1.56) = 21.28, p < .001, \eta^2 = 0.26$ ) and emotional intelligence ( $F(1.56) = 18.67, p < .001, \eta^2 = 0.27$ ) compared to the lifeguards who did not participate in the training programme. There were no significant differences between groups regarding social intelligence competencies ( $F(1.56) = 1.02, p = .122, \eta^2 = .03$ ). The means, standard deviations and MANOVA results of the pre and post-test for the experimental and control groups are described in Table 2.

Table 2. Means (*M*), standard deviations (*SD*), and MANOVA results for the pre-post-test comparisons.

Dependent variable	Group x Time					
	Pre-test	Post test	Overall		CG x EG	
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$
Selective attention			53.07**	.46	21.28	.26
CG	126.37 (43.73)	132.65 (50.06)				
EG	152.09 (55.80)	212.22 (53.85)				
Emotional intelligence			27.47*	.38	18.67	.27
CG	54.84 (54.84)	57.32 (12.14)				
EG	59.81 (59.81)	62.87 (9.25)				
Social intelligence			1.75	.01	1.02	.03
CG	13.50 (3.19)	13.90 (3.42)				
EG	14.43 (3.95)	15.31 (3.60)				

Note. CG = control group; EG = experimental group; \* $p < 0.01$ ; \*\* $p < 0.001$ .

To examine the stability of the intervention effects after 3 months from the end of the programme, a repeated measures MANOVA was again performed, including selective

attention, emotional intelligence and social intelligence as independent variables, and time (post-intervention, follow-up) and group (experimental, control) as dependent variables. Results revealed a statistically significant overall effect of the variable time \* group (Wilks  $\lambda = 0.433$ ,  $F(10,896) = 4.03$ ,  $p < .001$ ,  $\eta^2 = .51$ ). Participants in the training programme revealed a significant improvement in emotional intelligence ( $F(1.61) = 6.33$ ,  $p = .012$ ,  $\eta^2 = 0.18$ ) compared to the lifeguards who did not participate in the training programme. Results revealed no significant differences between groups for selective attention ( $F(1.61) = 1.06$ ,  $p = .189$ ,  $\eta^2 = 0.02$ ) and for social intelligence ( $F(1.61) = 1.29$ ,  $p = .118$ ,  $\eta^2 = 0.03$ ). Additionally, mean scores for selective attention, emotional intelligence, and social intelligence were compared between post-intervention and 3-month follow-up in each group, showing no statistically significant differences in the variables under analysis over time (Wilks  $\lambda = 0.736$ ,  $F(10,896) = 0.912$ ,  $p = .622$ ,  $\eta^2 = .21$ ). This result seems to indicate stability of the intervention effects at 3 months. Figure 2 presents the results of repeated measures MANOVA for the pre and post-test, and for the 3-month follow-up.



Figure 2. Pre-post and 3 months follow-up comparisons between control and experimental group for the variables under study.

## Discussion

The contents of the lifeguard course seem to inadequately cover training of the psychosocial component. The lifeguards' training in the psychosocial component seems to be quite insufficient. In the international references, there are no teaching hours related to the psychological and/or social dimension. These components seem to be fundamental in the lifeguards' action, since 99.8% of their work is carried out in prevention actions (Szpilman, Oliveira, et al., 2018). Thus, this pilot study was designed to test and analyse

the influence of a psychosocial training programme on the psychosocial skills of professional lifeguards. To the best of our knowledge, this is the first study seeking to enhance psychosocial skills in lifeguards.

Firstly, a statistically significant overall effect between time and groups was verified, which may indicate the effectiveness of the training programme. Specifically in the variables under analysis, participants in the training programme showed a statistically significant increase for the variables of selective attention and emotional intelligence, but not for the variable of social intelligence. The importance of selective attention and emotional intelligence in lifeguards seems to be related to the ability to maintain the focus of attention, which may allow preventing and detecting accidents more quickly (Edkins & Pollock, 1997), and to emotional intelligence in enhancing the ability to manage and control actions in stressful situations (Gross et al., 2006).

The present study revealed non-significant effects regarding social intelligence. However, it is important that future studies reinforce the analysis of social intelligence since it may enable lifeguards to interpret the bathers' body language and act accordingly to this assessment (Frankovsky & Birknerova, 2014). The results obtained for this variable analysis may be justified by the sociocultural and demographic diversity. Studies show that psychometric research provides evidence supporting multiculturalism as an important component for individuals' performance in identifying behaviours (Kharkhurin, 2010). Furthermore, the demographic variable may influence perceptions, motivations and information processing in the interpretation of human behaviour (Koivisto & Hamari, 2014).

After three months, the participants underwent a follow-up assessment, in which the stability of the effects of the training programme was verified. Specifically, the groups showed statistically significant differences for the emotional intelligence variable, but no

differences were found for the selective attention and social intelligence variables. A possible justification for this absence of differences in selective attention may be associated with the need for regular training to develop the focus of attention (Page et al., 2011). In particular, it may be important to understand the stability of the effects of continuous training on attention, similar to those used with emergency medical professionals (Dunne et al., 2019).

Additionally, means were compared between M2 and M3 in each group. The results showed no statistically significant differences in the variables under analysis over time, which seems to indicate a stabilisation of skills. These results show that this training programme for lifeguards may have positive medium-term effects, mainly on the emotional intelligence skills. Considering that lifeguards constantly interact with bathers, this training programme may be beneficial to improve the prevention and interpersonal relationship skills (Clarke, 2010).

## **Limitations and future research**

Despite the overall positive effects of the training programme, the results of the present study should be considered with caution due to inherent limitations. Firstly, the short time gap of one month between pre- and post-assessments (M1 to M2) may have an influence on the recall aspect of the tests (Zautra et al., 2015). Additionally, we consider that this training programme could be replicated with an intervention period of longer duration (Oberst et al., 2009) that would allow a deeper and more consistent testing of the effectiveness of this programme. In addition, a 6-month follow-up period may be relevant to verify the stability of skills in the long term. Secondly, the current lifeguards' training in these areas is still limited, so other psychosocial factors could be considered, such as assertiveness, safety and friendliness (Santiago et al., 2020). Moreover, there is research

suggesting that females have higher emotional intelligence than males (Ahmad et al., 2009; Katyal & Awasthi, 2005; Khalili, 2011). In this sense, not considering participants gender may contribute for heterogeneous results.

In summary, this pilot study guides a number of research possibilities in this area. The professional lifeguards in the experimental group benefited from the psychosocial skills training programme, namely in the short-term selective attention competency, and in the short and medium-term emotional intelligence competency. These competencies may be relevant for saving human lives, promoting a better capacity of preventive action and psychological preparation of the lifeguards.

### **Author contributions**

PS and PT conceived and designed research; PS and PT conducted the training program sessions; PS, FM and PT analysed data and interpreted the results of the study; PS and PT prepared figures, PS, FM, DD and SS drafted the manuscript, and PT edited and revised the manuscript. All authors read and approved the final manuscript.

### **Disclosure statement**

The authors declare that there are no potential conflicts of interest to disclose.

### **Data availability statement**

Author may turn data and material available if this is the editor wish.

### **Ethics Approval**

This study was approved by the Institutional Review Board of Polytechnic Institute of Maia (REF.004/05/18).

## **Funding**

No sources of funding were used to assist the preparation of this manuscript.

## **References**

- Ahmad, S., Bangash, H., & Khan, S. (2009). Emotional intelligence and gender differences. *Sarhad Journal of Agriculture*, 25(1), 127-130.
- Ahmed, S., Bittencourt-Hewitt, A., & Sebastian, C. (2015). Neurocognitive bases of emotion regulation development in adolescence. *Developmental Cognitive Neuroscience*, 15, 11-25.  
<https://doi.org/10.1016/j.dcn.2015.07.006>
- Arnau, J., & Bono, R. (2008). Estudios longitudinales. Modelos de diseño y análisis. *Escritos de Psicología*, 2, 32-41.
- Bates, M., & Lemay, E. (2004). The d2 Test of attention: construct validity and extensions in scoring techniques. *Journal of the International Neuropsychological Society*, 10(3), 392-400. <https://doi.org/10.1017/S135561770410307X>
- Beigi, M., & Shirmohammadi, M. (2011). Effects of an emotional intelligence training program on service quality of bank branches. *Managing Service Quality: An International Journal*. <https://doi.org/10.1108/09604521111159825>

- Bitti, P. (2014). *Facial expression and social interaction* (Vol. 2). Handbooks of Linguistics and Communication Science (HSK). <https://doi.org/10.1515/9783110302028.1342>
- Brickenkamp, R. (1962). *Test d2: Aufmerksamkeits-Belastungs-Test*. Verlag für Psychologie Hogrefe.
- Calmels, C., Berthoumieux, C., & d'Arripe-Longueville, F. (2004). Effects of an imagery training program on selective attention of national softball players. *The Sport Psychologist, 18*(3), 272-296. <https://doi.org/10.1123/tsp.18.3.272>
- Chrusciel, D. (2006). Considerations of emotional intelligence (EI) in dealing with change decision management. *Management decision*. <https://doi.org/10.1108/00251740610668897>
- Clarke, N. (2010). The impact of a training programme designed to target the emotional intelligence abilities of project managers. *International Journal of Project Management, 28*(5), 461-468. <https://doi.org/10.1016/j.ijproman.2009.08.004>
- de Greeff, J., Bosker, R., Oosterlaan, J., Visscher, C., & Hartman, E. (2018). Effects of physical activity on executive functions, attention and academic performance in preadolescent children: a meta-analysis. *Science and Medicine in Sport, 21*(5), 501-507. <https://doi.org/10.1016/j.jsams.2017.09.595>
- Dunne, P., Lynch, J., Prihodova, L., O'Leary, C., Ghoreyshi, A., Basdeo, S., Cox, D., Breen, R., Sheikhi, A., & Carroll, Á. (2019). Burnout in the emergency department: randomized controlled trial of an attention-based training program. *Journal of integrative medicine, 17*(3), 173-180. <https://doi.org/10.1016/j.joim.2019.03.009>

- Edkins, G., & Pollock, C. (1997). The influence of sustained attention on Railway accidents. *Accident Analysis & Prevention*, 29(4), 533-539. [https://doi.org/10.1016/s0001-4575\(97\)00033-x](https://doi.org/10.1016/s0001-4575(97)00033-x)
- Fenner, P. (1999). Prevention of drowning: Visual scanning and attention span in lifeguards. *Journal of Occupational Health and Safety, Australia and New Zealand*, 15(1), 61-66. <https://doi.org/10.3316/ielapa.990707010>
- Fien, S., Lawes, J., De Terte, I., Simon, P., Joseph, N., Daw, S., Drummond, M., Best, T., & Stanton, R. (2021). Forgotten first responders: Australian surf lifesavers and lifeguards. *Emergency Medicine Australasia*, 33(3), 572-574. <https://doi.org/10.1111/1742-6723.13754>
- Fletcher, I., Leadbetter, P., Curran, A., & O'Sullivan, H. (2009). A pilot study assessing emotional intelligence training and communication skills with 3rd year medical students. *Patient education and counseling*, 76(3), 376-379. <https://doi.org/10.1016/j.pec.2009.07.019>
- Frankovsky, M., & Birknerova, Z. (2014). Measuring Social Intelligence-The MESI Methodology. *Asian Social Science*, 10(6). <https://doi.org/10.5539/ass.v10n6p90>
- Fried, L. (2011). Teaching teachers about emotion regulation in the classroom. *Australian Journal of Teacher Education*, 36(3), 117-127. <https://doi.org/10.14221/ajte.2011v36n3.1>
- Griffiths, R., & Griffiths, T. (2013). Internal Noise Distractions in Lifeguarding. *International Journal of Aquatic Research and Education*, 7, 56-71. <https://doi.org/10.25035/ijare.07.01.xx>
- Gross, J. (2015). Emotion Regulation: Current Status and Future Prospects. *Psychological Inquiry*, 26(1), 1-26. <https://doi.org/10.1080/1047840x.2014.940781>

- Gross, J., Richards, J., & John, O. (2006). Emotion Regulation in Everyday Life. In D. Snyder, J. Simpson & J. Hughes (Eds.), *Emotion regulation in couples and families: Pathways to dysfunction and health*. (pp. 13-35). American Psychological Association. <https://doi.org/10.1037/11468-001>
- Hulburt, K., Colaianne, B., & Roeser, R. (2020). The Calm, Clear, and Kind Educator: A Contemplative Educational Approach to Teacher Professional Identity Development. In O. Ergas & J.K. Ritter (Eds.), *Exploring Self Toward Expanding Teaching, Teacher Education and Practitioner Research (Advances in Research on Teaching, Vol. 34)* (pp. 17-36). Emerald Publishing Limited <https://doi.org/10.1108/s1479-368720200000034001>
- Katyal, S., & Awasthi, E. (2005). Gender Differences in Emotional Intelligence Among Adolescents of Chandigarh. *Journal of Human Ecology*, 17(2), 153-155. <https://doi.org/10.1080/09709274.2005.11905771>
- Khalili, A. (2011). Gender differences in emotional intelligence among employees of small and medium enterprise: An empirical study. *Journal of International Management Studies*, 6(2), 184-193.
- Kharkhurin, A. (2010). Sociocultural Differences in the Relationship Between Bilingualism and Creative Potential. *Journal of Cross-Cultural Psychology*, 41(5-6), 776-783. <https://doi.org/10.1177/0022022110361777>
- Khodayari, A., Hadavi, F., & Mohammadi, M. (2015). The Relationship between Communication Skills with Aggression and Perfectionism of Lifeguards. *Annals of Applied Sport Science*, 3(3), 35-42. <https://doi.org/10.18869/acadpub.aassjournal.3.3.35>
- Koivisto, J., & Hamari, J. (2014). Demographic differences in perceived benefits from gamification. *Computers in Human Behavior*, 35, 179-188.

- Koon, W., Rowhani-Rahbar, A., & Quan, L. (2018). The ocean lifeguard drowning prevention paradigm: how and where do lifeguards intervene in the drowning process? *Injury Prevention*, 24(4), 296-299. <https://doi.org/10.1136/injuryprev-2017-042468>
- Langendorfer, S., Pia, F., & Beale-Tawfeeq, A. (2022). Effective lifeguard scanning: a review. *International Journal of Aquatic Research and Education*, 13(4), 8. <https://doi.org/10.25035/ijare.13.04.08>
- Mayer, J. (2002). MSCEIT: Mayer-Salovey-Caruso emotional intelligence test. *Toronto, Canada: Multi-Health Systems*.
- Mayer, J., Caruso, D., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27(4), 267-298. [https://doi.org/10.1016/S0160-2896\(99\)00016-1](https://doi.org/10.1016/S0160-2896(99)00016-1)
- Mayer, J., Salovey, P., & Caruso, D. (2012). The Validity of the MSCEIT: Additional Analyses and Evidence. *Emotion Review*, 4(4), 403-408. <https://doi.org/10.1177/1754073912445815>
- McRae, K., & Gross, J. (2020). Emotion regulation. *Emotion*, 20(1), 1-9. <https://doi.org/10.1037/emo0000703>
- Molina, R., Marcano, M., Molina, R., Raby, N., & Tapias, B. (2019). Relationship Between social intelligence and resonant leadership in public health Institutions. *Ciencias Humanas y Sociales*, 35(90), 1223-1249.
- O'Sullivan, M., & Guilford, J. (1975). Six factors of behavioral cognition: Understanding other people. *Journal of Educational Measurement*, 255-271.
- O'Sullivan, M., Guilford, J., & deMille, R. (1965). *Measurement of social intelligence*. University of Southern California.

- Oberst, U., Gallifa, J., Farriols, N., & Vilaregut, A. (2009). Training emotional and social competences in higher education: The seminar methodology. *Higher Education in Europe*, 34(3-4), 523-533. <https://doi.org/10.1080/03797720903392243>
- Page, J., Bates, V., Long, G., Dawes, P., & Tipton, M. (2011). Beach lifeguards: visual search patterns, detection rates and the influence of experience. *Ophthalmic and Physiological Optics*, 31(3), 216-224. <https://doi.org/10.1111/j.1475-1313.2011.00824.x>
- Salovey, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, cognition and personality*, 9(3), 185-211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Santiago, P., & Teques, P. (2020). *Necessidade de uma abordagem psicossocial no salvamento aquático. Uma revisão sistemática da literatura*. Seminário Internacional de Salvamento Aquático - Universidade de Coimbra.
- Santiago, P., Teques, P., Duarte, D., & Palacios, J. (2020). Estudo do Perfil de Competências do Nadador-Salvador Português. *RETOS - Nuevas tendencias en Educación Física, Deporte y Recreación*, 673-679. <https://doi.org/10.47197/retos.v37i37.74342>
- Schwebel, D., Jones, H., Holder, E., & Marciani, F. (2010). Lifeguards: A Forgotten Aspect of Drowning Prevention. *Journal of injury & violence research*, 2, 1-3. <https://doi.org/10.5249/jivr.v2i1.32>
- Sutiyatno, S. (2018). The effect of teacher's verbal communication and non-verbal communication on students' English achievement. *Journal of Language Teaching and Research*, 9(2), 430-437. <https://doi.org/10.17507/jltr.0902.28>
- Szpilman, D., Oliveira, R., Mocellin, O., & Webber, J. (2018). Is drowning a mere matter of resuscitation? *Resuscitation*, 129, 103-106. <https://doi.org/10.1016/j.resuscitation.2018.06.018>

- Szpilman, D., Sempstrott, J., Webber, J., Hawkins, S., Barcala, R., Schmidt, A., & Queiroga, A. (2018). 'Dry drowning' and other myths. *Cleveland Clinic Journal of Medicine*, 85, 529-535. <https://doi.org/10.3949/ccjm.85a.17070>
- Tabachnick, B., Fidell, L., & Ullman, J. (2007). *Using multivariate statistics* (Vol. 5). Pearson Boston, MA.
- Teques, P., & Santiago, P. (2020). *Comunicar não verbalmente em situações de stress*. *Recomendações para Nadadores-Salvadores* Seminário Internacional de Salvamento Aquático - Universidade de Coimbra.
- Tipton, M., & Wooler, A. (2016). *The Science of Beach Lifeguarding*. CRC Press.
- Ulfah, S. (2018). Soft Skill of Language Teachers in the Classroom: Analysis of DeVito Humanistic Interpersonal Communication Model. In R. Syahrul, Zulfadhli, U. Pramesti, M. Adek & H. Ardi (Eds.), *Proceedings of the International Conference on Language, Literature, and Education (ICLLE 2018)* (pp. 168-173). Atlantis Press. <https://dx.doi.org/10.2991/iclle-18.2018.27>
- Vagos, P., & Pereira, A. (2016). A cognitive perspective for understanding and training assertiveness. *European Psychologist*, 21(2), 109. <https://doi.org/10.1027/1016-9040/a000250>
- Warm, J., Parasuraman, R., & Matthews, G. (2008). Vigilance Requires Hard Mental Work and Is Stressful. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 50(3), 433-441. <https://doi.org/10.1518/001872008x312152>
- Wawra, D. (2011). Social intelligence: The key to Intercultural Communication. In I. Mackenzie (Ed.), *Intercultural Negotiations* (pp. 35-50). Routledge.
- Wendling, R., Vogelsong, H., Wuensch, K., & Ammirati, A. (2007). A pilot study of lifeguard perceptions. *International Journal of Aquatic Research and Education*, 1(4), 3.

World Health Organization. (2014). *Global Report On Drowning* (9789241564786).

[https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786_eng.pdf?sequence=1)

Zautra, E., Zautra, A., Gallardo, C., & Velasco, L. (2015). Can We Learn to Treat One Another Better? A Test of a Social Intelligence Curriculum. *Plos One*, *10*(6), e0128638. <https://doi.org/10.1371/journal.pone.0128638>

### **3 General Discussion**

The lifeguard has a role of enormous importance in safeguarding human life in aquatic environments. The lifeguard's main functions are prevention and aquatic rescue. In this regard, the purpose of this research is to explore the psychosocial dimension of lifeguards by examining the psychological and social skills profile of the lifeguard and enhance its development in a psychosocial skills training programme in lifeguard training. Results indicate that factors related to the physical, technical and psychological components are essential for better lifeguard performance. These factors are crucial for the better prevention and detection of drowning events, ability to act swiftly and for a better quality of life of the victims in case of drowning that does not result in death. It is worth noting that drowning can result in death (i.e., immediate or after initial resuscitation), morbidity (i.e., survival with permanent injury) or no morbidity (i.e., survival without injury) (Autoridade Marítima Nacional, 2015).

The risk of drowning in aquatic activity, whether intentional or unintentional, is widespread and pervasive. Drowning is a real danger not only nationally, but also globally. The most important tool to avoid drowning is prevention (Szpilman, Sempritt, et al., 2018). Thus, the lifeguard may contribute to the reduction of these numbers. According to Szpilman, Oliveira, et al. (2018), 99.8% of the lifeguard's work is spent developing preventive actions. Therefore, it is important to provide lifeguards with behavioural and social skills that can help them in these preventive actions, thus avoiding rescue situations and death by drowning.

This research explores the importance of integrating psychosocial skills training into lifeguard training. Study I represents the first systematic literature review addressing the physical, technical and psychological components of the lifeguard (Langendorfer, 2022). In order to assess the effectiveness and efficiency of lifeguards, studies have been

conducted to prove that physical factors such as running and swimming are crucial for a rapid and successful intervention, and the survival of drowning victims. Likewise, technical factors such as swimming technique and mastery of Basic Life Support algorithms are fundamental to the successful reversal of a serious situation. Psychological and behavioural factors such as distraction can easily lead to a drowning situation. Distractions caused, for example, by thinking, can be the difference between life or death for a victim.

Although there have been some recent scientific developments about the psychosocial skills of lifeguards, this knowledge seems to need further development and research. Some studies have produced knowledge in this area. For example, according to Tipton et al. (2008), previous experience in surfing may contribute to a better performance of functions, such as the performance of the lifeguard in adverse conditions and, implicitly, the management of stress in the rescue act. Additionally, Page et al. (2011) showed that experienced lifeguards are able to detect drowning more easily due to the development of peripheral vision skills. In turn, Griffiths and Griffiths (2013) analysed a psychological component in an attempt to identify the lifeguards' thoughts while performing their functions, and found that thoughts and emotions (internal distractors) affect the focus of attention of lifeguards, preventing them from performing their task (e.g. thoughts associated with relationships, family, after-work plans, and weekend plans; and emotions associated with feeling bored, nervous, calm, stressed, worried, and anxious). Another distracting factor, in this case external, that was identified was mobile phone use.

Sherwood et al. (2020) report that training the focus of attention and awareness of how we can move from a narrow or broad internal focus to an external focus will help to combat this thought issue and the consequent distractions.

Lifeguards' presence in the aquatic environment may give a false sense of security if they are not vigilant, since a small distraction can be costly and an accident may occur (Modell, 2010). Drowning is quick and silent and is a difficult event for an untrained person to detect, so any distraction can be potentially fatal (Salomez & Vincent, 2004). Victims are rarely able to scream or wave when they are in distress in the water. Generally, submersion occurs in less than a minute (Forjuoh, 2013), so the lifeguard's focus of attention has to be external-broad. The assessment of the available data shows that the factors associated with the best performance of lifeguards can be categorised as physical, technical and psychological factors, and the combination of the identified factors may lead to an improved performance of lifeguards. However, psychosocial skills seem to be more relevant in preventive action. Despite this finding, the study of lifeguards' behavioural skills is still a small field of knowledge, so it became necessary to identify the skills profile associated with professional excellence.

Given the need for research on the psychosocial component of lifeguarding, the purpose of Study II was to examine the skills profile of the Portuguese lifeguard, considering the Grounded Theory method (Strauss & Corbin, 2010) to understand the psychosocial variables that define an elite lifeguard, providing guidance on lifeguard training related mainly to behavioural skills (Robles, 2012). The exploratory aspect of this study is reinforced by the fact that this is the first research on lifeguard behavioural skills. Therefore, the purpose of this study was to identify and examine the psychosocial and behavioural skills of Portuguese lifeguards.

The results arising from the qualitative analysis in Study II highlighted first-order and second-order variables, defined as preventive skills, interpersonal relationship skills, and professional skills. These skills promote the lifeguard's performance of excellence.

Twelve second-order variables arise from three first-order variables, i.e. preventive, interpersonal relationship and professional. Those second-order variables are: the categories attentive, vigilant and calm correspond to the "preventive" variable; the categories communicative, cordial, polite, positive attitude and assertive correspond to the "interpersonal relationship" variable; finally, the second-order variables of "professional" are the categories of expert, confident, close and well-paid. The preventive variable was the first to be identified. Preventive behaviour is based on observing the surrounding aquatic environment, assessing the events that occur there and intervening in advance in situations of potential danger (Fenner, 1999). However, the lifeguard's behaviour and posture can be instrumental in influencing bathers' behaviour and thus preventing risky behaviour (Dunning, 2017). The lifeguard should behave in an exemplary manner and be highly professional. Thereby, he/she will achieve the necessary respect for compliance with his/her recommendations, which may prevent accidents among bathers.

There is evidence about behavioural assessment in other areas of leader-member relationship. We can consider the example of sports training, where we can compare the coach to the lifeguard and the bathers to the team he/she has to lead. According to Myers et al. (2017), some of the factors that determine the success of coaches are professional experience and previous preparation (in a training context in the case of the lifeguard); being successful in meeting the proposed and self-proposed objectives of their roles; and the social support they receive (in this case, the collaboration of the bathers). In addition, both represent an authority figure. According to Harrell (2001), the presence of a lifeguard tends to decrease non-compliance with safety rules. In this respect, Teques et al. (2020) refer that the differences in the perceptions expressed by athletes from different teams in a sport may be related to satisfaction and performance criteria. For example, the posture

and leadership style of the coach and the differences in the perceptions expressed by athletes from different teams in a sport may be related to satisfaction and performance criteria and compliance with rules, from which it may be inferred that there may also be a relationship between the posture and behaviour of the lifeguard that influences bathers' sense of safety (Modell, 2010).

Additionally, the lifeguard should also possess interpersonal relationship skills, such as communication and social skills, which allow him/her to communicate with the bathers in a cordial and polite way. The lifeguard should maintain a positive attitude in all situations. Greater or lesser effectiveness in relationships with others depends a lot on our ability to communicate. Clear, effective and assertive communication facilitates interaction with bathers, promoting the development of interpersonal relationships that benefit the lifeguard's action and compliance with the established safety standards.

Communication is accomplished verbally and, essentially, non-verbally (Burgoon & Bacue, 2003; Key, 2011). Sometimes, verbal communication is not congruent with non-verbal communication, which is more determinant since it reflects one's emotions, enabling a better interpretation of the verbal message (Buck & Vanlear, 2002; Tracy et al., 2015). Non-verbal communication is expressed through three types of communication, specifically: kinaesthetic communication (the transmission of the message is made through body movements - facial expressions, gaze, gestures, posture and body movement), paralinguistic communication (way of speaking - tone of voice and cadence of speech, timbre, rhythm, articulation, dynamism, silences, etc.) and proxemics communication (the way people place themselves spatially in relation to others). Non-verbal signs communicate more, offer a more truthful meaning of the message indicating the emotional state of the person, and may complement the verbal message, enhance it, replace it, repeat it or even contradict it causing confusion or distrust (Burgoon & Bacue,

2003). For example, when facial expressions are not in line with the verbal message, a situation of distrust is generated; our facial expressions reveal our emotional state, our feelings and reactions (Ekman & Rosenberg, 2005); similarly, gestures complement and reinforce the verbal message. In addition, it is also important to listen actively, attentively and with empathy (Manusov et al., 2020; Vyskocilova et al., 2011).

The results of this study highlight the relevance of non-verbal communication, which may contribute to better performance in prevention, although this is not addressed in the current lifeguard training programmes. Through certain behaviours, such as the appropriate use of the whistle at the moment of an infraction and/or to provide a warning, the use of assertive gestures, the posture and body movement of the professional, his/her facial expressions, the tone of voice appropriate to the circumstances, style and composure, the lifeguard will be more respected and his/her recommendations will be better accepted by the bathers. In conjunction with the skills mentioned, the lifeguard should also apply his/her professional skills. Currently, lifeguard training is focused on technical and physical skills, and does not include the psychological and behavioural components to a depth that would be desirable, which may be relevant for better performance of the prevention functions.

The results of Study II show that the skills related to work ethics, responsibility, teamwork, communication, integrity, courtesy and interpersonal relationships were identified by all the interviewees. Thus, it is essential that in lifeguard training not only technical skills, but also psychosocial and behavioural skills are developed, so that the lifeguard achieves performance excellence (Santiago et al., 2020). Consequently, in addition to the contents already developed in the lifeguard training programme, it is essential to include problem-solving activities that require the implementation of prevention, interpersonal relationship and professional skills. Trainees may be exposed

to various psychosocial training experiences to support these strategies, such as the development of communication, assertiveness or psychological decision-making skills.

In line with the need to address the psychological and behavioural dimension of the lifeguard, Study III aimed to test the effectiveness of a training programme in the area of psychosocial skills of the lifeguard, as defined in Study II. The training programme included the variables of selective attention, emotional intelligence and social intelligence. The results obtained seem to indicate the effectiveness of the training programme in the selective attention and emotional intelligence variables. These variables seem to be associated with the ability to maintain the focus of attention. Lifeguards' presence in the aquatic environment has the potential to prevent many drowning accidents (Lanagan-Leitzel et al., 2015). However, the ability to maintain the focus of attention during working hours is a huge challenge, as there are several adversities that can limit concentration, as well as fatigue, distraction or neglect, and the routine nature of the activity. Furthermore, during surveillance, lifeguards face optical challenges that may condition the quick detection of drowning (e.g. turbid water, water turbulence, light refraction and glare) and jeopardize concentration and, consequently, divert focus.

Surveillance is a complex and crucial task for the safety of bathers (Laxton & Crundall, 2018). In this particular case, the drowning phenomenon is identified with six distinct phases, according to Tipton and Montgomery (2021): struggle to keep the airway clear of the water, initial submersion and breath-holding, aspiration of water, time to unconsciousness, time to cardio-respiratory arrest and death - inability to be revived, which occurs in less than 5 minutes. Thus, the focus of attention of the lifeguard combined with effective action may enable quick detection of an accident and thus prevent it from occurring or reduce its severity (Edkins & Pollock, 1997).

Emotional intelligence may also drive the prevention of accidents by enhancing the ability to manage and control actions in stressful situations (Gross et al., 2006). According to Mayer and Salovey (1997), emotional intelligence is "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (p. 5). Emotional intelligence is a multidimensional construct that implies intrinsic personal skills and social skills, both fundamental to interpersonal relationships (Burgoon & Bacue, 2003). There are several models of conception of the emotional intelligence construct, namely the model of Mayer and Salovey (Mayer et al., 2000) which consists of four dimensions: skills related to the understanding and analysis of emotions, skills associated with the adaptation of emotions, skills related to the use of emotions and the ability to regulate and manage one's own emotions and those of others. Based on this theoretical model of emotional intelligence, the Mayer-Salovey-Caruso Emotional Intelligence Test - MSCEIT V2.0 (Mayer et al., 2002) was developed by the pioneers of emotional intelligence, who described it as cognitive ability. This instrument assesses emotional intelligence as an ability and seeks to represent the four-factor model (emotion perception, emotion facilitation, emotion understanding, and emotion regulation). Thus, emotional intelligence is the ability to understand not only one's own emotions and feelings, but also those of others, in order to identify, distinguish, manage and use them in a positive way to guide their thinking and action. On the other hand, the focus of social intelligence shifts from the view of one person to the perspective of two people, the skills developed by the individual when relating and which enrich interpersonal relationships such as empathy and social cognition.

Although this study did not reveal significant effects on the social intelligence variable, which may be justified by the sociocultural and demographic diversity (Koivisto

& Hamari, 2014), it will be important to explore in further studies this skill that may enable lifeguards to interpret the body language of bathers and act accordingly to that assessment (Frankovsky & Birknerova, 2014). Evidence suggests that psychometric research provides evidence to support multiculturalism as an important component for individuals' performance in identifying behaviours (Kharkhurin, 2010). Furthermore, the demographic variable may influence perceptions, motivations and information processing in the interpretation of human behaviour (Koivisto & Hamari, 2014).

In order to verify the stability of the effects of the training programme, a follow-up assessment was carried out of all participants. The results showed statistically significant differences between the groups for the emotional intelligence variable, but no differences were found for the selective attention and social intelligence variables. A possible justification for this lack of differences in selective attention may be associated with the need for regular training to develop the focus of attention (Page et al., 2011). In this particular regard, it may be important to understand the stability of the effects of continuous attention training, similar to those used with emergency medical professionals (Dunne et al., 2019).

Additionally, the means of post evaluation and the follow-up (3 months) in each group were compared to assess the long-term effects of the training programme. The results indicate the absence of statistically significant differences in the variables of selective attention, social intelligence and emotional intelligence over time. These results seem to indicate a stabilisation of skills. The results obtained show that the training programme for lifeguards may have positive medium-term repercussions, mainly on emotional intelligence skills. Along with technical skills, emotional intelligence plays an important role in any professional's profile. Knowing how to deal intelligently with our emotions and those of others is essential. However, these skills are not enough for

effective leadership, since leadership also depends on the performance of others. It is also necessary to know how to guide our interactions with others in an intelligent way, so social intelligence is also a skill to be developed. Knowing that lifeguards constantly interact with bathers, this training programme could be beneficial for improving prevention and interpersonal relationship skills (Clarke, 2010).

### **Practical implications**

One of the main implications of this research is the finding of the scarcity of psychosocial training in lifeguard training. Thus, with a psychosocial training programme, it is expected that lifeguards will increase their selective attention and emotional intelligence skills, which can be used to manage the detection of potentially dangerous situations and to develop interpersonal relationships with bathers. As a result, it is expected that the lifeguard will be a better prepared professional.

This research could broaden the approaches of analysis of lifeguard skills and consider an adaptation of lifeguard training models worldwide, since this type of training programme fosters the development of attention focus and emotional intelligence and, consequently, interpersonal relationships with bathers and the effectiveness of prevention. Knowing how to observe and interpret bathers' non-verbal language allows the lifeguard to have an assertive approach in the enforcement of safety rules. Furthermore, knowing how to communicate and adapt the communication to bathers with different educational and cultural levels favours the understanding of the message and the establishment of trust between the parties. The results of the studies indicate the societal impact that the psychosocial skills training programme has when delivered in conjunction with traditional lifeguard training, improving the lifeguard's performance in accident prevention actions and interpersonal relationships with bathers.

It is important to analyse the current framework of the lifeguard profession and its training in order to understand the importance of integrating the psychosocial skills training programme in their training. In particular, according to Ordinance No. 373/2015 of 20 October (Ministério da Defesa Nacional, 2015), we can define the lifeguard as:

The professional who carries out the rescue activity in aquatic environments, which include beaches, swimming pools and other places where aquatic practices occur, using the appropriate means, procedures and techniques. This professional is also competent to perform activities related to information, prevention, first aid and Basic Life Support, in any circumstance, within the scope of aquatic rescue. (Appendix I)

The main activities that the lifeguard develops are diverse and multidisciplinary. For instance, in the course of his/her professional activity, duly identified by his/her uniform in accordance with the regulations in force, the lifeguard collaborates with the ISN and agents of the authority or other entities qualified in matters of safety of bathers through surveillance and prevention of accidents in the aquatic environment; uses operating techniques of communication systems; when qualified to do so, uses complementary means related to bathing safety in the context of assistance to bathers; identifies the types, characteristics and use of the different aquatic rescue equipment; uses accident simulation techniques in preventive actions; uses aquatic rescue techniques and applies Basic Life Support adapted to the aquatic environment; uses aquatic rescue techniques in freshwater areas and specific aquatic rescue techniques for rescue in swimming pools and aquatic enclosures. These are some of the skills necessary for the exercise of a profession that requires social skills of observation, decision and action reacting in accordance with the protocols established for a rescue.

The current 150-hour training course is distributed as shown in the following table:

Table 1 - Lifeguard training course

<b>Short Term Training Unit / Module</b>	<b>Duration (h)</b>
Historical, legal and civic framework of the Lifeguard.	18
Morphology and beach equipment.	10
Classification, risks and safety devices in swimming pools.	10
General approach to basic first aid.	25
First aid specific to aquatic rescue.	12
Rescue techniques for aquatic rescue.	50
Physical fitness training.	25
<b>Total</b>	<b>150</b>

As shown in the current model of lifeguard training, there is no pedagogical component of psychosocial skills training, and the technical and physical components are favoured. It is worth highlighting that 99.8% of the lifeguard's work is developed in prevention actions (Szpilman, Oliveira, et al., 2018), in which psychosocial skills play a key role and help to avoid the need to advance to a water rescue.

The training courses taught in Portugal do not include the development of psychosocial skills in a work context. However, in order to perform better and more effectively, lifeguards need to develop empathy, recognise and manage their emotions and the emotions of others, perceive how others feel and carefully observe their verbal and non-verbal language, listen actively, and use this information in their interactions with bathers, fostering good and assertive communication (Mayer et al., 2000; Burgoon & Bacue, 2003; Clarke, 2010). The development of emotional intelligence and social intelligence is essential for the promotion of behaviours that facilitate interpersonal relationships and for effective leadership and performance (Caruso et al., 2002; Zaccaro,

2002). Thus, it may be fundamental to include a psychosocial skills training programme in lifeguard training, which will complement the technical and physical components that the course emphasises, and develop and improve the focus of attention, social intelligence and emotional intelligence.

### **Limitations and future research**

There are few studies on lifeguard skills, namely psychosocial skills, as well as on the assessment of lifeguard performance. Furthermore, the integration of content on the development of these skills in lifeguard training is lacking. With regard to the training programme tested, the short time gap of one month between the pre- and post-assessments may have an influence on the recall aspect of the tests (Zautra et al., 2015). The retrospective nature of Study II should also be considered a limitation. It is possible that participants may have had distorted perceptions of their experiences, despite the techniques that were used throughout the interviews to promote the effective recall, such as giving participants time in quiet moments to recall aspects of past experiences and suggesting the recall of places and people who were involved in the events (Thomsen & Brinkmann, 2009). Moreover, the research focuses on Portuguese lifeguards and on the Portuguese reality.

In this regard, future research should prioritise the analysis and identification of drowning incidents in more depth, in order to analyse the efficiency of the ability to use peripheral vision, as in driving (Wolfe et al., 2017). In addition, future research should also consider lifeguard skills in terms of drowning prevention. Other areas of research suggest that fatigue has a significant effect on the ability to concentrate (Holtzer et al., 2011), so it would be relevant to analyse the effects of fatigue on the preventive actions of lifeguards. There is also a need for longitudinal studies that examine the long-term effects of lifeguard training as well as the importance of refresher courses as regards skill-

related activities. Future studies should also continue to examine the impact of internal distractors on lifeguard surveillance (Baek & Chong, 2020), namely by assessing the influence of thoughts on concentration ability. Future research should also examine the relationship between lifeguard skills and the consequences perceived by bathers. Finally, it is crucial to explore the importance of knowledge and development of behavioural skills in the exercise of this demanding and highly responsible activity.

## 4 Conclusion

Drowning is a public health problem. It is the third leading cause of death by unintentional injury worldwide and the second cause of accidental death among children and young people in Portugal. Every year, more than 230 000 people die from drowning worldwide. The impact of these deaths goes beyond grief and the challenges that families face. There is also a social impact and an impact on healthcare systems that are relevant and very difficult to quantify (Adichie, 2021). Death by drowning is silent and quick, so effective prevention and effective water safety are key to combating these alarming figures. The role of the lifeguard is crucial to prevent, avoid risky behaviour and intervene in the event of an accident, contributing to increased safety and a reduction in the number of drownings.

The lifeguard's performance of excellence involves a combination of physical, psychological and technical factors. However, it has been observed that lifeguards' training focuses on the development of technical and physical skills, neglecting the importance of psychosocial and behavioural skills in their training. There is also a lack of scientific studies on the assessment of the behavioural and psychological performance of lifeguards, which makes it essential to promote further scientific studies in this area of knowledge. Thus, this research may introduce a new line of research in aquatic rescue worldwide.

This research focuses on the definition of a skills profile of lifeguards of excellence, highlighting the need for lifeguard training in the development of psychosocial skills and assessing the efficiency of a psychosocial skills training programme for lifeguards. The theoretical model derived from the studies can represent a comprehensive model on the psychosocial and behavioural skills related to lifeguards' performance of excellence, which can be adopted and integrated into lifeguard training, making it more

comprehensive. These contents should be considered for inclusion in the basic training for lifeguards, based on the results obtained.

The construction of a skills profile based on data collection provided a basis for designing a psychosocial skills training programme for lifeguards and for understanding the psychosocial variables that define an elite lifeguard, such as the preventive variables (e.g. attention, surveillance and emotional regulation) and the interpersonal relationship skills (e.g. communication, politeness, assertiveness and positive attitude).

It was found that the skills emerging in the studies, i.e. preventive, interpersonal relationship and professional skills, should be developed by lifeguards in order to achieve higher levels of performance. Lifeguards should be trained and assessed not only for their technical skills, but also for their psychosocial and behavioural skills in order to stimulate and promote the psychosocial factors inherent to excellent performance. Lifeguards can be trained and assessed during training in programmes that enhance problem-solving that require the implementation of prevention, interpersonal relationship and professional skills by exposing them to various psychosocial training experiences and the development of communication, decision-making and assertiveness skills. The pilot study demonstrated the benefits of the psychosocial skills training programme for lifeguards, with particular emphasis on short-term selective attention and short- and medium-term emotional intelligence. These skills promote preventive action, lifeguards' psychological preparation and are crucial for aquatic rescue.

Communication between the lifeguard and the bathers may facilitate compliance with safety rules, so the introduction of the psychosocial component in training courses should be considered. The results presented in the studies support the need to include psychosocial training programmes in the preparation of lifeguards. Similarly, methods should be developed to assess the acquisition of skills during this process. It was found

that the behavioural component of the lifeguard profession is an area of scant knowledge and that lifeguard skills can be enhanced with a psychosocial training programme, particularly concerning the focus of attention and emotional intelligence. Thus, the impact of the training programme for these professionals can contribute to reducing drowning and to more effective behaviour in the assistance and relationship with bathers. The lifeguard profession is one of high responsibility, demanding at various levels and full of unforeseen events and challenges. The lifeguard dignifies his/her profession not only by saving lives but, above all, by avoiding that lives need to be saved. Lifeguards, through effective prevention, can be invisible heroes who protect everyone's life on a daily basis.

## 5 References

- Adichie, C. (2021). *Notas Sobre o Luto*. D. Quixote.
- Autoridade Marítima Nacional. (2015). *Manual Técnico do Nadador-Salvador*. Imprensa da Universidade de Coimbra.
- Baek, J., & Chong, S. (2020). Distributed attention model of perceptual averaging. *Attention, Perception, & Psychophysics*, 82(1), 63-79. <https://doi.org/10.3758/s13414-019-01827-z>
- Buck, R., & Vanlear, C. (2002). Verbal and Nonverbal Communication: Distinguishing Symbolic, Spontaneous, and Pseudo-Spontaneous Nonverbal Behavior. *Journal of Communication*, 52(3), 522-541. <https://doi.org/10.1111/j.1460-2466.2002.tb02560.x>
- Burgoon, J., & Bacue, A. (2003). Nonverbal communication skills. In J. Greene & R. Burleson, *Handbook of communication and social interaction skills* (pp. 179-219). Routledge. <https://doi.org/10.4324/9781410607133>
- Caruso, D., Mayer, J., & Salovey, P. (2002). Emotional Intelligence and Emotional Leadership. In R. Riggio, S. Murphy & F. Pirozzolo (Eds.), *Multiple Intelligences and Leadership* (pp. 55-74). Lawrence Erlbaum Associates Publishers.
- Clarke, N. (2010). The impact of a training programme designed to target the emotional intelligence abilities of project managers. *International Journal of Project Management*, 28(5), 461-468. <https://doi.org/10.1016/j.ijproman.2009.08.004>
- Cortés, L., Hargarten, S., & Hennes, H. (2006). Recommendations for Water Safety and Drowning Prevention for Travelers. *Journal of Travel Medicine*, 13(1), 21-34. <https://doi.org/10.1111/j.1708-8305.2006.00002.x>
- Dunne, P., Lynch, J., Prihodova, L., O'Leary, C., Ghoreyshi, A., Basdeo, S., Cox, D., Breen, R., Sheikhi, A., & Carroll, Á. (2019). Burnout in the emergency

- department: randomized controlled trial of an attention-based training program. *Journal of Integrative Medicine*, 17(3), 173-180. <https://doi.org/10.1016/j.joim.2019.03.009>
- Dunning, D. (2017). Normative goals and the regulation of social behavior: The case of respect. *Motivation and Emotion*, 41(3), 285-293. <https://doi.org/10.1007/s11031-017-9616-8>
- Edkins, G., & Pollock, C. (1997). The influence of sustained attention on Railway accidents. *Accident Analysis & Prevention*, 29(4), 533-539. [https://doi.org/10.1016/s0001-4575\(97\)00033-x](https://doi.org/10.1016/s0001-4575(97)00033-x)
- Ekman, P., & Rosenberg, E. (2005). *What the face reveals: Basic and applied studies of spontaneous expression using the Facial Action Coding System (FACS)*. Oxford University Press.
- Fenner, P. (1999). Prevention of drowning: Visual scanning and attention span in lifeguards. *Journal of Occupational Health and Safety, Australia and New Zealand*, 15(1), 61-66. <https://doi.org/10.3316/ielapa.990707010>
- FEPONS. (2021). Observatório do Afogamento. <http://observatoriodoafogamento.blogspot.com/>
- Fernández-Abascal, E., & Martín-Díaz, M. (2015). Dimensions of emotional intelligence related to physical and mental health and to health behaviors. *Frontiers in Psychology*, 6, 317. <https://doi.org/10.3389/fpsyg.2015.00317>
- Forjuoh, S. (2013). Water safety and drowning prevention. *International Journal of Injury Control and Safety Promotion*, 20(3), 207-208. <https://doi.org/10.1080/17457300.2013.822634>
- Frankovsky, M., & Birknerova, Z. (2014). Measuring Social Intelligence-The MESI Methodology. *Asian Social Science*, 10(6). <https://doi.org/10.5539/ass.v10n6p90>

- Griffiths, R., & Griffiths, T. (2013). Internal Noise Distractions in Lifeguarding. *International Journal of Aquatic Research and Education*, 7, 56-71. <https://doi.org/10.25035/ijare.07.01.xx>
- Gross, J., Richards, J., & John, O. (2006). Emotion Regulation in Everyday Life. In D. K. Snyder, J. Simpson, & J. N. Hughes (Eds.), *Emotion regulation in couples and families: Pathways to dysfunction and health* (pp. 13-35). American Psychological Association. <https://doi.org/10.1037/11468-001>
- Harrell, W. (2001). Does supervision by a lifeguard make a difference in rule violations? Effects of lifeguards' scanning. *Psychological reports*, 89(2), 327-330. <https://doi.org/10.2466/pr0.2001.89.2.327>
- Holtzer, R., Shuman, M., Mahoney, J., Lipton, R., & Verghese, J. (2011). Cognitive fatigue defined in the context of attention networks. *Neuropsychology, Development, and Cognition. Section B, Aging, Neuropsychology and Cognition*, 18(1), 108-128. <https://doi.org/10.1080/13825585.2010.517826>
- Key, M. (2011). *The Relationship of Verbal and Nonverbal Communication*. De Gruyter Mouton. <https://doi.org/doi:10.1515/9783110813098>
- Kharkhurin, A. (2010). Sociocultural Differences in the Relationship Between Bilingualism and Creative Potential. *Journal of Cross-Cultural Psychology*, 41(5-6), 776-783. <https://doi.org/10.1177/0022022110361777>
- Koivisto, J., & Hamari, J. (2014). Demographic differences in perceived benefits from gamification. *Computers in Human Behavior*, 35, 179-188.
- Lanagan-Leitzel, L., Skow, E., & Moore, C. (2015). Great Expectations: Perceptual Challenges of Visual Surveillance in Lifeguarding. *Applied Cognitive Psychology*, 29(3), 425-435. <https://doi.org/10.1002/acp.3121>

- Langendorfer, S. (2022). In This Issue (13: 4). *International Journal of Aquatic Research and Education*, 13(4), 13. <https://doi.org/10.25035/ijare.13.04.13>
- Laxton, V., & Crundall, D. (2018). The Effect of Lifeguard Experience upon the Detection of Drowning Victims in a Realistic Dynamic Visual Search Task. *Applied Cognitive Psychology*, 32(1), 14-23. <https://doi.org/10.1002/acp.3374>
- Manusov, V., Stofleth, D., Harvey, J., & Crowley, J. (2020). Conditions and Consequences of Listening Well for Interpersonal Relationships: Modeling Active-Empathic Listening, Social-Emotional Skills, Trait Mindfulness, and Relational Quality. *International Journal of Listening*, 34(2), 110-126. <https://doi.org/10.1080/10904018.2018.1507745>
- Mayer, J., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional Development and Emotional Intelligence: Educational Implications* (pp. 3-34). Basic Books.
- Mayer, J., Salovey, P., & Caruso, D. (2000). *Models of emotional intelligence*. Cambridge University Press.
- Mayer, J., Salovey, P., & Caruso, D. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT© V2.0): User's manual*. Multi-Health Systems.
- Ministério da Defesa Nacional. (2015). *Portaria n.º 373/2015, de 20 de outubro. Diário da República, 1.ª série — N.º 205*. <https://doi.org/https://dre.pt/dre/legislacao-consolidada/portaria/2015-72802069-72801294>
- Modell, J. (2010). Prevention of Needless Deaths from Drowning. *Southern Medical Journal*, 103(7), 650-653. <https://doi.org/10.1097/SMJ.0b013e3181e10564>
- Myers, N., Park, S., Ahn, S., Lee, S., Sullivan, P., & Feltz, D. (2017). Proposed sources of coaching efficacy: a meta-analysis. *Journal of Sport and Exercise Psychology*, 39(4), 261-276. <https://doi.org/10.1123/jsep.2017-0155>

- Page, J., Bates, V., Long, G., Dawes, P., & Tipton, M. (2011). Beach lifeguards: visual search patterns, detection rates and the influence of experience. *Ophthalmic and Physiological Optics*, 31(3), 216-224. <https://doi.org/10.1111/j.1475-1313.2011.00824.x>
- Palacios, J., & Barcala, R. (2012). Prevención de accidentes acuáticos y ahogamientos. *EmásF: revista digital de educación física*, 19, 50-64.
- Queiroga, A., Seabra, R., Franklin, R., & Peden, A. (2021). Trends in drowning mortality in Portugal from 1992 to 2019: comparing Global Burden of Disease and national data. *Injury Prevention*, 28(4), 318-324. <https://doi.org/10.1136/injuryprev-2021-044415>
- Robles, M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75, 453-465. <https://doi.org/10.1177/1080569912460400>
- Salomez, F., & Vincent, J. (2004). Drowning: a review of epidemiology, pathophysiology, treatment and prevention. *Resuscitation*, 63(3), 261-268. <https://doi.org/10.1016/j.resuscitation.2004.06.007>
- Salovey, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, cognition and personality*, 9(3), 185-211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Santiago, P., Teques, P., Duarte, D., & Palacios, J. (2020). Estudio do Perfil de Competências do Nadador-Salvador Português. *RETOS - Nuevas tendencias en Educación Física, Deporte y Recreación*, 37, 673-679. <https://doi.org/10.47197/retos.v37i37.74342>
- Sherwood, D., Lohse, K., & Healy, A. (2020). The effect of an external and internal focus of attention on dual-task performance. *Journal of Experimental Psychology:*

- Human Perception and Performance*, 46(1), 91-104.  
<https://doi.org/10.1037/xhp0000698>
- Strauss, A., & Corbin, J. (2010). *Basics of qualitative research: grounded theory procedures and techniques*. S. Publications.
- Szpilman, D., Oliveira, R., Mocellin, O., & Webber, J. (2018). Is drowning a mere matter of resuscitation? *Resuscitation*, 129, 103-106.  
<https://doi.org/10.1016/j.resuscitation.2018.06.018>
- Szpilman, D., Sempstrott, J., Webber, J., Hawkins, S., Barcala, R., Schmidt, A., & Queiroga, A. (2018). 'Dry drowning' and other myths. *Cleveland Clinic Journal of Medicine*, 85, 529-535. <https://doi.org/10.3949/ccjm.85a.17070>
- Teques, P., Silva, C., Rosado, A., Calmeiro, L., & Serpa, S. (2020). Refining the Short Version of the Leadership Scale for Sports: Factorial Validation and Measurement Invariance. *Psychological Reports*, 124(5), 2302-2326.  
<https://doi.org/10.1177/0033294120953560>
- Thomsen, D., & Brinkmann, S. (2009). An interviewer's guide to autobiographical memory: Ways to elicit concrete experiences and to avoid pitfalls in interpreting them. *Qualitative Research in Psychology*, 6(4), 294-312.  
<https://doi.org/10.1080/14780880802396806>
- Tipton, M., & Montgomery, H. (2021). The experience of drowning. *Medico-Legal Journal*, 90, 17–26. <https://doi.org/10.1177/00258172211053127>
- Tipton, M., Reilly, T., Rees, A., Spray, G., & Golden, F. (2008). Swimming Performance in Surf: The Influence of Experience. *International Journal of Sports Medicine*, 29(11), 895-898. <https://doi.org/10.1055/s-2008-1038510>

- Tracy, J., Randles, D., & Steckler, C. (2015). The nonverbal communication of emotions. *Current Opinion in Behavioral Sciences*, 3, 25-30.  
<https://doi.org/https://doi.org/10.1016/j.cobeha.2015.01.001>
- United Nations Organization. (2021). *Global Drowning Prevention: resolution / adopted by the General Assembly*. <https://digitallibrary.un.org/record/3925005>
- van Beeck, E., Branche, C., Szpilman, D., Modell, J., & Bierens, J. (2005). A new definition of drowning: towards documentation and prevention of a global public health problem. *Bulletin of the World Health Organization*, 83(11), 853-856.  
<https://www.webofscience.com/wos/woscc/full-record/WOS:000233185100014?SID=D58weXFgd6px1pEscca>
- Vyskocilova, J., Prasko, J., & Slepecky, M. (2011). Empathy in cognitive behavioral therapy and supervision. *Activitas Nervosa Superior Rediviva*, 53(2), 72-83.
- Wilkens, K., & Brons, R. (2014). European Qualifications Framework for the Lifeguard Profession. In J. J. L. M. Bierens (Ed.), *Drowning: Prevention, Rescue, Treatment* (pp. 369-373). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-642-04253-9\\_57](https://doi.org/10.1007/978-3-642-04253-9_57)
- Willcox-Pidgeon, S., Franklin, R., Leggat, P., & Devine, S. (2020). Identifying a gap in drowning prevention: high-risk populations. *Injury Prevention*, 26(3), 279-288.  
<https://doi.org/10.1136/injuryprev-2019-043432>
- Wolfe, B., Dobres, J., Rosenholtz, R., & Reimer, B. (2017). More than the Useful Field: Considering peripheral vision in driving. *Applied Ergonomics*, 65, 316-325.  
<https://doi.org/10.1016/j.apergo.2017.07.009>
- World Health Organization. (2014). *Global Report On Drowning*. [https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786_eng.pdf?sequence=1)

- World Health Organization. (2021). *WHO Guideline on the prevention of drowning through provision of day-care and basic swimming and water safety skills*. <https://www.who.int/publications/i/item/9789240030008>
- World Health Organization. (2022). Preventing drowning. Practical guidance for the provision of day-care, basic swimming and water safety skills, and safe rescue and resuscitation training. <https://www.who.int/health-topics/drowning>
- Zaccaro, S. (2002). Organizational leadership and social intelligence. In R. Riggio, S. Murphy & F. Pirozzolo (Eds.), *Multiple Intelligences and Leadership* (pp. 29–54). Lawrence Erlbaum Associates Publishers.
- Zautra, E., Zautra, A., Gallardo, C., & Velasco, L. (2015). Can We Learn to Treat One Another Better? A Test of a Social Intelligence Curriculum. *PLoS ONE*, *10*(6), e0128638. <https://doi.org/10.1371/journal.pone.0128638>

## **6 Appendix**

## **Study II – Interview Guide**

## **Study II - Skills Profile of the Portuguese Lifeguard**

### **Interview script**

This interview is part of the study on the skills profile of the Portuguese lifeguard.

The interview is anonymous and confidential.

The confidentiality of any content given is assured, as well as it is guaranteed that your name will not be disclosed in any medium.

The data will only be used for academic and scientific purposes.

Do you allow audio recording of this interview in order to further process the data?

### **Icebreaker questions**

1. How old are you? How many years have you been a lifeguard?
2. What is your academic degree?
3. Regarding your lifeguard experience, what training have you done so far?
4. Do you practise or have you practised sports?
5. If yes, which sport?
6. Did this sport have any influence on your lifeguard action?

### **Transition questions**

7. Within your experience as a lifeguard do you have any examples of excellent lifeguards?
8. Can you describe how he/she acted as a lifeguard?
9. What were the practical consequences of being an excellent lifeguard?
10. Within your experience, do you know of any bad examples of a lifeguard?
11. Can you describe how he/she acted as a lifeguard?
12. What were the practical consequences of being a bad lifeguard?
13. What makes (actions, behaviours) a good lifeguard? And what makes a bad lifeguard?

## **Key questions**

14. In your opinion, which characteristics (physical, technical, psychological, social) of the lifeguard are associated with the best performance?
15. And which characteristics may be negative for lifeguard performance?
16. Which characteristics of the context (i.e., the weather, the space, the equipment, the physical positioning, the remuneration) can be associated with the intervention of the lifeguard?
17. Do you consider that your experience in other contexts (e.g., work, personal) is important in developing the characteristics of a lifeguard?
18. What life experiences might be associated?
19. How do you consider yourself as a lifeguard?
20. What are your main values and beliefs as a lifeguard?
21. How is your relationship with bathers?
22. What are the most important actions that you control capable of enhancing the appropriate behaviour of bathers?
23. And which ones do you consider can contribute to inappropriate behaviour?
24. What actions are taken by the best lifeguards to prevent bathers' behaviour?
25. In your opinion, what actions does an expert lifeguard do when something goes wrong?
26. And what should a lifeguard not do when something goes wrong?
27. When intervention is needed, what does an expert lifeguard do and what does a bad lifeguard do?

## **Study III – Attention Test**

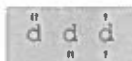
# d2

## TESTE DE ATENÇÃO

R. Brickenkamp

Este teste avalia a sua capacidade de atenção numa determinada tarefa. Nesta página encontrará um *Exemplo* e um *Item para Treino*.

### EXEMPLO



Repare no exemplo. O exemplo é constituído por três letras *d*, cada uma delas acompanhada por dois traços. O *primeiro d* tem dois traços em cima, o *segundo d* tem dois traços em baixo e o *último d* tem um traço em cima e outro em baixo. Repare, todos os *d* têm dois traços.

A sua tarefa consiste em procurar as letras *d* iguais às do exemplo, ou seja, com dois traços e assinalá-las com um traço (*/*). Caso se engane, faça uma cruz (*X*) sobre a letra que assinalou incorrectamente. Atenção, existem letras *d* com mais de dois traços e com menos de dois traços, assim como letras *p* - estas letras não devem ser assinaladas.

Não se esqueça que deve assinalar, apenas, as letras *d* com dois traços. Pratique agora no *Item para Treino*.

Cada letra do *Item para Treino* encontra-se numerada. Deve ter assinalado as letras com os seguintes números: 1, 3, 5, 6, 9, 12, 13, 17, 19 e 22.

Quando voltar a folha (POR FAVOR, NÃO VIRE AINDA A FOLHA) irá encontrar 14 linhas, idênticas à linha em que esteve a praticar. A sua tarefa consiste em *assinalar todos os d com dois traços*. Irá começar na linha 1; quando eu disser MUDAR, terá de passar para a linha 2, quando eu disser novamente MUDAR terá de passar para a linha 3 e assim sucessivamente. Tenha atenção para não saltar nenhuma linha.

Trabalhe o mais rapidamente possível sem cometer erros.

**POR FAVOR, AGUARDE ATÉ QUE LHE SEJA DADA A INDICAÇÃO PARA VOLTAR A FOLHA.**

ITEM PARA TREINO

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
d	p	d	d	d	d	p	d	d	p	d	d	d	p	p	d	d	d	p	d	d	



## **Study III – Social Intelligence Test**

# TESTE DE INTELIGÊNCIA SOCIAL

\*Obrigatório

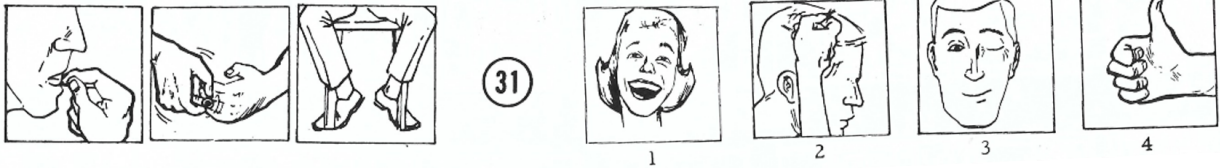
1. Email \*

\_\_\_\_\_

2. NOME COMPLETO \*

\_\_\_\_\_

Observe atentamente as 3 imagens do lado esquerdo. Posteriormente, observe as 4 imagens do lado direito e selecione o nº da imagem que mais se relaciona com as imagens da esquerda. Neste exemplo, a resposta correta é a opção 2.



- 1
- 2
- 3
- 4

Parte 1

3. Pergunta 1 \*



1



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

4. Pergunta 2 \*



2



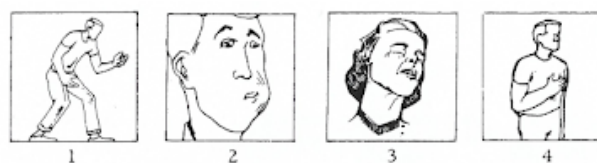
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

5. Pergunta 3 \*



3



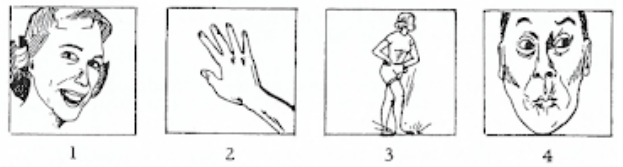
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

6. Pergunta 4 \*



4



Marcar apenas uma oval.

Opção 1

Opção 2

Opção 3

Opção 4

7. Pergunta 5 \*



5



Marcar apenas uma oval.

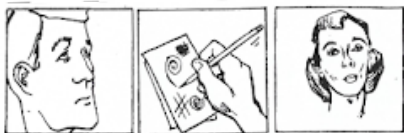
Opção 1

Opção 2

Opção 3

Opção 4

8. Pergunta 6 \*



6



1



2



3



4

Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

9. Pergunta 7 \*



7



1



2



3



4

Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

10. Pergunta 8 \*



8



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

Opção 3

Opção 4

11. Pergunta 9 \*



9



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

Opção 3

Opção 4

12. Pergunta 10 \*



10



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

Opção 3

Opção 4

13. Pergunta 11 \*



11



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

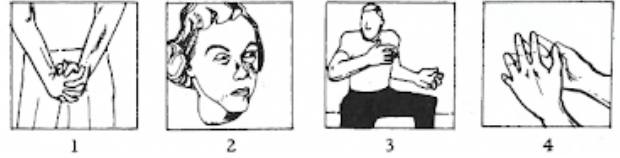
Opção 3

Opção 4

14. Pergunta 12 \*



12



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

15. Pergunta 13 \*



13



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

16. Pergunta 14 \*



14



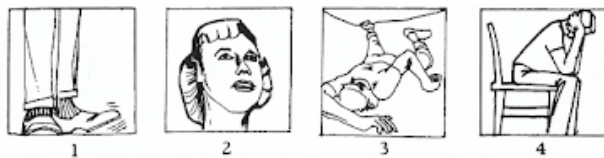
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

17. Pergunta 15 \*



15



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

Parte 2

18. Pergunta 16 \*



16



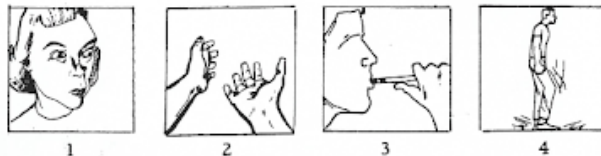
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

19. Pergunta 17 \*



17



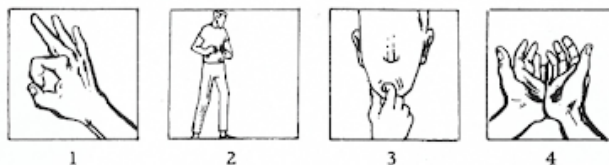
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

20. Pergunta 18 \*



18



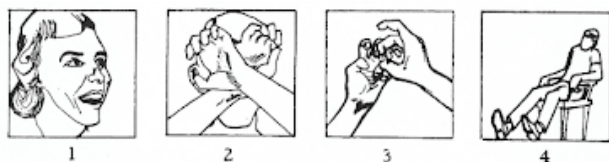
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

21. Pergunta 19 \*



19



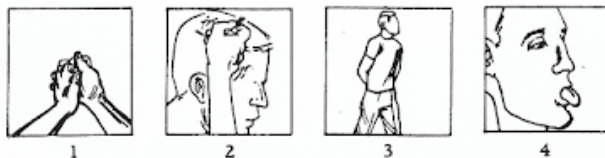
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

22. Pergunta 20 \*



20



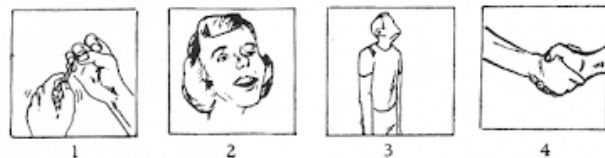
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

23. Pergunta 21 \*



21



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

24. Pergunta 22 \*



22



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

Opção 3

Opção 4

25. Pergunta 23 \*



23



1



2



3



4

Marcar apenas uma oval.

Opção 1

Opção 2

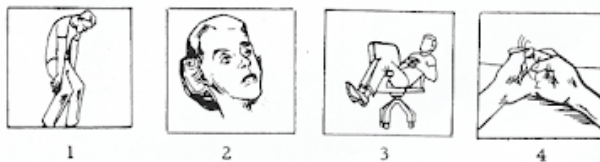
Opção 3

Opção 4

26. Pergunta 24 \*



24



Marcar apenas uma oval.

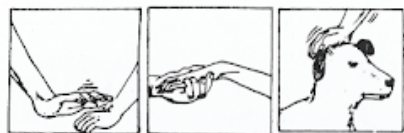
Opção 1

Opção 2

Opção 3

Opção 4

27. Pergunta 25 \*



25



Marcar apenas uma oval.

Opção 1

Opção 2

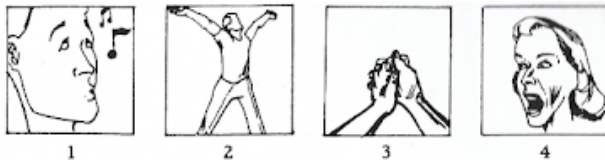
Opção 3

Opção 4

28. Pergunta 26 \*



26



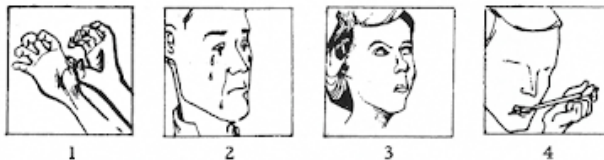
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

29. Pergunta 27 \*



27



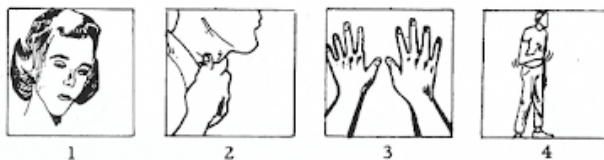
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

30. Pergunta 28 \*



28



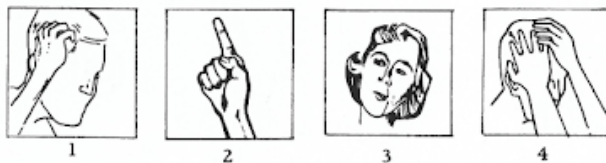
Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

31. Pergunta 29 \*



29



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

32. Pergunta 30 \*



30



Marcar apenas uma oval.

- Opção 1
- Opção 2
- Opção 3
- Opção 4

Este conteúdo não foi criado nem aprovado pela Google.

Google Formulários

## **Study III – Emotional Intelligence Test**

# TESTE DE INTELIGÊNCIA EMOCIONAL

---

\*Obrigatório

1. Email \*

---

2. NOME COMPLETO \*

---

Esta prova é composta por 8 secções. Cada uma delas contém instruções específicas. Para cada pergunta exposta, escolha uma opção que está mais de acordo, incluindo aquelas que não está totalmente seguro da resposta.

Secção  
A

Constituída por 20 perguntas.  
São 4 imagens.  
São colocadas 5 perguntas para cada imagem, de modo a avaliar diferentes emoções.

3. 1. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*



*Marcar apenas uma oval.*

- 1 - Ausência de felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Felicidade extrema

4. 2. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de medo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Medo extremo

5. 3. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de surpresa
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Surpresa extrema

6. 4. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de desgosto
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Desgosto extremo

7. 5. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de entusiasmo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Entusiasmo extremo

8. 6. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*



*Marcar apenas uma oval.*

- 1 - Ausência de felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Felicidade extrema

9. 7. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Tristeza extrema

10. 8. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de medo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Medo extremo

11. 9. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de surpresa
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Surpresa extrema

12. 10. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de entusiasmo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Entusiasmo extremo

13. 11. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*



*Marcar apenas uma oval.*

- 1 - Ausência de felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Felicidade extrema

14. 12. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Tristeza extrema

15. 13. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de medo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Medo extremo

16. 14. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de surpresa
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Surpresa extrema

17. 15. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de entusiasmo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Entusiasmo extremo

18. 16. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*



*Marcar apenas uma oval.*

- 1 - Ausência de felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Felicidade extrema

19. 17. Observe a cara na imagem e indique em que grau expressa o sentimento seguinte. \*

*Marcar apenas uma oval.*

- 1 - Ausência de tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Tristeza extrema

20. 18 . Observe a cara na imagem e indique em que grau expressa o sentimento \*  
seguinte.

*Marcar apenas uma oval.*

- 1 - Ausência de medo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Medo extremo

21. 19. Observe a cara na imagem e indique em que grau expressa o sentimento \*  
seguinte.

*Marcar apenas uma oval.*

- 1 - Ausência de nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Nojo extremo

22. 20. Observe a cara na imagem e indique em que grau expressa o sentimento \*  
seguinte.

*Marcar apenas uma oval.*

- 1 - Ausência de desgosto  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Desgosto extremo

Secção  
B

Por favor seleccione o grau de utilidade de cada uma das emoções nas situações seguintes.

23. 21. Qual a emoção que seria útil sentir quando utilizamos algo novo e nos preparamos para uma festa de aniversário? INCÓMODO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

24. 22. Qual a emoção que seria útil sentir quando utilizamos algo novo e nos preparamos para uma festa de aniversário? ABORRECIMENTO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

25. 23. Qual a emoção que seria útil sentir quando utilizamos algo novo e nos preparamos para uma festa de aniversário? ALEGRIA \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

26. 24. Qual a emoção que seria útil sentir quando pretendemos compor ou cantar uma música animada? NOJO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

27. 25. Qual a emoção que seria útil sentir quando pretendemos compor ou cantar uma música animada? ENTUSIASMO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

28. 26. Qual a emoção que seria útil sentir quando pretendemos compor ou cantar uma música animada? FRUSTRAÇÃO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

29. 27. Qual a emoção que seria útil sentir quando preparamos uma receita de culinária complicada e difícil? TENSÃO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

30. 28. Qual a emoção que seria útil sentir quando preparamos uma receita de culinária complicada e difícil? PENA \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

31. 29. Qual a emoção que seria útil sentir quando preparamos uma receita de culinária complicada e difícil? ESTADO EMOCIONAL NEUTRO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

32. 30. Qual a emoção que seria útil sentir quando pretendemos compreender o \*  
que causou uma luta entre três crianças? Cada criança conta uma história  
sobre como iniciou a luta. Averiguar o que ocorreu requer atender aos  
detalhes das histórias e avaliar os atos. FELICIDADE

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

33. 31. Qual a emoção que seria útil sentir quando pretendemos compreender o \*  
que causou uma luta entre três crianças? Cada criança conta uma história  
sobre como iniciou a luta. Averiguar o que ocorreu requer atender aos  
detalhes das histórias e avaliar os atos. SURPRESA

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

34. 32. Qual a emoção que seria útil sentir quando pretendemos compreender o \*  
que causou uma luta entre três crianças? Cada criança conta uma história  
sobre como iniciou a luta. Averiguar o que ocorreu requer atender aos  
detalhes das histórias e avaliar os atos. TRISTEZA

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

35. 33. Qual a emoção que seria útil que um médico sentisse quando desenvolve \*  
um tratamento para um paciente com um tumor cancerígeno? O médico  
deve aplicar vários procedimentos eficazes, mas potencialmente  
contraditórios entre si. FELICIDADE

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

36. 34. Qual a emoção que seria útil que um médico sentisse quando desenvolve um tratamento para um paciente com um tumor cancerígeno? O médico deve aplicar vários procedimentos eficazes, mas potencialmente contraditórios entre si. ESTADO EMOCIONAL NEUTRO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

37. 35. Qual a emoção que seria útil que um médico sentisse quando desenvolve um tratamento para um paciente com um tumor cancerígeno? O médico deve aplicar vários procedimentos eficazes, mas potencialmente contraditórios entre si. NOJO E DESAFIO \*

*Marcar apenas uma oval.*

- 1 - Nada útil
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito útil

Secção  
C

Selecione a resposta que, de acordo com a sua opinião, seja a melhor alternativa para cada um dos seguintes acontecimentos

38. 36. A Marisa sentia-se cada vez mais envergonhada perante os outros, e \*  
começou a sentir-se desprezível. Mais tarde, sentiu-se \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Oprimida  
 B - Deprimida  
 C - Envergonhada  
 D - Constrangida  
 E - Inquieta

39. 37. O Francisco ficou contente quando pensava acerca da sua vida, e quanto \*  
mais refletia sobre as coisas boas que tinha realizado e a alegria que lhe  
tinha potenciado nos outros, sentiu-se ainda mais \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Surpreendido  
 B - Deprimido  
 C - Reconhecido  
 D - Feliz  
 E - Admirado

40. 38. A Natália nunca tinha estado tão surpreendida na sua vida. Mas quando \*  
recuperou um pouco a comoção pela perda do seu cão, deu-se conta de  
que podia beneficiar da situação se refletisse cuidadosamente, e ela  
\_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Sentiu-se admirada  
 B - Sentiu-se confusa  
 C - Negou a situação  
 D - Sentiu-se expectante  
 E - Sentiu-se pensativa

41. 39. O João estava triste pelas notícias que tinha recebido da sua família e queria expressar a sua dor de forma mais profunda. Quando soube que não lhe tinham dado a notícia no imediato e que o problema era pior do que se pensava ao princípio, sentiu \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Irritação e surpresa
- B - Tristeza e expectativa
- C - Comoção e pena
- D - Medo e aversão
- E - Nojo e pesar

42. 40. O José estava bastante contente com o trabalho e as coisas também iam bem por casa. Pensava que tanto ele como os seus companheiros de trabalho recebiam um bom salário e um tratamento justo. Hoje, toda a sua equipa, incluindo ele, recebeu um aumento de salário como forma de ajusto salarial da empresa. O José sentiu-se \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Surpreendido e comovido
- B - Tranquilo e calmo
- C - Satisfeito e eufórico
- D - Humilhado e culpabilizado
- E - Orgulhoso e dominante

43. 41. A Ana amava o Xavier, sentia que somente pertencia a ela. Começou a vê-lo como alguém ideal para ela e que roçava a perfeição. Ela \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Respeitava-o
- B - Admirava-o
- C - Invejava-o
- D - Adorava-o
- E - Tinha rancor

44. 42. A Carolina estava desgostosa porque um colega de trabalho atribuiu o mérito de um projeto somente a si próprio, e quando voltou a fazê-lo, sentiu-se \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Desgostosa
- B - Zangada
- C - Frustrada
- D - Assustada
- E - Deprimida

45. 43. Depois de lhe roubarem o carro uma vez, o Carlos instalou um alarme no seu carro novo. Quando o roubaram outra vez, primeiro sentiu-se surpreendido e logo depois sentiu-se \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Admiração e estupefação
- B - Impotência, desespero e irritação
- C - Nojo e indignação
- D - Ciúmes e inveja
- E - Depressão e descrédito

46. 44. Quando o David descobriu que vários colegas estavam a copiar nos exames, pensou que isso era moralmente incorreto. Quando disse ao professor, este indicou que não podia fazer nada. O David pensou levar este assunto ao coordenador do curso porque se sentia \_\_\_\_\_ pelo que tinha acontecido. \*

*Marcar apenas uma oval.*

- A - Inquieto  
 B - Furioso  
 C - Indignado  
 D - Deprimido  
 E - Entristecido

47. 45. O Marcos estava desgostoso porque um grande amigo não foi correto com ele. O Marcos disse ao seu amigo como se sentia e quando o amigo o ofendeu novamente, Marcos sentiu-se \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Desgostoso  
 B - Temeroso  
 C - Muito triste  
 D - Preocupado  
 E - Enfurecido

48. 46. A Teresa estava a ver televisão para seguir a evolução de acontecimentos de uma grande tempestade que estava perto da costa onde morava os seus pais. Consoante a tempestade se dirigia para a casa dos seus pais ia sentindo-se ansiosa e impotente. Nos últimos instantes, a tempestade mudou de direção, ficando a salvo toda a zona litoral. Ela sentiu \_\_\_\_\_.

*Marcar apenas uma oval.*

- A - Alívio e gratidão
- B - Surpresa e comoção
- C - Tensão e alívio
- D - Expectativa e ansiedade
- E - Expectativa e calma

49. 47. Uma mulher sentia-se segura de si mesma e aceite pelos demais. Mais tarde, sentiu-se deprimida. O que terá acontecido entre a primeira emoção e o segunda?

*Marcar apenas uma oval.*

- A - Recebeu um presente em casa dirigido a outra pessoa
- B - Descobriu que o seu marido a estava a enganar com outra mulher
- C - Um amigo ficou doente
- D - Uma carta que tinha enviado a um amigo foi entregue a outra pessoa
- E - Estava frustrada com um trabalho muito mau que tinha realizado num projeto

50. 48. Um menino que esperava alegremente pelo seu dia de aniversário sentiu-se triste após a sua realização. O que terá acontecido para que mudasse dessa maneira? \*

*Marcar apenas uma oval.*

- A - Outro menino insultou-o e ele defendeu-se
- B - Dois amigos que contava que viessem à festa não estiveram presentes
- C - Comeu demasiado bolo
- D - A mãe envergonhou-o perante os outros meninos
- E - O pai acusou-o de algo que não tinha feito

51. 49. Uma mulher de meia idade estava feliz e pouco depois sentiu-se rejeitada. O que terá acontecido para que mudasse dessa maneira? \*

*Marcar apenas uma oval.*

- A - O seu filho teve um pequeno acidente de trabalho
- B - Deu-se conta que tinha magoado os sentimentos de um grande amigo
- C - A sua nora chegou tarde a um jantar de família
- D - O marido criticou-a
- E - Perdeu um livro importante para ela

52. 50. Um homem estava relaxado e depois sentiu admiração. O que terá acontecido para que mudasse dessa maneira? \*

*Marcar apenas uma oval.*

- A - Enquanto estava relaxado, resolveu um problema de trabalho importante
- B - Ouviu uma história de um atleta que tinha alcançado um novo record mundial
- C - Um amigo ligou-lhe para dizer que acabava de comprar um carro desportivo a bom preço
- D - Chegou o carteiro com um presente da sua mãe
- E - O medico ligou-lhe para dizer que os seus exames indicavam que estava de boa saúde

53. 51. Os sentimentos de uma mulher mudaram de expectativa para amor. O que poderia ter causado esta mudança? \*

*Marcar apenas uma oval.*

- A - Fez uma doação e pensou em todas as pessoas que iria ajudar
- B - Comprou um vestido que a favorecia muito
- C - Leu uma revista sobre uma estrela de cinema que achou muito atraente
- D - A sua mãe ligou-lhe e disse-lhe que lhe iria mandar um presente de aniversário surpreendente
- E - Foi a um encontro e descobriu que tinha muitas coisas em comum com um homem atraente

54. 52. Um executivo de uma empresa estava desgostoso e mais tarde sentiu-se ofendido. O que lhe terá acontecido? \*

*Marcar apenas uma oval.*

- A - Um colaborador não alcançou os objetivos de vendas estabelecido para esse período
- B - Outro executivo da empresa, que considerava incompetente, obteve um aumento de salário maior
- C - Leu um artigo sobre pessoas que, numa outra parte do mundo, vivem na pobreza e como uma importante ONG estava a enfrentar muitos obstáculos nos seus esforços para ajudá-los.
- D - A sua mulher estava a ajudar os filhos nos trabalhos para casa
- E - Parecia que nada estava a correr bem

55. 53. Uma mulher estava irritada e de seguida sentiu-se culpada. O que lhe terá acontecido? \*

*Marcar apenas uma oval.*

- A - Perdeu o número de telefone de um grande amigo
- B - Não terminou um trabalho tão bem como esperava, porque não tinha tido tempo suficiente
- C - Expressou a sua irritação a uma amiga e descobriu que a sua amiga não tinha feito nada para a magoar
- D - Perdeu uma grande amiga
- E - Estava irritada porque alguém fofocava acerca dela e descobriu que todos os demais faziam o mesmo

56. 54. Luís tinha apreço pelo seu amigo Manuel e pouco tempo depois não tinha apreço. O que terá acontecido? \*

*Marcar apenas uma oval.*

- A - Manuel perdeu um livro muito caro que ele tinha emprestado
- B - Manuel foi infiel à sua própria mulher
- C - Manuel conseguiu um aumento de salário que não merecia
- D - Manuel disse-lhe que ia mudar de cidade
- E - Luís sentiu que tinha magoado o Manuel ainda que, em parte, a culpa era deste último

57. 55. Uma mulher amava uma pessoa e depois sentiu-se insegura. O que terá acontecido? \*

*Marcar apenas uma oval.*

- A - Deu-se conta que a outra pessoa também a amava
- B - Decidiu não expressar os seus sentimentos
- C - O seu amor desvaneceu
- D - Disse à outra pessoa que a amava
- E - O amor que sentia deu-lhe insegurança

## Secção D

Cada pergunta tem 4 ações. Selecione uma opção para cada uma das ações.

58. 56. A Maria levantou-se sentindo-se bastante bem. Tinha dormido muito bem, estava muito descansada e não tinha nenhum tipo de inquietação ou preocupação. Como ajudaria cada uma destas ações para manter o seu estado emocional? AÇÃO 1. LEVANTOU-SE E DISFRUTOU DO RESTO DO DIA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

59. 57. A Maria levantou-se sentindo-se bastante bem. Tinha dormido muito bem, estava muito descansada e não tinha nenhum tipo de inquietação ou preocupação. Como ajudaria cada uma destas ações para manter o seu estado emocional? AÇÃO 2. A MARIA DISFRUTOU DESSE SENTIMENTO E DECIDIU PENSAR E APRECIAR TODAS AS COISAS POSITIVAS QUE IAM ACONTECENDO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

60. 58. A Maria levantou-se sentindo-se bastante bem. Tinha dormido muito bem, estava muito descansada e não tinha nenhum tipo de inquietação ou preocupação. Como ajudaria cada uma destas ações para manter o seu estado emocional? AÇÃO 3. DECIDIU QUE ERA MELHOR IGNORAR O SENTIMENTO PORQUE DE QUALQUER FORMA NÃO DURARIA MUITO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

61. 59. A Maria levantou-se sentindo-se bastante bem. Tinha dormido muito bem, estava muito descansada e não tinha nenhum tipo de inquietação ou preocupação. Como ajudaria cada uma destas ações para manter o seu estado emocional? AÇÃO 4. APROVEITOU ESSE SENTIMENTO POSITIVO PARA LIGAR À SUA MÃE QUE ESTAVA DEPRIMIDA, E TENTOU ANIMÁ-LA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

62. 60. O André trabalha no duro, inclusivamente mais do que um dos seus colegas. De facto, no geral as suas ideias são melhores e obtém resultados muito positivos para a empresa. O seu colega apresenta um trabalho medíocre, mas aposta na política da empresa de tal forma que beneficia de progressões. Assim, quando o chefe anunciou que o prémio de mérito anual seria para o seu colega, o André ficou muito irritado. De que forma as seguintes ações seriam eficazes para ajudar o André a sentir-se melhor?  
AÇÃO 1. O ANDRÉ DECIDIU IR DESCANSAR E RELEMBROU TODAS AS COISAS BOAS DA SUA VIDA E DO TRABALHO.

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

63. 61. O André trabalha no duro, inclusivamente mais do que um dos seus colegas. De facto, no geral as suas ideias são melhores e obtém resultados muito positivos para a empresa. O seu colega apresenta um trabalho medíocre, mas aposta na política da empresa de tal forma que beneficia de progressões. Assim, quando o chefe anunciou que o prémio de mérito anual seria para o seu colega, o André ficou muito irritado. De que forma as seguintes ações seriam eficazes para ajudar o André a sentir-se melhor?  
AÇÃO 2. FEZ UMA LISTA DE CARACTERÍSTICAS POSITIVAS E NEGATIVAS DO SEU COLEGA.

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

64. 62. O André trabalha no duro, inclusivamente mais do que um dos seus colegas. De facto, no geral as suas ideias são melhores e obtém resultados muito positivos para a empresa. O seu colega apresenta um trabalho medíocre, mas aposta na política da empresa de tal forma que beneficia de progressões. Assim, quando o chefe anunciou que o prémio de mérito anual seria para o seu colega, o André ficou muito irritado. De que forma as seguintes ações seriam eficazes para ajudar o André a sentir-se melhor?  
AÇÃO 3. SENTIU-SE MUITO MAL POR COMPORTAR-SE DESSA FORMA E AFIRMOU QUE NÃO CONSEGUIRIA ALCANÇAR NADA QUE ESTIVESSE FORA DO SEU CONTROLO.

\*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

65. 63. O André trabalha no duro, inclusivamente mais do que um dos seus colegas. De facto, no geral as suas ideias são melhores e obtém resultados muito positivos para a empresa. O seu colega apresenta um trabalho medíocre, mas aposta na política da empresa de tal forma que beneficia de progressões. Assim, quando o chefe anunciou que o prémio de mérito anual seria para o seu colega, o André ficou muito irritado. De que forma as seguintes ações seriam eficazes para ajudar o André a sentir-se melhor?  
AÇÃO 4. DECIDIU DIZER ÀS OUTRAS PESSOAS QUE O SEU COLEGA TINHA REALIZADO UM PÉSSIMO TRABALHO E QUE, PORTANTO, NÃO MERECEIA O PRÉMIO. REUNIU DOCUMENTOS PARA DEMONSTRAR O SEU PONTO DE VISTA E FUNDAMENTAR O SEU COMENTÁRIO.

\*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

66. 64. A Joana não sabia quando terminava o prazo de pagamento das suas faturas, quantas mais chegariam em breve, nem se conseguiria pagá-las. Ainda, o seu carro começou a fazer ruídos estranhos e o mecânico disse-lhe que iria custar tanto o concerto que não valeria a pena. Agora não consegue dormir, acorda várias vezes durante a noite e está sempre preocupada. De que forma as seguintes ações ajudariam a reduzir a sua preocupação?  
AÇÃO 1. A JOANA TENTOU CALCULAR QUANTO DEVIA E QUANDO PAGAR AS CONTAS. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

67. 65. A Joana não sabia quando terminava o prazo de pagamento das suas faturas, quantas mais chegariam em breve, nem se conseguiria pagá-las. Ainda, o seu carro começou a fazer ruídos estranhos e o mecânico disse-lhe que iria custar tanto o concerto que não valeria a pena. Agora não consegue dormir, acorda várias vezes durante a noite e está sempre preocupada. De que forma as seguintes ações ajudariam a reduzir a sua preocupação?  
AÇÃO 2. A JOANA APRENDEU TÉCNICAS DE RELAXAMENTO PROFUNDA PARA ACALMAR-SE. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

68. 66. A Joana não sabia quando terminava o prazo de pagamento das suas faturas, quantas mais chegariam em breve, nem se conseguiria pagá-las. Ainda, o seu carro começou a fazer ruídos estranhos e o mecânico disse-lhe que iria custar tanto o concerto que não valeria a pena. Agora não consegue dormir, acorda várias vezes durante a noite e está sempre preocupada. De que forma as seguintes ações ajudariam a reduzir a sua preocupação?  
AÇÃO 3. A JOANA CONSEGUIU UM CONTABILISTA PARA AJUDÁ-LA A APRENDER GESTÃO FINANCEIRA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

69. 67. A Joana não sabia quando terminava o prazo de pagamento das suas faturas, quantas mais chegariam em breve, nem se conseguiria pagá-las. Ainda, o seu carro começou a fazer ruídos estranhos e o mecânico disse-lhe que iria custar tanto o concerto que não valeria a pena. Agora não consegue dormir, acorda várias vezes durante a noite e está sempre preocupada. De que forma as seguintes ações ajudariam a reduzir a sua preocupação?  
AÇÃO 4. DECIDIU PROCURAR UM EMPREGO ONDE RECEBESSE MAIS DINHEIRO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

70. 68. Nada sai bem ao Eduardo. Não há muitas coisas na sua vida que o divirtam ou que tenha prazer. Durante o próximo ano, de que forma as seguintes ações seriam eficazes para fazer com que o Eduardo se sentisse melhor? AÇÃO 1. O EDUARDO LIGOU A UNS AMIGOS COM QUEM NÃO FALAVA HÁ MUITO TEMPO E PLANEIOU VISITÁ-LOS. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

71. 69. Nada sai bem ao Eduardo. Não há muitas coisas na sua vida que o divirtam ou que tenha prazer. Durante o próximo ano, de que forma as seguintes ações seriam eficazes para fazer com que o Eduardo se sentisse melhor? AÇÃO 2. COMEÇOU A COMER MELHOR, A DEITAR-SE MAIS CEDO E A FAZER MAIS EXERCÍCIO FÍSICO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

72. 70. Nada sai bem ao Eduardo. Não há muitas coisas na sua vida que o divirtam ou que tenha prazer. Durante o próximo ano, de que forma as seguintes ações seriam eficazes para fazer com que o Eduardo se sentisse melhor? AÇÃO 3. O EDUARDO NOTAVA QUE FAZIA DEPRIMIR OS OUTROS E DECIDIU FICAR SOZINHO ATÉ PERCEBER O QUE SE ESTAVA A PASSAR. SENTIA QUE NECESSITAVA DE TEMPO PARA FICAR SOZINHO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

73. 71. Nada sai bem ao Eduardo. Não há muitas coisas na sua vida que o divirtam ou que tenha prazer. Durante o próximo ano, de que forma as seguintes ações seriam eficazes para fazer com que o Eduardo se sentisse melhor? AÇÃO 4. DEU-SE CONTA RELAXAR EM FRENTE AO TELEVISOR À NOITE, COM UMA OU DUAS CERVEJAS, AJUDÁ-LO-IA A SENTIR-SE MELHOR. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

74. 72. Enquanto o Roberto conduzia até casa desde o trabalho quase embateu num camião enorme. Não teve tempo nem para buzinar. O Roberto rapidamente virou para a direita para evitar o choque. Estava furioso. De que forma as seguintes ações seriam eficazes para gerir a irritação? AÇÃO 1. O ROBERTO VINGOU-SE DO CAMIONISTA, ATRAVESSANDO O CARRO À FRENTE DO CAMIÃO UNS QUILOMETROS MAIS ADIANTE. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

75. 73. Enquanto o Roberto conduzia até casa desde o trabalho quase embateu num camião enorme. Não teve tempo nem para buzinar. O Roberto rapidamente virou para a direita para evitar o choque. Estava furioso. De que forma as seguintes ações seriam eficazes para gerir a irritação? AÇÃO 2. O ROBERTO ACEITOU QUE ESSAS COISAS ACONTECEM E CONDUZIU ATÉ CASA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

76. 74. Enquanto o Roberto conduzia até casa desde o trabalho quase embateu num camião enorme. Não teve tempo nem para buzinar. O Roberto rapidamente virou para a direita para evitar o choque. Estava furioso. De que forma as seguintes ações seriam eficazes para gerir a irritação? AÇÃO 3. GRITOU O MAIS QUE PÔDE, MALDIZENDO E INSULTANDO O CAMIONISTA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

77. 75. Enquanto o Roberto conduzia até casa desde o trabalho quase embateu num camião enorme. Não teve tempo nem para buzinar. O Roberto rapidamente virou para a direita para evitar o choque. Estava furioso. De que forma as seguintes ações seriam eficazes para gerir a irritação? AÇÃO 4. JUROU QUE NUNCA MAIS IRIA CONDUZIR NAQUELA ESTRADA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

Secção  
E

São colocadas 5 perguntas para cada imagem, de modo a avaliar diferentes emoções.

78. 76. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita felicidade

79. 77. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita tristeza

80. 78. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco medo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito medo

81. 79. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca irritação  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita irritação

82. 80. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito nojo

83. 81. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita tristeza

84. 82. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca irritação
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita irritação

85. 83. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca surpresa  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita surpresa

86. 84. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito nojo

87. 85. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco entusiasmo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito entusiasmo

88. 86. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita felicidade

89. 87. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco medo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito medo

90. 88. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca irritação  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita irritação

91. 89. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca surpresa  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita surpresa

92. 90. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito nojo

93. 91. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita tristeza

94. 92. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco medo
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito medo

95. 93. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca irritação  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita irritação

96. 94. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

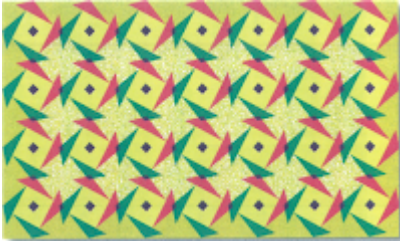
- 1 - Pouca surpresa  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita surpresa

97. 95. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito nojo

98. 96. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita felicidade

99. 97. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita tristeza

100. 98. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

1 - Pouco medo

2 - ...

3 - ...

4 - ...

5 - Muito medo

101. 99. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

1 - Pouca irritação

2 - ...

3 - ...

4 - ...

5 - Muita irritação

102. 100. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

1 - Pouco nojo

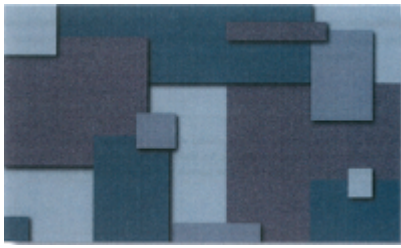
2 - ...

3 - ...

4 - ...

5 - Muito nojo

103. 101. Observe a imagem e indique em que grau expressa as emoções seguintes. \*



*Marcar apenas uma oval.*

- 1 - Pouca felicidade
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita felicidade

104. 102. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca tristeza
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muita tristeza

105. 103. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca irritação  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita irritação

106. 104. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouca surpresa  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muita surpresa

107. 105. Observe a imagem e indique em que grau expressa as emoções seguintes. \*

*Marcar apenas uma oval.*

- 1 - Pouco nojo  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito nojo

Secção  
F

Em cada uma das seguintes afirmações é-lhe solicitado que se imagine a sentir-se de uma determinada maneira. Responda da melhor forma possível, mesmo que não consiga imaginar esse sentimento.

108. 106. Imagine que se sente culpado por se esquecer de visitar um bom amigo que está gravemente doente. Ao meio-dia, percebe que se esqueceu completamente de visitá-lo no hospital. Em que grau da escala anteriormente mencionada esse sentimento de culpa se parece com cada um dos seguintes termos? 1. FRIO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

109. 107. Imagine que se sente culpado por se esquecer de visitar um bom amigo que está gravemente doente. Ao meio-dia, percebe que se esqueceu completamente de visitá-lo no hospital. Em que grau da escala anteriormente mencionada esse sentimento de culpa se parece com cada um dos seguintes termos? 2. AZUL \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

110. 108. Imagine que se sente culpado por se esquecer de visitar um bom amigo que está gravemente doente. Ao meio-dia, percebe que se esqueceu completamente de visitá-lo no hospital. Em que grau da escala anteriormente mencionada esse sentimento de culpa se parece com cada um dos seguintes termos? 3. DOCE \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

111. 109. Imagine que se sente contente num dia maravilhoso e tudo está indo muito bem no trabalho e com sua família. Até que ponto esse sentimento de satisfação se assemelha a cada uma das seguintes sensações? 1. CALOROSO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

112. 110. Imagine que se sente contente num dia maravilhoso e tudo está indo muito bem no trabalho e com sua família. Até que ponto esse sentimento de satisfação se assemelha a cada uma das seguintes sensações? 2. ROXO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

113. 111. Imagine que se sente contente num dia maravilhoso e tudo está indo muito bem no trabalho e com sua família. Até que ponto esse sentimento de satisfação se assemelha a cada uma das seguintes sensações? 3. SALGADO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

114. 112. Imagine que está a sentir frio, lento e agudo. Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 1. CONTUNDENTE \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

115. 113. Imagine que está a sentir frio, lento e agudo. Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 2. ISOLADO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

116. 114. Imagine que está a sentir frio, lento e agudo. Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 3. SURPRESO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

117. 115. Imagine que se sente rico, grande, delicado e com um verde brilhante. Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 1. ENTUSIASMADO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

118. 116. Imagine que se sente rico, grande, delicado e com um verde brilhante. \*  
Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 2. COM CIÚMES

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

119. 117. Imagine que se sente rico, grande, delicado e com um verde brilhante. \*  
Até que ponto esse sentimento é semelhante a cada um dos termos a seguir? 3. ASSUSTADO

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

120. 118. Imagine que se sente fechado, escuro e paralisado. Até que ponto esse \*  
sentimento se assemelha a cada um dos termos a seguir? 1. TRISTE

*Marcar apenas uma oval.*

- 1 - Nada parecido  
 2 - ...  
 3 - ...  
 4 - ...  
 5 - Muito parecido

121. 119. Imagine que se sente fechado, escuro e paralisado. Até que ponto esse sentimento se assemelha a cada um dos termos a seguir? 2. FELIZ \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

122. 120. Imagine que se sente fechado, escuro e paralisado. Até que ponto esse sentimento se assemelha a cada um dos termos a seguir? 3. CALMO \*

*Marcar apenas uma oval.*

- 1 - Nada parecido
- 2 - ...
- 3 - ...
- 4 - ...
- 5 - Muito parecido

## Secção G

Selecione a melhor opção para cada uma das seguintes afirmações.

123. 121. Um sentimento de preocupação é a combinação de emoções de \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Amor, ansiedade, surpresa e raiva
- B - Surpresa, orgulho, raiva e medo
- C - Aceitação, ansiedade, medo e expectativa
- D - Medo, alegria, surpresa e vergonha
- E - Ansiedade, cuidado e expectativa

124. 122. Outra palavra para "ter sistematicamente prazer" é \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Otimismo
- B - Felicidade
- C - Satisfação
- D - Alegria
- E - Surpresa

125. 123. Aceitação, alegria e afeto muitas vezes se combinam para formar \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Amor
- B - Espanto
- C - Expectativa
- D - Satisfação
- E - Aceitação

126. 124. Combinar sentimentos de nojo e raiva resulta \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Culpa
- B - Raiva
- C - Vergonha
- D - Ódio
- E - Desprezo

127. 125. Uma triste surpresa leva a \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - a desilusão
- B - ao espanto
- C - a raiva
- D - o medo
- E - ao arrependimento

128. 126. Tristeza, culpa e arrependimento combinam-se para formar \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Dor
- B - Raiva
- C - Depressão
- D - Remorso
- E - Miséria

129. 127. Relaxamento, segurança e serenidade fazem parte de \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Amor
- B - Fadiga
- C - Expectativa
- D - Calma
- E - Antecipação

130. 128. Medo, alegria, surpresa e vergonha fazem parte de \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Apreciação
- B - Temor
- C - Perplexidade
- D - Respeito
- E - Compreensão

131. 129. Vergonha, surpresa e constrangimento combinam-se no sentimento de \*

\_\_\_\_\_

*Marcar apenas uma oval.*

- A - Ciúmes
- B - Tristeza
- C - Culpa
- D - Inveja
- E - Humilhação

132. 130. Admiração, amor e ansiedade fazem parte de \_\_\_\_\_ \*

*Marcar apenas uma oval.*

- A - Ciúmes
- B - Tristeza
- C - Maldade
- D - Orgulho
- E - Preocupação

133. 131. Alegria, entusiasmo e incerteza fazem parte do sentimento de

\*

\_\_\_\_\_

*Marcar apenas uma oval.*

- A - Vivacidade
- B - Expectativa
- C - Ansiedade
- D - Calma
- E - Serenidade

134. 132. Tristeza e satisfação às vezes fazem parte do sentimento de

\*

\_\_\_\_\_

*Marcar apenas uma oval.*

- A - Nostalgia
- B - Ansiedade
- C - Expectativa
- D - Depressão
- E - Desprezo

Secção H

Selecione o grau de eficácia de cada uma das seguintes respostas.

135. 133. No ano passado, o João fez um bom amigo no trabalho. Hoje, aquele amigo surpreendeu-o completamente ao lhe dizer que tinha aceite um emprego noutra empresa e que se mudaria daquela área. Ele não disse nada ao João que estava à procura de outros empregos. Até que ponto seria eficaz para o João, a fim de manter a amizade, responder da seguinte maneira? RESPOSTA 1: ELE ESTAVA FELIZ PELO SEU AMIGO E DISSE-LHE QUE ESTAVA MUITO FELIZ POR TER CONSEGUIDO OUTRO NOVO EMPREGO. DE AGORA EM DIANTE, O JOÃO GARANTIRIA QUE ELES MANTERIAM O CONTATO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

136. 134. No ano passado, o João fez um bom amigo no trabalho. Hoje, aquele amigo surpreendeu-o completamente ao lhe dizer que tinha aceite um emprego noutra empresa e que se mudaria daquela área. Ele não disse nada ao João que estava à procura de outros empregos. Até que ponto seria eficaz para o João, a fim de manter a amizade, responder da seguinte maneira? RESPOSTA 2: O JOÃO FICOU TRISTE PORQUE O SEU AMIGO ESTAVA A IR EMBORA, ELE CONSIDEROU QUE O QUE HAVIA ACONTECIDO ERA UM SINAL DE QUE O SEU AMIGO NÃO SE IMPORTAVA. AFINAL, O SEU AMIGO NÃO LHE DISSE QUE ESTAVA À PROCURA DE OUTRO EMPREGO. COMO ELE ESTAVA A IR EMBORA, O JOÃO NÃO LHE DISSE NADA E COMEÇOU A PROCURAR NOVOS AMIGOS NO TRABALHO. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

137. 135. No ano passado, o João fez um bom amigo no trabalho. Hoje, aquele amigo surpreendeu-o completamente ao lhe dizer que tinha aceite um emprego noutra empresa e que se mudaria daquela área. Ele não disse nada ao João que estava à procura de outros empregos. Até que ponto seria eficaz para o João, a fim de manter a amizade, responder da seguinte maneira? RESPOSTA 3: O JOÃO ESTAVA MUITO ZANGADO PORQUE O SEU AMIGO NÃO LHE HAVIA DITO NADA E MOSTROU A SUA DESAPROVAÇÃO IGNORANDO-O ATÉ QUE ELE DEU UMA EXPLICAÇÃO. O JOÃO PENSOU QUE SE NÃO DISSESSE NADA, ISSO CONFIRMARIA A SUA OPINIÃO DE QUE NÃO VALIA A PENA FALAR COM ELE. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

138. 136. A professora do Raúl acabou de ligar para os pais para lhes dizer que o Raúl está muito mal na escola. A professora disse-lhes que o filho não está a prestar atenção, é problemático e não consegue ficar parado. Essa professora em particular não lida muito bem com crianças inquietas, e os pais do Raúl perguntam o que realmente está acontecer. Mais tarde, a professora disse-lhes que o filho vai repetir uma disciplina a menos que melhore. Os pais ficam muito zangados. Quão útil será para o seu filho cada uma das seguintes reações? RESPOSTA 1: OS PAIS DISSERAM À PROFESSORA QUE ISSO FOI UM GRANDE CHOQUE PARA ELES E QUE ERA A PRIMEIRA VEZ QUE OUVIAM FALAR DESSE PROBLEMA. ELES PEDEM PARA REUNIR COM A PROFESSORA E SOLICITAM QUE O DIRETOR TAMBÉM PARTICIPE DA REUNIÃO.

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

139. 137. A professora do Raúl acabou de ligar para os pais para lhes dizer que o Raúl está muito mal na escola. A professora disse-lhes que o filho não está a prestar atenção, é problemático e não consegue ficar parado. Essa professora em particular não lida muito bem com crianças inquietas, e os pais do Raúl perguntam o que realmente está acontecer. Mais tarde, a professora disse-lhes que o filho vai repetir uma disciplina a menos que melhore. Os pais ficam muito zangados. Quão útil será para o seu filho cada uma das seguintes reações? RESPOSTA 2: OS PAIS DISSERAM À PROFESSORA QUE SE ELA CONTINUASSE A AMEAÇAR O FILHO DE REPETIR A DISCIPLINA, ELES LEVARIAM O PROBLEMA AO DIRETOR. DISSERAM-LHE: “SE O NOSSO FILHO REPETIR, DIREMOS QUE VOCÊ É PESSOALMENTE RESPONSÁVEL. VOCÊ É A PROFESSORA E A SUA FUNÇÃO É ENSINAR, NÃO CULPAR OS ALUNOS.” \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

140. 138. A professora do Raúl acabou de ligar para os pais para lhes dizer que o Raúl está muito mal na escola. A professora disse-lhes que o filho não está a prestar atenção, é problemático e não consegue ficar parado. Essa professora em particular não lida muito bem com crianças inquietas, e os pais do Raúl perguntam o que realmente está acontecer. Mais tarde, a professora disse-lhes que o filho vai repetir uma disciplina a menos que melhore. Os pais ficam muito zangados. Quão útil será para o seu filho cada uma das seguintes reações? RESPOSTA 3: OS PAIS DO RAÚL DESLIGARAM O TELEFONE DA PROFESSORA E LIGARAM PARA O DIRETOR. ELES RECLAMARAM DAS AMEAÇAS DA PROFESSORA E SOLICITARAM QUE O FILHO FOSSE TRANSFERIDO PARA OUTRA TURMA. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

141. 139. A Lisa está bem. Enquanto outras pessoas receberam críticas pelo seu trabalho, a Lisa conseguiu uma promoção e um aumento muito bom. Os seus filhos estão muito felizes e estão muito bem na escola, o seu casamento é estável e muito feliz. Lisa começa a sentir-se muito orgulhosa de si mesma e fica tentada a gabar-se da sua vida para os seus amigos. Qual seria a eficácia de cada uma das seguintes respostas para manter os seus relacionamentos? RESPOSTA 1: COMO TUDO ESTÁ A CORRER TÃO BEM, É BOM TER ORGULHO. MAS LISA TAMBÉM PERCEBEU QUE ALGUMAS PESSOAS VÊM ISSO COMO UMA ATITUDE ARROGANTE OU PODEM SENTIR CIÚMES E, PORTANTO, APENAS EXPRESSAM OS SEUS SENTIMENTOS PARA AMIGOS MUITO PRÓXIMOS. \*

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

142. 140. A Lisa está bem. Enquanto outras pessoas receberam críticas pelo seu trabalho, a Lisa conseguiu uma promoção e um aumento muito bom. Os seus filhos estão muito felizes e estão muito bem na escola, o seu casamento é estável e muito feliz. Lisa começa a sentir-se muito orgulhosa de si mesma e fica tentada a gabar-se da sua vida para os seus amigos. Qual seria a eficácia de cada uma das seguintes respostas para manter os seus relacionamentos? RESPOSTA 2: LISA PENSOU EM TODAS AS COISAS QUE PODERIAM CORRER MAL NO FUTURO, PARA QUE TIVESSE UMA VISÃO MAIS COMPLETA DA SUA VIDA. ELA ENTENDEU QUE OS SENTIMENTOS POSITIVOS NÃO DURAM PARA SEMPRE.

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

143. 141. A Lisa está bem. Enquanto outras pessoas receberam críticas pelo seu trabalho, a Lisa conseguiu uma promoção e um aumento muito bom. Os seus filhos estão muito felizes e estão muito bem na escola, o seu casamento é estável e muito feliz. Lisa começa a sentir-se muito orgulhosa de si mesma e fica tentada a gabar-se da sua vida para os seus amigos. Qual seria a eficácia de cada uma das seguintes respostas para manter os seus relacionamentos? RESPOSTA 3: NAQUELA NOITE, LISA COMPARTILHOU SEUS SENTIMENTOS COM O MARIDO. LOGO DEPOIS, ELA DECIDIU QUE A FAMÍLIA DEVERIA PASSAR MAIS TEMPO JUNTA NOS FINS DE SEMANA E FAZER MAIS ATIVIDADES FAMILIARES PARA FICAREM JUNTOS.

*Marcar apenas uma oval.*

- A - Muito ineficaz
- B - Algo ineficaz
- C - Nem eficaz, nem ineficaz
- D - Algo eficaz
- E - Muito eficaz

---

Este conteúdo não foi criado nem aprovado pela Google.

## Google Formulários

## **Scientific Communications**

8,9 E 10. **NOVEMBRO.2018**  
CAMPUS ACADÉMICO DA MAIÊUTICA - ISMAI/IPMAIA

# XIX JORNADAS DA SOCIEDADE PORTUGUESA DE PSICOLOGIA DO DESPORTO

XVI CONGRESSO ANDALUZ

III LUSO-ANDALUZ DE PSICOLOGÍA DE LA ACTIVIDADE FÍSICA Y DEL DESPORTE

ORGANIZAÇÃO



INSTITUTO  
POLITÉCNICO  
DA MAIA IPMAIA



Sociedade Portuguesa  
de Psicologia do Desporto

**XIX Jornadas da Sociedade Portuguesa de Psicologia do Desporto**  
XVI Congreso Andaluz y III Luso-Andaluz de Psicología de la Actividad Física y el Deporte  
**Psicologia do Desporto - Investigação e prática em sintonia**

09 de novembro, 2019

**O Perfil de Competências do Nadador-Salvador Português**

Paulo Santiago<sup>1</sup>, Pedro Teques<sup>1,2</sup>, Daniel Duarte<sup>2,3</sup>, José Palácios<sup>4</sup>  
paulosantiago@ipmaia.pt<sup>1</sup>

<sup>1</sup> N2i, Instituto Politécnico da Maia

<sup>2</sup> CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa

<sup>3</sup> CIDESD, Instituto Universitário da Maia

<sup>4</sup> Grupo de Investigação em Atividades Aquáticas e Socorrismo, GIAAS, Universidade da Corunha

**Resumo:** O propósito da investigação é examinar o perfil de competências do nadador-salvador português, considerando o método da “Grounded Theory” (Strauss & Corbin, 2010) para compreender as variáveis psicossociais que definem um nadador-salvador de elite. Participaram no estudo 22 nadadores-salvadores de elite, com idades compreendidas entre 30 e 67 anos, que deram voluntariamente a sua opinião sobre as competências associadas à ação de um nadador-salvador. Os critérios de inclusão foram: formação especializada, mais de 10 anos de atividade profissional e nadadores-salvadores medalhados por mérito. A recolha dos dados foi realizada através de um guião. O guião foi desenvolvido, e previamente validado por um conjunto de peritos. Os dados foram gravados e transcritos verbatim. Os nadadores-salvadores com mais de 10 anos de atividade profissional foram contactados para a realização da entrevista pessoalmente, via email ou via telefone. Previamente à entrevista, os participantes tiveram acesso ao consentimento informado, onde foi garantida a confidencialidade e o anonimato dos dados. As entrevistas foram realizadas num local cuja tranquilidade possibilitou o normal desenvolvimento da entrevista. A análise dos dados foi executada através do método Grounded Theory (Strauss & Corbin, 2010). Os resultados indicam que as competências relacionadas com ética no trabalho, responsabilidade, trabalho em equipa, comunicação integridade, cortesia e relacionamento interpessoal foram identificadas por todos os entrevistados. Em síntese, o presente estudo providencia orientações relativamente à formação dos nadadores-salvadores, principalmente relacionadas com as competências comportamentais (Robles, 2012). O aspeto exploratório deste estudo é reforçado por ser a primeira investigação às competências comportamentais do nadador-salvador.

**Referências:**

- Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75(4), 453-465.
- Strauss, A. & Corbin, J. (2010). *Basics of Qualitative Research*. Thousand Oaks, CA: Sage Publications.

**Palavras-chave:** Competências, Nadador-Salvador, Salvamento Aquático.

---

<sup>i</sup> paulosantiago@ipmaia.pt

08.02.2020 | 9:00 - 18:00

LOCAL | FACULDADE DE CIÊNCIAS DO DESPORTO E EDUCAÇÃO FÍSICA

| ESTÁDIO UNIVERSITÁRIO DE COIMBRA

| PAVILHÃO II - ANFITEATRO RUI DE ALARÇÃO

# SEMINÁRIO INTERNACIONAL Salvamento Aquático

## LIVRO DE RESUMOS

### ORGANIZAÇÃO



FACULDADE DE  
CIÊNCIAS DO DESPORTO  
E EDUCAÇÃO FÍSICA  
UNIVERSIDADE D  
COIMBRA

### PARCEIROS



REMOSS  
Universidade de Vigo

CÂMARA MUNICIPAL  
COIMBRA

figueira  
do faz, para todos

**Workshop: Necessidade de uma abordagem psicossocial no salvamento aquático:  
Uma revisão sistemática da literatura**  
Santiago, Paulo<sup>1</sup>; Teques, Pedro<sup>2</sup>

<sup>1</sup>N2i, Instituto Politécnico da Maia, Portugal. Instituto Universitário da Maia, Portugal

<sup>2</sup>N2i, Instituto Politécnico da Maia, Portugal. CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal

## RESUMO

O afogamento é uma das principais causas de morte no mundo e as ações dos nadadores-salvadores podem ser consideradas uma contribuição substancial para mudar essa realidade. A este respeito, o propósito desta revisão sistemática da literatura é identificar os fatores associados ao desempenho dos nadadores-salvadores. Após uma pesquisa nas bases de dados PsycArticles, PsicBooks, PsycInfo, SportDiscus, Web of Science, PubMed, Scopus e SportDiscus contendo as palavras-chave “lifeguard” and “performance”, “lifeguard” and “skills” e “lifeguard” and “drowning” obtivemos 361 artigos. Após a análise dos dados, os resultados indicaram que existem fatores determinantes para o bom desempenho da atividade do nadador-salvador. Os resultados indicam que os fatores relacionados com a componente física, técnica e psicológica são essenciais para um melhor desempenho do nadador-salvador. A análise do dado evidência ainda a falta de estudos relacionados com as competências comportamentais.

**Palavras-chave:** Nadador-Salvador, *performance*, competências, afogamento.

## INTRODUÇÃO

O afogamento é o processo que resulta na dificuldade respiratória por submersão/imersão num meio líquido (van Beeck, Branche, Szpilman, Modell, & Bierens, 2005). E, segundo a World Health Organization (2014), é a terceira causa de morte por lesão não intencional. Estima-se que ocorram 360 000 mortes anuais por afogamento em todo o mundo. Devido a esta evidência, o afogamento foi considerado um problema de saúde pública. De acordo com os dados da Federação Portuguesa de Nadadores-Salvadores (2018), através do Observatório do Afogamento, ocorreram em Portugal 117 mortes por afogamento em 2018. A costa portuguesa tem uma extensão de aproximadamente 850 km e 39,8% dos casos de morte por afogamento ocorreram no mar, seguido pelos rios com 29,9% e pelas barragens com 10,3%.

Os nadadores-salvadores são os profissionais que podem ajudar a alterar esta realidade. As situações de afogamento determinam que os nadadores-salvadores apresentem um conjunto de competências técnicas (Autoridade Marítima Nacional, 2015) que permitam a intervenção no processo de salvamento. Neste sentido, com a presente revisão sistemática da literatura pretende-se identificar os fatores técnicos, físicos e psicológicos associados ao melhor desempenho dos nadadores-salvadores.

## MÉTODO

### Indicadores de inclusão e avaliação da qualidade dos estudos

Foi realizada uma revisão sistemática da literatura de acordo com as diretrizes do PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) (Moher et al., 2015). As bases de dados consultadas foram PsycArticles, PsicBooks, PsycInfo, SportDiscus, Web of Science, PubMed, Scopus e SportDiscus. As palavras-chave e o operador booleano utilizados foram: “lifeguard” and “performance”, “lifeguard” and “skills” e “lifeguard” and “drowning”.

Todos os artigos resultantes da pesquisa realizada foram analisados e foram seguidas as guidelines de avaliação

de estudos qualitativos (Letts et al., 2007) e de estudos quantitativos (Law et al., 1998). Considerando estes indicadores, foram incluídos cinco artigos nesta revisão.

## RESULTADOS

### Pesquisa, seleção e inclusão de publicações

A pesquisa inicial incluiu 361 artigos (Figura 1). Os duplicados foram removidos automaticamente ( $n = 160$ ), tendo restado 201 artigos para análise. Foram excluídos 187 artigos por falta de relevância e enquadramento com esta revisão sistemática. Os restantes 14 artigos foram analisados com uma leitura mais aprofundada. O principal fator de exclusão dos artigos foram: artigos de outras áreas ( $n = 4$ ) e insuficiência de dados científicos ( $n = 5$ ).

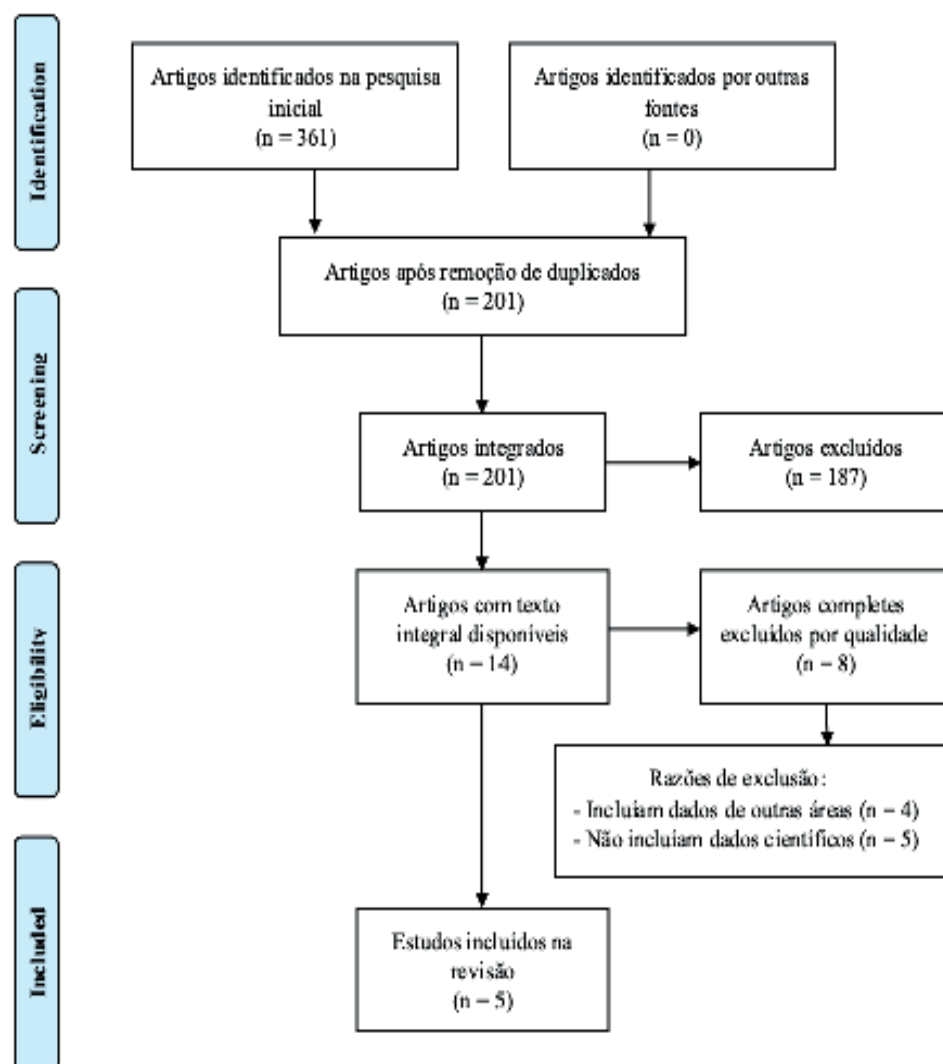


Figura 1. Fluxograma PRISMA relativo aos procedimentos realizados na pesquisa

## Descrição dos estudos

Verificou-se a existência de três estudos quantitativos e dois estudos qualitativos nesta revisão. Foram avaliados e pontuados pela sua qualidade (Letts et al., 2007) (Law et al., 1998) tendo obtido uma pontuação que varia entre os 80,5% e os 90,0%.

Tabela 1. Caracterização dos estudos incluídos na análise

Estudo	Amostra	Variáveis	Método	Qualidade (%)
Tipton, Reilly, Rees, Spray, and Golden (2008)	65 NS	NS com experiência em surf	Capacidade nadar em mar calmo e piscina	85.5
Page, Bates, Long, Dawes, and Tipton (2011)	69 NS	NS com e sem experiência	Simulações em video	85.5
Griffiths and Griffiths (2013)	839 NS	NS com experiência	Questionário online	80.5
Reilly, Wooler, and Tipton (2006)	91 NS	NS com e sem experiência	Corrida na praia, nadar no mar e nada na piscina	90.0
Moran and Webber (2013)	252 NS	NS com experiência em surf	Capacidade de execução de manobras de reanimação	88.5

## DISCUSSÃO

Segundo Connelly, Crook, Combs, Ketchen, and Aguinis (2018) a integridade e a competência são fatores determinantes para obter melhor desempenho no trabalho. Robles (2012) identificou as competências mais importantes para o desempenho no quotidiano atual e pela análise dos estudos, identificamos três grandes áreas que consideramos essenciais para o melhor desempenho do nadador-salvador: técnica, física e psicológica.

### Fatores técnicos e físicos

Os fatores técnicos e físicos são analisados em conjunto, uma vez que nestes estudos em particular a avaliação dos resultados não permitia a respetiva dissociação pois estão interligados.

No estudo de Tipton et al. (2008) verificamos que as vivências e a relação com o meio aquático através da prática do surf melhoram significativamente o desempenho do nadador-salvador. Nas provas realizadas, os nadadores que não tinham experiência no surf foram, em média, mais lentos 9,3 segundos do que os que tinham experiência. Quando submetidos a uma prova de natação no mar com o mar calmo, não se verificaram diferenças significativas. A mesma prova realizada, mas com o mar apropriado para a prática do surf (com ondulação), a diferença foi acentuada, os nadadores com experiência no surf foram mais rápidos. Nas provas realizadas em piscina não se verificaram diferenças significativas.

A capacidade de detetar vítimas de afogamento foi estudada por Page et al. (2011).

Tabela 2. *Fatores associados ao melhor desempenho dos nadadores-salvadores.*

<b>Estudo</b>	<b>Fatores identificados</b>	<b>Resultados</b>
Tipton et al. (2008)	Técnicos e físicos	Existe uma diferença significativa e quantificável no desempenho dos nadadores-salvadores com experiência no surf.
Page et al. (2011)	Técnicos	Registou-se uma diferença significativa nas taxas de deteção entre nadadores-salvadores experientes e menos experientes. Os nadadores-salvadores experientes têm uma probabilidade 4,9 vezes mais ( $p = 0,044$ ) de detetar uma pessoa em afogamento.
Griffiths and Griffiths (2013)	Psicológicos	Os nadadores-salvadores enquanto desempenham o seu trabalho pensam em: piscina ( $n = 239$ ), relacionamentos ( $n = 184$ ), patrões ( $n = 115$ ), família ( $n = 111$ ), planos após o trabalho ( $n = 108$ ), planos de fim de semana ( $n = 91$ ) e no que vão fazer após o final do trabalho ( $n = 76$ ).
Reilly et al. (2006)	Técnicos e físicos	As tarefas mais exigentes relacionadas com a força foram manuseamento de vítimas numa embarcação salva-vidas, prancha ou praia. As tarefas mais exigentes relacionadas com a resistência foram natação no mar enquanto rebocava uma vítima, remava numa prancha com uma vítima e enquanto corria na praia.
Moran and Webber (2013)	Técnicos e físicos	A maioria dos nadadores-salvadores (72%) garantiu as condições de segurança. Quase todos os nadadores-salvadores verificaram se a vítima respondia a estímulos (98%) e se realizaram a permeabilização da via aérea (92%), verificando depois a respiração (94%) e iniciando compressões torácicas (98%), estabelecendo uma relação de compressão / ventilação de 30:2 (90%). Apenas 48% dos participantes cumpriu com a sequência correta do algoritmo de suporte básico de vida.

Este estudo mostrou que houve uma diferença significativa nas taxas de deteção de vítimas de afogamento por nadadores-salvadores experientes e inexperientes. Nadadores-salvadores experientes conseguiram detetar 4,9 vezes mais situações de afogamento.

No que diz respeito à força realizada pelo nadador-salvador para o desempenho da sua função, o estudo de Reilly et al. (2006) identificou que os salvamentos realizados em embarcação, em prancha ou no mar são os mais exigentes em termos físicos. Outro fator associado à força é a resistência. A resistência é um fator determinante para o sucesso de um salvamento. As atividades consideradas mais exigentes foram: a corrida, a natação de salvamento, o reboque e o remar em prancha.

Nos procedimentos de abordagem a uma vítima de afogamento foram avaliados 252 nadadores-salvadores no estudo de Moran and Webber (2013) no que diz respeito à realização do protocolo de suporte básico de vida e à execução das técnicas de manobras de reanimação. A maioria dos nadadores-salvadores (98%) verificaram se a vítima respondia a estímulos. No entanto, detetaram-se situações que podem comprometer a recuperação de uma vítima, nomeadamente a má realização da compressão cardíaca externa; não descomprimiam na totalidade (4%), colocavam as mãos abaixo do ponto de compressão (9%), comprimiam atingindo uma profundidade excessiva (18%), incorreto posicionamento das mãos (25%) e comprimiam de uma forma demasiado superficial (35%). Outro fator comprometedor é a ventilação. Realizaram ventilações excessivas 87% dos nadadores-salvadores deste estudo.

## Fatores psicológicos/comportamentais

O estudo de Griffiths and Griffiths (2013) define que pensamentos e emoções (ruído interno) distraem um nadador-salvador impedindo-o de executar a sua tarefa. Uma pequena distração pode ser suficiente para se perder uma vida. Neste estudo, foram criadas duas categorias de análise: pensamentos e emoções.

Dos 839 nadadores-salvadores participantes deste estudo, os pensamentos mais comuns enquanto desempenham o seu trabalho foram: piscina (n = 239), relacionamentos, padrões, família, planos após o trabalho, planos de fim de semana e o que vão fazer após o final do trabalho. As emoções mais referenciadas foram sentir-se entediado, feliz, nervoso, tranquilo, responsável, stressado, preocupado, confiante e ansioso. Categorizaram posteriormente as emoções em agrupamentos: 37% referiram dissonância (nervoso, stressado, preocupado, ansioso, responsável), 14% referiram consciente (calmo, vigilante, pensativo, pronto, focado), 27% referiram sentimentos positivos (feliz, confiante, orgulhoso, alegria, satisfeito, poderoso) e 22% referiram tédio.

Quando questionados sobre quais as estratégias que utilizavam para manter a concentração e foco, as respostas mais comuns foram vigiar com varrimento visual, contar pessoas, focar, mudar de posição e andar. Outro fator de distração identificado foi o falar ao telemóvel e enviar mensagens.

## CONCLUSÃO

O afogamento é um perigo real e a ferramenta mais importante para o evitar é a prevenção (Szpilman, Sempstrott, et al., 2018). Pela avaliação dos dados disponíveis concluímos que os fatores associados ao melhor desempenho dos nadadores-salvadores se podem categorizar como fatores físicos, técnicos e psicológicos. A combinação dos fatores identificados poderá levar, sem dúvida, a um melhor desempenho dos nadadores-salvadores. A sua presença junto dos planos de água poderá dar uma falsa sensação de segurança se não estiverem atentos, pois basta uma pequena distração e o acidente poderá acontecer (Modell, 2010). A investigação acerca da ação do nadador-salvador português é escassa e, segundo o que é nosso conhecimento, não existe evidência científica relativamente às competências psicossociais e comportamentais do nadador-salvador para lidar com situações potencialmente stressantes. Verificamos uma escassez de trabalhos científicos na área da avaliação de desempenho dos nadadores-salvadores e, de acordo com Szpilman, Oliveira, Mocellin, and Webber (2018) o nadador-salvador passa 99,8% do seu tempo a realizar ações de prevenção, pelo que se torna imperativo a realização de novos estudos científicos na área psicológica/comportamental que evidenciem a melhor forma de evitar acidentes de afogamento.

## REFERÊNCIAS

- Autoridade Marítima Nacional. (2015). *Manual Técnico do Nadador-Salvador*. Coimbra: Imprensa da Universidade de Coimbra.
- Connelly, B., Crook, T., Combs, J., Ketchen, D., & Aguinis, H. (2018). Competence and Integrity Based Trust in Interorganizational Relationships: Which Matters More? *Journal of Management*, 44(3), 919-945. doi:10.1177/0149206315596813
- Federação Portuguesa de Nadadores-Salvadores. (2018). *Relatório Nacional de Afogamento 2018*. Retrieved from Portugal: [http://www.fepons.org/image/Relatorio\\_Nacional\\_de\\_Afogamento\\_2018.pdf](http://www.fepons.org/image/Relatorio_Nacional_de_Afogamento_2018.pdf)
- Griffiths, R., & Griffiths, T. (2013). Internal Noise Distractions in Lifeguarding. *International Journal of Aquatic Research and Education*, 7, 56-71.

- Griffiths, R., & Griffiths, T. (2013). Internal Noise Distractions in Lifeguarding. *International Journal of Aquatic Research and Education*, 7, 56-71.
- Law, M., Stewart, D., Pollock, N., Letts, L., Bosch, J., & Westmorland, M. (1998). *Critical review form: quantitative studies*. Retrieved from Hamilton: MacMaster University:
- Letts, L., Wilkins, S., Law, M., Stewart, D., Stewart, D., Bosch, J., & Westmorland, M. (2007). *Critical review form: qualitative studies (version 2.0)*. Retrieved from Hamilton: MacMaster University:
- Modell, J. (2010). Prevention of Needless Deaths from Drowning. *Southern Medical Journal*, 103(7), 650-653. doi:10.1097/SMJ.0b013e3181e10564
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., . . . Group, P.-P. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) the PRISMA statement. doi:10.1186/2046-4053-4-1
- Moran, K., & Webber, J. (2013). Too Much Puff, Not Enough Push Surf Lifeguard Simulated CPR Performance. *International Journal of Aquatic Research and Education*, 7, 13-23.
- Page, J., Bates, V., Long, G., Dawes, P., & Tipton, M. (2011). Beach lifeguards: visual search patterns, detection rates and the influence of experience. *Ophthalmic and Physiological Optics*, 31(3), 216-224. doi:10.1111/j.1475-1313.2011.00824.x
- Reilly, T., Wooler, A., & Tipton, M. (2006). Occupational fitness standards for beach lifeguards. Phase 1: the physiological demands of beach lifeguarding. *Occupational Medicine-Oxford*, 56(1), 6-11. doi:10.1093/occ-med/kqi169
- Robles, M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, 75, 453-465. doi:10.1177/1080569912460400
- Szpilman, D., Oliveira, R., Mocellin, O., & Webber, J. (2018). Is drowning a mere matter of resuscitation? *Resuscitation*, 129, 103-106. doi:10.1016/j.resuscitation.2018.06.018
- Szpilman, D., Sempsrott, J., Webber, J., Hawkins, S., Barcala, R., Schmidt, A., & Queiroga, A. (2018). Dry drowning and other myths. *Clinic Journal of Medicine*, 85.
- Tipton, M., Reilly, T., Rees, A., Spray, G., & Golden, F. (2008). Swimming Performance in Surf: The Influence of Experience. *International Journal of Sports Medicine*, 29(11), 895-898. doi:10.1055/s-2008-1038510
- Van Beeck, E., Branche, C., Szpilman, D., Modell, J., & Bierens, J. (2005). A new definition of drowning: towards documentation and prevention of a global public health problem. *Bulletin of the World Health Organization*, 83(11), 853-856.
- World Health Organization. (2014). *Global Report On Drowning* (9789241564786). Retrieved from Geneva: [https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/143893/9789241564786_eng.pdf?sequence=1)

**Workshop: Comunicar não verbalmente em situações de stress:  
Recomendações para Nadadores Salvadores  
Teques, Pedro<sup>1</sup>; Santiago, Paulo<sup>2</sup>**

<sup>1</sup>N2i, Instituto Politécnico da Maia, Portugal. CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal

<sup>2</sup>N2i, Instituto Politécnico da Maia, Portugal. Instituto Universitário da Maia, Portugal

## INTRODUÇÃO

Comunicar em situações de stress é uma tarefa que está associada à maioria das pessoas durante suas vidas. Para alguns, é uma parte importante da sua rotina diária de trabalho. Os médicos são confrontados com a responsabilidade de informar os pacientes e os seus familiares sobre diagnósticos de risco de vida (e.g., Hind, 1997), ou os empresários têm a tarefa desafiante de repreender os funcionários (Manzoni, 2002). A forma como uma decisão é comunicada pode ter implicações psicossociais importantes para quem toma a decisão e para o seu destinatário.

Para os nadadores-salvadores (NS), as noções de segurança são primordiais. Em geral, os NS tendem a agir dentro de uma estrutura fornecida pela experiência. Embora se possa argumentar que, em alguns casos, a ação do NS tem uma evidência empírica, ainda necessita de dar passos para uma ação a este nível psicossocial baseada na evidência científica. Os NS, por vezes, atuam como testemunhas e juristas com os banhistas. Atentos à saúde, segurança e bem-estar dos banhistas, espera-se que controlem a segurança aplicando regras e leis, e façam julgamentos sobre violações das regras, e tenham ações em consonância com as regras. Também têm a responsabilidade de garantir que os banhistas compreendam a noção do civismo.

Estes princípios têm implicações psicossociais na comunicação do NS em situações complexas. As pessoas mais bem-sucedidas enviam as mensagens certas de forma clara e consistente (Mandal, 2014). De facto, a capacidade de comunicar decisões com confiança, controlo, calma, intensidade positiva e assertiva parecem ser habilidades essenciais no processo de comunicação de uma decisão em situação de stress. Uma pessoa que apresenta tranquilidade e segurança ao comunicar uma decisão em situações complexas, transmite uma sensação de controle e maturidade aos destinatários (Richmond, McCroskey, & Johnson, 2012). É obvio que se exige que os NS tenham uma consciência e compreensão das habilidades interpessoais além da capacidade verbal. Gestos, linguagem corporal e comportamento espacial, uso do apito e expressões faciais podem contribuir para uma prática eficaz de comunicação da decisão dos NS (Santiago, Teques, Duarte, & Palácios, 2020). Há um reconhecimento na literatura da especialidade do papel relevante que a comunicação pode desempenhar no processo de relacionamento interpessoal, mas parece haver pouca formação baseada na evidência para substanciar e informar as práticas de comunicação dos NS em situações de stress.

## COMUNICAÇÃO NÃO VERBAL

Comunicação não verbal é comunicar sem palavras. A comunicação não verbal acontece quando o indivíduo gesticula, sorri ou franze a testa, arregala os olhos, aproxima-se de alguém, usa o apito, toca alguém, aumenta o volume vocal ou mesmo quando não diz nada. O aspeto crucial da comunicação não verbal é que a mensagem que é enviada pode ser recebida por uma ou mais pessoas. Se o indivíduo gesticula sozinho no quarto e ninguém está lá para o ver, então poderia ser argumentado que a comunicação não ocorreu. Obviamente, acontece o mesmo nas mensagens verbais: se alguém recita um discurso e ninguém o ouve, a comunicação não ocorre.

A capacidade de utilizar a comunicação não verbal de forma eficaz pode apresentar duas grandes vantagens na relação interpessoal. Primeiro, quanto maior a sua capacidade de enviar e receber sinais não verbais, maior é a atratividade da pessoa, popularidade e bem-estar psicossocial. Segundo, quanto mais habilidades não-verbais, maior será o sucesso numa grande variedade de situações de comunicação interpessoal, incluindo relacionamentos íntimos, comunicação no local de trabalho, comunicação professor-aluno, comunicação em tribunal, política e cuidados saúde (Hewett, 2018). Neste sentido, não será descabido afirmar que a comunicação não verbal poderá ser influente na eficácia da ação do nadador-salvador (Santiago, Teques, Duarte, & Palácios, 2020).

### **Indicadores da comunicação não verbal do NS**

A comunicação não verbal no NS envolve uma variedade de indicadores comportamentais, tais como (1) o uso do apito, (2) gestos, (3) postura e movimento corporal, (4) expressão facial, (6) contacto ocular, e (7) controlo, estilo e compostura.

**Uso do apito.** As normas de segurança que enquadram os banhistas indicam que o NS pode utilizar o apito para indicar que está a ocorrer uma violação norma e comunicar com os banhistas que o seu comportamento é inadequado. Neste sentido, o tom do apito do NS deve indicar a gravidade da infração do banhista. Isto implica o uso e consideração do apito como uma extensão das vocalizações não verbais do NS. Por outras palavras, o apito do NS torna-se um mecanismo importante de vocalização pelo qual o NS pode expressar emoções e/ou atitudes interpessoais para interagir com os banhistas, além de apenas indicar que ocorreu uma infração.

**Gestos.** O uso de sinais não verbais pelo NS para ilustrar um determinado comportamento de um banhista explicando o motivo da situação, parecem ser uma prática associada à comunicação do NS perito. Sinais não verbais e relatos verbais podem ser aliados, afirmando que o NS não pode ser responsabilizado pelos comportamentos dos banhistas, mas são as normas que regem a segurança no contexto onde estão inseridos. O NS está apenas a decretar não verbalmente as normas conforme o que é expectável a nível de segurança.

**Postura e movimento corporal.** Apesar que o apito possa ser o principal meio pelo qual o NS pode indicar aos banhistas uma determinada situação, a forma como o NS se inclina ou se move em direção ao banhista infrator e/ou zona de incidente ao apitar, enfatiza ainda mais o desejo do NS de atrair a atenção do banhista. Este é o primeiro passo da sincronia interpessoal, estabelecido através do contato visual, da postura e do movimento corporal.

**Expressão facial.** As expressões faciais estão entre as formas mais universais da comunicação não verbal. As expressões usadas para transmitir medo, raiva, tristeza e felicidade são semelhantes em todo o mundo (Ekman & Keltner, 1997). A base do contágio emocional, i.e., um processo através o qual a emoção se transmite de uma pessoa para outra, é uma característica interpessoal da expressão facial. O feedback dos músculos faciais de uma pessoa pode levar a experiências das emoções correspondentes noutra pessoa. Basicamente, sentimos o que a outra pessoa está a expressar (Blairy et al., 1999). Este aspeto poderá ser bastante relevante para a ação do NS em situações de stress.

**Contacto ocular.** O contacto ocular é um elemento importante da interação interpessoal. Estabelecer contacto visual é uma etapa preparatória para iniciar uma interação. Durante uma conversa ou um incidente, a utilização de contacto ocular pode indicar a capacidade de resposta do individuo e nível de confiança. No entanto, o contato visual excessivo, também pode ser ameaçador e causar desconforto ou angústia (Adams & Nelson, 2016). Portanto, a sua utilização seletiva pode ter um potencial reforçador da ação do NS.

**Controlo, estilo e compostura.** Os manuais de boas práticas para a afirmação de confiança e autoridade em momentos difíceis têm três requisitos fundamentais (Hewett, 2018): projetar confiança na postura e no movimento, atrair a atenção do(s) outro(s), e facilitar a percepção da ação como justa. Neste sentido, o controlo do NS, o estilo de apresentação, a conduta do tato, e a gestão do tempo na situação poderão ser determinantes de aceitação. Isolar o banhista infrator, gerir o espaço interpessoal, poderão estar associados a um NS competente na relação interpessoal. Estes comportamentos conduzidos de forma segura, objetiva e tranquila, e sem apressar etapas dos processos de ação, podem estar ligados a uma prática eficaz do NS.

## SÍNTESE

As mensagens não verbais são uma parte importante do processo de comunicação interpessoal do NS. Quase todas as partes do corpo humano podem ser indicadores relevantes para comunicar com os banhistas. Além disso, a maioria dos comportamentos não verbais é espontânea, automática e universal, e pode ser lida pelos outros, garantindo potencial vantagem no relacionamento interpessoal. O NS ao estar consciente da natureza das mensagens não-verbais, pode determinar um conjunto de instrumentos essenciais para atingir a excelência da sua ação.

Neste sentido, a comunicação não verbal poderá consistir em quatro determinantes da ação do NS junto dos banhistas. Primeiro, os comportamentos não-verbais podem ser essenciais para expressar e gerir emoções. Indicadores não-verbais também podem ser importantes para mostrar aos banhistas o cumprimento de alguma norma de segurança. Outra função da comunicação não-verbal no NS é que poderá revelar confiança e autoridade. Finalmente, o comportamento não-verbal poderá ajudar a regular as interações do NS com os banhistas. Inevitavelmente, os comportamentos não-verbais podem desempenhar funções críticas no relacionamento interpessoal do NS, e ser determinante na excelência da sua atuação.

## REFERÊNCIAS

- Adams, R. B., & Nelson, A. J. (2016). Eye behaviour and gaze. In D. Matsumoto, H. C. Hwang, & M. G. Frank (Eds), *APA handbook of nonverbal communication* (pp. 335-362). Washington, DC: American Psychological Association.
- Blairy, S., Herrera, P. & Hess, U. (1999). Mimicry and the judgment of emotional facial expressions. *Journal of Nonverbal Behavior*, 23, 5-41.
- Ekman, P. & Keltner, D. (1997). Universal facial expressions of emotion. In U. Segerstrale e P. Molnar (Eds), *Nonverbal communication: where nature meets culture*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Hewett, D. (2018). The nature of human communication. In D. Hewett (Ed.), *The Intensive Interaction Handbook* (pp. 3-7). Thousand Oaks, CA: Sage Publications.
- Hind, C. (1997). *Communication skills in medicine*. London: BMJ Publishing Group.
- Manzoni, J. F. (2002). A better way to deliver bad news. *Harvard Business Review*, 80, 114-119.
- Mandal, F. B. (2014). Nonverbal communication in humans. *Journal of Human Behavior in the Social Environment*, 24, 417-421.
- Richmond, V. P., McCroskey, J. C., & Hickson, M. L. (2012). *Nonverbal behavior in interpersonal relations* (7th ed). Boston, MA: Allyn & Bacon.
- Santiago, P., Teques, P., Duarte, D., & Palácios, J. (2020). Estudo do perfil de competências do nadador-salvador português. *Retos: Nuevas tendencias en Educación Física, Deporte y Recreación*, 37, 731-737.

# XXI JORNADAS DA SOCIEDADE PORTUGUESA DE PSICOLOGIA DO DESPORTO



NOVEMBRO 2020 | COIMBRA

FACULDADE DE CIÊNCIAS DO DESPORTO E  
EDUCAÇÃO FÍSICA

## DESENVOLVIMENTO E VALIDAÇÃO DA ESCALA DE COMPETÊNCIAS COMPORTAMENTAIS DO NADADOR-SALVADOR

Santiago, P.<sup>1,2</sup>, Teques, P.<sup>2,3</sup>

<sup>1</sup>Instituto Universitário da Maia, Portugal, <sup>2</sup>N2i, Instituto Politécnico da Maia, Portugal, <sup>3</sup>CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal

O propósito deste trabalho é desenvolver e validar inicialmente a Escala de Competências Comportamentais do Nadador-Salvador (ECC-NS), uma medida multidimensional de autorresposta desenvolvida para avaliar as competências comportamentais do nadador-salvador sob o perfil de competências do nadador-salvador desenvolvido por Santiago, Teques, Duarte e Palácios (2020). Para o desenvolvimento da escala (Estudo 1), participaram 10 nadadores-salvadores peritos (mais de 10 anos de experiência), onde foi avaliada a estrutura, desenho, terminologia, e compreensão de um conjunto de 28 itens. Para o estudo de validação inicial (Estudo 2), participaram 460 nadadores-salvadores portugueses ( $F = 96$ ;  $M = 364$ ) com idades compreendidas entre os 18 e os 61 anos ( $M = 29.27$ ,  $DP = 9.50$ ). Os participantes tinham em média cerca de 7 anos de experiência ( $M = 7.52$ ,  $DP = 8.17$ ). Os resultados oriundos de análise fatorial confirmatória revelaram um ajustamento aceitável do modelo (e.g.,  $CFI = 0.92$ ;  $RMSEA = 0.05$ ) constituído por 18 itens subdivididos por 3 fatores – prevenção, relacionamento interpessoal, profissionalismo –, revelando validade fatorial. Os fatores revelaram ainda fiabilidade compósita ( $> .70$ ), no entanto, apresentaram limitações de validade do constructo (convergente e discriminante). Serão sugeridas orientações para a validação contínua da escala, e de possíveis aplicações na formação dos nadadores-salvadores em Portugal.

Palavras-chave: análise fatorial confirmatória, fiabilidade, nadadores-salvadores, validade fatorial.

# XXII JORNADAS DA SOCIEDADE PORTUGUESA DE PSICOLOGIA DO DESPORTO

04 > 06 de novembro 2021



ESCOLA SUPERIOR  
DE EDUCAÇÃO  
E CIÊNCIAS SOCIAIS



PÓS-GRADUAÇÃO  
DESPORTO E ATIVIDADE  
FÍSICA ADAPTADOS





## Programa de treino psicossocial para nadadores-salvadores: um projeto piloto

Paulo Santiago<sup>1,2</sup>, Filipe Maia<sup>2</sup>, Sandra Santiago<sup>1</sup>, Daniel Duarte<sup>1,2</sup>, Pedro Teques<sup>1,3</sup>

<sup>1</sup>N2i, Instituto Politécnico da Maia, Portugal

<sup>2</sup>CIDESD, Universidade da Maia, Portugal

<sup>3</sup>CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal

### Resumo

A investigação tem evidenciado necessidade de formação nas competências psicossociais dos nadadores-salvadores. Neste sentido, o objetivo do presente estudo é analisar a eficácia de um programa curto de 10 horas de treino de competências psicossociais (i.e., foco de atenção, inteligência social e regulação emocional), dirigido a nadadores-salvadores. Os participantes do estudo foram 64 nadadores-salvadores com experiência a variar entre 1 e os 25 anos ( $M = 5.93$ ,  $DP = 6.07$ ), divididos aleatoriamente em grupo experimental e grupo de controlo. O teste de atenção d2 (Brickenkamp, 1962), o teste de inteligência social (O'Sullivan & Guilford, 1977), e o teste de inteligência emocional MSCEIT (Mayer, Salovey, & Caruso, 2002) foram utilizados para avaliar as competências psicossociais. Uma análise multivariada da variância de medidas repetidas (2 x 2 MANOVA (Grupo x Tempo) foi executada para analisar os efeitos do programa de treino em competências psicossociais. Os resultados revelaram que o grupo experimental revelou melhorias estatisticamente significativas do foco da atenção e da inteligência emocional comparativamente ao grupo de controlo. O relacionamento pessoal não revelou diferenças significativas entre os dois grupos. Estes resultados parecem evidenciar a importância da inclusão de conteúdos psicossociais na formação geral dos nadadores-salvadores em Portugal.

**Palavras-chave:** competências psicológicas, foco da atenção, inteligência emocional, nadadores-salvadores, programa de treino.

---

<sup>1</sup>paulosantiago@ipmaia.pt