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SERIOUS GAMES

EMOTIONAL COMPETENCE HANDBOOK



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PREFACE

Welcome to the Emotional Competence Course Handbook. This comprehensive guide is an integral component of our innovative pedagogical training program, meticulously designed to enhance your understanding and mastery of emotional competence. This program is one of the Intellectual Outputs of the Erasmus+ Project, "Serious Games - Developing Emotional Competence for Nursing Students."

In today's rapidly evolving world, emotional intelligence and competence are indispensable skills. They enable us to navigate the complexities of interpersonal relationships, communicate effectively, and achieve personal and professional success. Recognizing the crucial role that emotional competence plays in our lives, we have developed this course to provide you with a structured, engaging, and immersive learning experience.

The origins of this journey trace back to the hallowed halls of University of Minho when visionary professors from the School of Nursing identified a gap in nursing education. While technical proficiency was emphasized, emotional competence was often overlooked. In the complex and emotionally charged world of healthcare, these educators recognized that nurses required more than just clinical knowledge; they needed a profound understanding of emotional competence to provide holistic and compassionate care to patients.

This handbook serves as your compass throughout the course, offering clear and concise instructions, insightful explanations, and practical exercises. It is tailored to assist learners of all backgrounds, whether you are a student, a professional, or someone simply interested in furthering your understanding of emotions and their impact on your life.

We encourage you to embrace this learning experience with an open mind, a willingness to explore, and a commitment to your personal growth. Emotional competence is a lifelong endeavour, and this course will equip you with the knowledge and tools to navigate the intricate terrain of emotions.

As you embark on this transformative journey, remember that emotional competence is not just a skill; it is a way of life. We hope this course and handbook will empower you to master the art of understanding and managing emotions, both in yourself and in your interactions with others. By the end of this course, you will have a deeper appreciation of the profound impact emotional competence can have on your personal and professional life.

We extend our heartfelt gratitude to the entire team behind this project, whose dedication and expertise have made this training program and handbook possible. It's a testament to the power of collaboration and commitment, thanks to esteemed partners like the Polytechnic University of Bragança, the University of León, the University of Genoa, the University of Malta, and the Ștefan cel Mare University of Suceava. It symbolizes the harmonious fusion of minds, the convergence of expertise, and the shared vision to enhance nursing education.

It is our collective hope that nursing students will embrace the wisdom within and carry the torch of emotional competence into the healthcare settings they will soon grace.

Best wishes for a successful and transformative learning experience!

Coordinator of the Erasmus + Project SG4NS
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CHAPTER 1

Introduction

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Emotional Intelligence is a fundamental element in the exercise of the nursing profession. The nurse's ability to perceive and evaluate one's and others' emotions; the ability to generate feelings and emotions in order to facilitate cognitive activities; the ability to understand the information driven by affects; and the ability to make a good emotion (self) management, in order to promote emotional and intellectual growth and socially adaptive relations during interactions with patients is a "high-order nursing practice skill based on the notion that emotional intelligence is vital to practice" (Bulmer Smith, 2009 p 1629). Scientific evidence has positively correlated higher emotional intelligence to enhanced clinical decision-making, collegial relationships, clinical environment knowledge utilization and inter-professional relationships at multiple levels.

The overall goal of the project is to achieve higher standards of clinical practice through enhanced nurses' intrapersonal and social emotional competencies and abilities. This project integrates two major dimensions of today's active and dynamic teaching-learning process and transversal skills development. In a digital era, it is fundamental to bring new approaches to this process. Augmented reality, by way of a serious game interface, helps create simulated practice in a virtual learning environment, adding a new dimension to pedagogy. This emerging field of teaching and learning in the health sciences affords unique methods and conditions for instruction that are not easily replicated with more traditional educational modalities.

The specific objectives of the SG4NS project are to: -

1. Structure an educational program (course format) of emotional skills in undergraduate nursing students
2. Build a digital interface (SG prototype) to support the improvement of emotional skills in nursing students
3. Train nursing teachers to develop competencies and pedagogical knowledge in the field of emotional intelligence / emotional competencies
4. Improve nursing students' personal and social skills related to Emotional Competence

The expected learning outcomes resultant from the **personal** emotional competencies and skills development component of the learning program are for nursing students to: -

- a. Demonstrate the ability to recognize and understand their own emotions and motivations;
- b. Demonstrate the ability to recognize individual strengths, weaknesses and needs related to emotion recognition and expression;
- c. Develop a flexible and constructive regulation of one's own emotions.

The expected learning outcomes resultant from the **social** emotional competence and skills development component of the learning programme are for nursing students to: -

- a. Demonstrate the ability to analyse emotions, needs and concerns of others;
- b. Demonstrate the ability to recognise and discuss a patient's emotional signs;
- c. Demonstrate the ability to view things from the point of view of others;
- d. Build a good relationship and clear communication in order to influence and inspire others through the use of one's own and other people's emotions.

This handbook sets the content and guidance for the Emotional Competence Skills Development Programme for Nursing Students. The following chapter outlines and discusses theories and models of emotional intelligence, starting with Gardner's Theory of Multiple Intelligences, Mayer and Solevey's Emotional Intelligence as Ability Model, Petrides' Emotional Intelligence as a Trait model, Bisquerra and Escoda's Emotional Competences model, and Goleman and Bar-On's mixed models of emotional intelligence.

Chapter 3 defines and debates emotion regulation interventions, paying specific attention to emotions encountered within healthcare settings and among healthcare personnel. Emotion regulation in this chapter is reviewed in both the intrapersonal and interpersonal dimensions. It also addresses emotion regulation training among healthcare professionals and to this effect suggests the Affect Regulation Training (ART) model of effective emotion regulation with practical exercises.

Chapter 4 presents a discussion about teaching methodologies in higher education that can be adapted to emotional competence skills' development among nursing students, with a specific focus on the Problem-Based Learning (PBL) model. This learner-centred approach draws upon Dewey's experiential learning theory and Vygotsky's socio-cultural theory to stimulate and expand students' learning motivation to improve clinical reasoning skills and critical thinking. This chapter provides step-by-step guidance on how to develop a PBL case-based study addressing positive / negative emotions, and also how to evaluate the PBL approach with students.

Chapter 5 discusses student evaluation approaches that address both the intellectual and the interpersonal communication dimensions, to assess learning in emotional competence development. Furthermore, these approaches also assess critical thinking. The chapter addresses two main approaches, the oral examination (the Triple Jump Approach) and a clinical approach, or the Objective Structured Clinical Examination (OSCE). To achieve a holistic approach to evaluation and assessment of emotional competence, as a global construct, these approaches can be triangulated by way of a data collection instrument instituted upon ordinal variables that measure emotional competence, namely the Emotional Competence Veiga Scale (ECVS).

Chapter 6 outlines a background and discusses a rationale as to how the ECVS likert-type temporal frequency scale or *formulaire* measures emotional competence by way of Daniel Goleman's five dimensions of emotional intelligence: self-awareness, emotion management, self-motivation, empathy and management of social emotions.

Chapter 7 outlines Virtual Reality and discusses its remit and benefits to training health care professionals, and particularly in nursing education. Nevertheless, it also warns against the risks and other challenges of this technology in education calling for preventive measures to be instituted. This Chapter also presents the Serious Game devised for the project, namely an Escape Room invoking a spectrum of positive and negative emotions in its users.

In conclusion, Chapter 8 completes this handbook with a résumé of the rationale and purpose of the SG4NS project, its activities and outputs, and proposes future recommendations based on retrospection and insights earned during the conduct of this innovative and highly exciting pedagogical project, taking the journey of developing and consolidating emotional competence skill acquisition in professional nurse training further.

CHAPTER 2

Theories and Models of Emotional Intelligence

Authors: Aurora Adina COLOMEISCHI, Alina IONESCU – CORBU, Florin TIBU

In recent years, there has been a growing emphasis on the concept of emotional intelligence, with a wide array of definitions and explanations. In the Encyclopedic Dictionary of Psychology (6), the term "emotional intelligence" is explained beginning with the identification of its distant origins (in Thorndike's concept of "social intelligence") and its proximate origins (in Gardner's concept of "personal intelligences" – intra- and interpersonal). It is defined as "a difference in the degree to which people access, process, and use emotional information." We intend to present the main theories that conceptualize the phenomenon of emotional intelligence, extracting the main ideas and understandings in order to facilitate deeper understanding of how these theoretical frames could figure out the practice within medical settings, afterwards.

2.1 THE THEORY OF MULTIPLE INTELLIGENCES - HOWARD GARDNER

Howard Gardner's Theory of Multiple Intelligences, developed in 1985 in his work "Frames of Mind," revolutionized the classical view of the existence of a single type of intelligence and offered a renewed sense of hope in human development and the possibilities for differentiated education. According to Gardner, intelligence is the ability to solve problems and create valued products within a particular cultural context. The standard definition of intelligence suggests that it is innate and fixed in quantity, but Gardner's vision is flexible and provocative, based on abilities shared by the entire population. He asserts that individuals possess varying proportions of diverse intelligences (at least eight types). These premises have significant educational implications as they provide all children with opportunities to access information according to their dominant intelligence type. Educators can assist students in using their unique combination of intelligence to succeed in school. Based on his studies, Gardner distinguishes the following types of intelligence: linguistic, logical-mathematical, musical, spatial, naturalistic, kinesthetic, interpersonal, and intrapersonal. Recent research has led Gardner to define a ninth type of intelligence: existential intelligence.

Of particular significance in the conceptualization of social and emotional development are the intra- and interpersonal intelligences.

Intrapersonal intelligence involves self-awareness, understanding one's strengths and weaknesses, effective goal planning, monitoring and controlling thoughts and emotions, and the ability to monitor one's interactions with others. In Gardner's view, intrapersonal intelligence entails the presence of an efficient self-model and the capacity to transfer and use this information in self-regulation.

Interpersonal intelligence means thinking about others and understanding them, empathetic ability, recognizing differences among people, and appreciating their ways of thinking. It involves effective interactions with individuals within the family and society.

These two types of intelligence, initially configured by Gardner under the label of personal intelligence, encompass elements relevant to social and emotional development, serving as foundations for emotional and social competence that ensure success in individual life pursuits.

2.2 EMOTIONAL INTELLIGENCE AS ABILITY – MAYER & SALOVEY MODEL

One of the first approaches to the concept of emotional intelligence is promoted by John D. Mayer and Peter Salovey (14). The authors suggest that the definition of emotional intelligence should bridge the cognitive and emotional aspects of the psychological life (starting from the premise that traditionally, intelligence describes the cognitive dimension of the psyche): "the ability to perceive emotions, to access and generate emotions to assist thought, to understand emotions and emotional information, and to regulate emotions to promote emotional and intellectual growth." Mayer and Salovey present two definitions of the concept: firstly, "the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions." Secondly, a revised definition of emotional intelligence involving: "the ability to perceive accurately, recognize, and perceive emotions; the ability to access and/or generate feelings when they facilitate thinking; the ability to understand emotion and emotional knowledge; the ability to regulate emotions to promote emotional and intellectual growth."

The authors conceptualize emotional intelligence in a four-dimensional model that evolves from basic psychological processes to more psychologically integrated processes, and within each dimension, emotional skills are arranged in the order of their development:

I. Perception, Evaluation, and Expression of Emotions:

1. The ability to identify one's own emotions (at a physical, emotional, and cognitive level).
2. The ability to identify emotions in others, in art, etc., through language, sound, appearance, and behaviour.
3. The ability to express emotions accurately and express needs related to those experiences.
4. The ability to discriminate between correct/incorrect, honest/dishonest expressions of feelings.

II. Emotional Facilitation of Thinking:

1. Emotions are apriori to thinking by directing attention to important information.
2. Emotions are vivid and available enough to be generated in support of judgment and memory of feelings.
3. The amplitude of emotional dispositions changes the individual's perspective from optimism to pessimism, encouraging consideration of multiple viewpoints.
4. Emotional states encourage differential approaches to specific problems, such as when happiness facilitates inductive reasoning and creativity.

III. Understanding and Analyzing Emotions; Engagement of Emotional Knowledge:

1. The ability to label emotions and recognize relationships between words and emotions, as well as relationships between emotions themselves, such as the relationship between sympathy and love.

2. The ability to interpret the meanings emotions convey regarding relationships, such as the sadness that often accompanies loss.
3. The ability to understand complex emotions: simultaneous feelings of love and hatred or mixtures such as the overwhelming feeling as a combination of fear and surprise.
4. The ability to recognize transitions between emotions.

IV. Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth:

1. The ability to be open to both pleasant and unpleasant emotions.
2. The ability to engage or detach reflectively from an emotion based on the degree of information or utility it offers.
3. The ability to reflectively monitor emotions in relation to oneself and others.
4. The ability for personal and others' emotional management by enhancing negative emotions and increasing positive ones, without suppressing or exaggerating the information they may convey.

Regarding the acquisition of emotional intelligence, Mayer and Salovey argue that emotional skills begin in the family, with good parent-child interactions (parents help children identify and name their emotions, respect their feelings, and start connecting them to social situations). It is noted that the opportunities for learning emotional skills differ based on the emotional development of parents who can initiate emotional-cognitive learning processes. The authors consider it possible to acquire emotional skills through the standard curriculum (literature, art, music, theater, values lessons) and through the development of specific educational programs aimed at promoting emotional intelligence.

In the Handbook of Emotional Intelligence, John Mayer, Peter Salovey, and David Caruso (15) present three aspects of emotional intelligence: as Zeitgeist, as a personality trait, and as a mental ability. The authors identify the terms "emotional intelligence" and "emotional competence" as the most useful new terms designated by the American Dialect Society for 1995 (linked to the release of Daniel Goleman's best-selling work, "Emotional Intelligence"). The authors examine three meanings for the term emotional

intelligence: (1) Zeitgeist indicates a tendency of the time, a cultural tendency, the spirit of the times characterizing the moment – so the term can be explored from a cultural and political perspective; (2) emotional intelligence describes a group of personality traits considered important for success in life; (3) emotional intelligence presupposes a set of skills that ensure the processing of emotional information.

To support the first meaning – Zeitgeist (spirit of the times), the authors take a historical perspective and discuss the periods of stoicism (with strong anti-emotional consequences) in opposition to the Romantic era (which promoted emotional expression in art). They move on to the 1960s, marked by emotional expressiveness and "escape from the rigors of intellect" (15) and bring up the principles of humanistic psychology (G. Allport, A. Maslow, C. Rogers), according to which people should exercise self-determination, experience emotions directly, and grow emotionally. A trend of the time is seen in the contrast between the conflict and integration view of the relationship between thought and emotion. While emotion is often considered in conflict with reason, emotional intelligence, by contrast, can be interpreted as describing societal practices that integrate emotion and thought (this idea is reinforced by new research showing that emotional and cognitive systems at the brain level are more integrated than initially thought). From a cultural perspective, emotional intelligence is viewed as an equalizing variable, starting from another trend of the time, namely the conflict between recognizing differences among people and emphasizing their equality. Emotional intelligence was popularized as a response to the Bell Curve (which made distinctions between social classes in the USA based on intelligence) by showing that it can be stronger than general intelligence, and that emotional skills can be learned.

The presentation of the second meaning of emotional intelligence (as a group of personality traits) starts with the terms used in the description of the concept: motivation, emotion, cognition, consciousness (these are the four basic processes that make up the foundation of personality). Other aspects of personality are the self-model and the model of the world that must be built through learning, as well as the self-model in the world.

To illustrate this meaning, the authors propose the following scheme (15, p.100):

Level 3 Mental Traits	Mental Traits Relevant to Self E.g., self-esteem, self-awareness, personal intelligence, ego strength		General Traits E.g., extroversion, verbal intelligence, conscientiousness, dogmatism, friendliness	
Level 2 Mental Maps	Models of the Self E.g., self-concept, ideal self, identity, life story	Models of the Self in the World E.g., roles, attachments, identifications, conduct rules	Models of the World E.g., knowledge of pronunciation, expert knowledge	
Nivel 1 Mecanisme mentale Level 1 Mental Mechanisms	Fundamental Motivations E.g., the need to eat, drink, sleep, be with others, self- defense	Fundamental Emotions E.g., joy, sadness, anger, fear, related to psychophysiology	Fundamental Cognitive Operations E.g., learning, recall, judgment, comparison	Consciousness E.g., awareness, attention, the flow of consciousness

To support this perspective, Mayer, Salovey, and Caruso argue that there are definitions of emotional intelligence that overlap with multiple aspects of personality, potentially encompassing the individual's entire mode of operation in the world.

The third perspective presents the concept as an intelligence that processes and benefits from emotions, composed of mental capacities, abilities, and skills. Emotional intelligence as an ability is described in a four-dimensional model: emotional perception and identification (involving recognition and acquisition of information from the emotional system); emotional facilitation of cognition (using emotions to enhance cognitive processing); emotional understanding (cognitive processing of emotions); emotional management (self-management and the management of others' emotions).

The authors provide a circular description of the four-dimensional model of emotional intelligence proposed by Mayer and Salovey in 1997 (15, p.108). The first branch of the model represents the ability to perceive and express feelings. Emotional perception involves recording, tracking, and deciphering

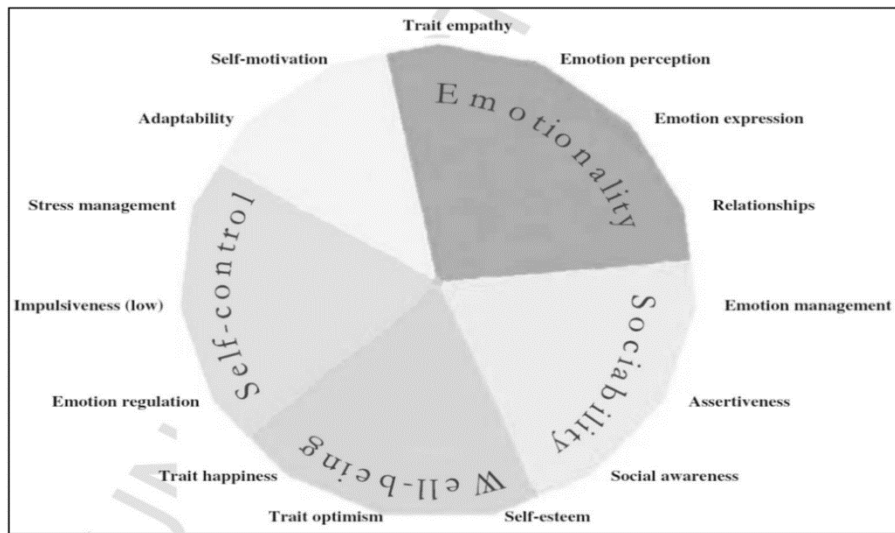
emotional messages as they are expressed in facial expressions, voice, tone, art objects, or other cultural artifacts. The second dimension refers to emotional facilitation and describes how emotions influence cognition. The third dimension involves understanding and reasoning based on emotions. The ability to understand emotions facilitates understanding fundamental truths about human nature and interpersonal relationships. The fourth dimension pertains to emotional management and involves coping skills in the face of different emotional dispositions, flexibility, adaptability, and understanding of emotional progress made in established relationships with others.

2.3 EMOTIONAL INTELLIGENCE AS A TRAIT : THE TRAIT MODEL (KONSTANTINOS VASILIS PETRIDES, 2001)

The trait model of emotional intelligence proposed by Petrides comprises a series of characteristics and dispositions situated at the lower levels of personality of which individuals might be aware. More specifically, Petrides presented emotional intelligence as an individual's self-perception of one's personality traits related to emotion or as the trait emotional self-efficacy (18, 19). The trait model argues that each individual may inherit characteristics that are helpful in some contexts, and less helpful in others, arguing that there is no recipe for an emotionally intelligent person that would thrive in all contexts of life, which resembles the personality characteristics of individuals.

For this model, the authors (19, 21) presented a series of components of trait emotional intelligence and how individuals who would gain high scores see themselves. All these dispositions are organized under four main facets represented by well-being, self-control, emotionality, and sociability, while two of the components (adaptability and self-motivation) were reported as independent. In the following, we will present these dispositions and how the authors defined them.

Figure 1: Trait model of emotional intelligence by Petrides



Source: adapted from Petrides (17)

Adaptability: individuals with high scores would see themselves as `flexible and willing to adapt to new conditions`, while lower scores would be obtained by individuals who have some reservations towards changes in general.

Assertiveness: individuals with high scores would be `forthright, frank, and willing to stand up for their rights`, while lower scores are typical to individuals who fall into a passive attitude and hesitate to fight for their rights or express their wishes.

Emotion perception (self and others): individuals with high scores for this facet are `clear about their own and other people's feelings`, whilst lower scores are characteristic to individuals for whom it is not very clear what they and others feel and why.

Emotion expression: high scores individuals are `capable of communicating their feelings to others`, while lower scores show difficulties in verbalizing emotions.

Emotion management (others): individuals who gain high scores are `capable of influencing other people's feelings`, while lower scores might show difficulties in modulating and out-facing others` feelings.

Emotion regulation: individuals who have high scores are `capable of controlling their emotions` and adjusting their emotional state to the situation, while lower scores individuals have difficulties in managing strong emotions or feelings.

Impulse control: individuals high in impulse control tend to think before acting and are `reflective and less likely to give in to their urges`, while lower scores might show tendencies to engage in unhealthy behaviours or actions.

Relationship skills: individuals with high scores are `capable of maintaining fulfilling personal relationships` by applying listening skills and maintaining healthy bonds, while lower scores individuals have difficulties in maintaining close relationships and might have inappropriate behaviours towards family and friends.

Self-esteem: individuals with high scores are `successful and self-confident` and show a healthy attitude towards themselves, while lower scores might show a low level of self-respect and trust in individuals` self-worth.

Self-motivation: high scores in this component show individuals who are `driven and unlikely to give up in the face of adversity`, whilst lower scores show a tendency to lower sense of achievement and a higher rate of abandonment in tasks.

Social awareness: individuals with high scores are `accomplished networkers with superior social skills` because they see themselves as good negotiators and confident in their endeavors, while lower scores might show restricted social abilities.

Stress management: in this case, individuals with high scores are capable of withstanding pressure and regulating stress` because they healthily manage their emotions, while low scores show difficulties in adaptively applying stress management strategies.

Trait empathy: high scores show that individuals are `capable of taking someone else's perspective` and seeing things from another point of view, while lower scores show difficulties in understanding other persons` perspectives and might maintain narrower opinions.

Trait happiness: this disposition shows individuals who are `cheerful and satisfied with their lives` and are, generally, content about the way they live, while lower scores are shown in individuals who have a negative perspective about their current life.

Trait optimism: individuals with high scores see themselves as `confident and likely to look on the bright side of life`, having a positive view over their future in general, while lower scores may show more negative attitudes towards one`s future, which may lead to missing opportunities.

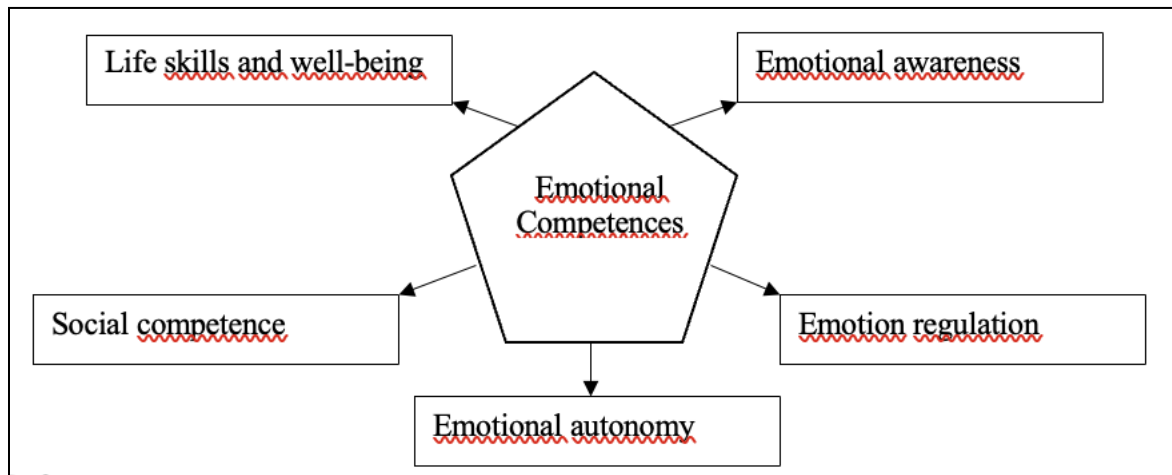
The trait model proved to have applications in multiple domains across various samples comprised of child, adolescent, and adult populations (16, 21). For example, in child and adolescent populations, the previously mentioned components predicted prosocial and antisocial behaviour (7, 12), they also predicted more leadership and cooperation in other age groups and geographical regions (12, 13). In adult populations, the model was linked to a better commitment to the organization, reduced stress levels, and more perceived flexibility and control over the job (20).

Overall, the model pleads for the promotion of a trait view over the emotional intelligence components, rather than a set of skills or abilities, debating the importance of integrating the social-cognitive and self-concept approaches.

2.4 THE EMOTIONAL COMPETENCES MODEL (BISQUERRA ALZINA AND PEREZ ESCODA, 2007)

Bisquerra and Escoda (4) conceptualized emotional intelligence as the acquisition and development of knowledge, talents, skills, and attitudes that would contribute to recognizing, understanding, and managing one`s emotional state. They present their model as a series of five blocks, each encompassing several capacities and abilities that can be learned. As shown in Figure 2, the main five blocks are emotional awareness, emotional regulation, emotional autonomy, social competence, and life skills for well-being. Each of these blocks includes certain abilities and attitudes that would lead to high scores on the respective block. In the following, we will present the components of each described block.

Figure 2: Competence model of emotional intelligence by Bisquerra and Escoda (4)



Source: adapted from Bisquerra & Escoda (4)

Emotional awareness refers to the capacity to identify and name one's emotions and the emotions of others in various contexts. It comprises other three aptitudes: (a) being aware of one's emotions – being able to identify, name and, in some cases, even be aware of emotions in future contexts; (b) being able to properly name emotions; and (c) understanding the emotions of others – being able to correctly perceive the emotions others feel and reveal them in an empathic way.

Emotion regulation stands for the ability to manage emotions by being aware of the relationship between affect, behaviour, and cognition. It also includes being able to elicit positive affect for oneself. This block includes five other skills, as follows: (a) being aware of the relationship between emotion, cognition and behaviour, and the role of cognition in regulating both emotion and behaviour; (b) emotional expression – the ability to accurately express emotions; (c) emotion regulation – the ability to manage emotions to pursue a series of objectives and staying motivated but also to prevent deeply negative emotional states; (d) abilities to confront negative emotions by using healthy strategies to decrease their intensity and impact; and (e) the ability to generate positive emotions for oneself – being able to relax and look for improving one's quality of life.

Emotional autonomy is comprised of self and relationship elements and covers seven areas of skills, including self-esteem, self-motivation, positive attitudes towards oneself, responsibility towards oneself and others, emotional self-efficacy, the ability to critically assess social norms, and resilience.

Social competence mainly refers to obtaining and maintaining good relationships with others. This block covers basic social abilities (such as listening or greeting others), showing respect towards others, good communication skills, skills in expressive communication, the ability to effectively communicate one's emotions to others, prosocial behaviour and cooperation, the ability to be assertive, being able to prevent and solve conflicts, and the capacity to manage emotional situations effectively.

Life skills and well-being encompasses a positive attitude towards living that would lead to establishing healthy and responsible goals to create a meaningful and good life. Some of the main components incorporated in this block consist of creating adaptive goals, making decisions that are relevant in social, personal, and professional contexts, being able to ask for and receive help, being an active, responsible, and critical citizen, the ability to look for the subjective wellbeing, and being able to look for favorable experiences in social, personal, and professional contexts.

2.5 MIXED MODELS OF EMOTIONAL INTELLIGENCE

Somewhat similarly to how things unfolded when the first theoretical perspectives on emotions that emerged in the field of psychology more than a century ago (namely, the James-Lange and Cannon-Bard theories) were later challenged by Schachter and Singer's (22) Two-Factor theory of emotion, so too mixed models of Emotional Intelligence (EI) came to be proposed in the past two or three decades as alternatives to then-thought more simplistic (i.e., either ability-based or trait-based) models of EI that had been put forward no long before. These mixed models have tried to reconcile other views by making use of scientific advancements in the fields of affective neuroscience and psychological testing methodologies. The most prominent EI researchers that introduced mixed models in conceptualizing EI were Reuven Bar-On and Daniel Goleman.

In the view of American psychologist and science journalist Daniel Goleman, EI represents a construct that relies the person's inner characteristics (that are both individual and social in nature) but is also viewed as a construct that can be developed and optimized through exposure to complex social situations and re-assessing them through observation of own behaviour and motives, reflection and reframing; Goleman, therefore, sees EI not only as a combination of personal traits and abilities, but also as a relational system that is equipped with some degree of plasticity.

Goleman's work contributed vastly to the establishment of EI as a validated type of intelligence. Before that, cognitive intelligence (together with its validated measurement index Intelligence Quotient, or IQ), was considered to be the only umbrella term that would comprise distinct dimensions. Researchers Boyatzis & Sala (5) stated that, in order for a proposed intelligence concept to be considered distinct from other types of intelligence manifestations, the following requirements need to be met: (1) The proposed concept is an observable behaviour; (2) It is linked to underlying biological structures that are activated through characteristic behaviours; (3) Has implications for long-term outcomes related to life, school, career; (4) Is different enough from other personality / behavioural concepts; and (5) Measurement properties, such as convergent and discriminant validity, are satisfied. Both Goleman, and Bar-On (see further below) have made significant advancements in linking EI dimensions to evolutionary-based facets of emotions and observed behaviours, proposing scales and instruments to measure distinct dimensions of EI and conducting research that demonstrated the significance of EI components in predicting individual and social behaviours.

Goleman is being credited with re-thinking the conceptual nature of EI and providing more scientific background for the concept, thus helping with meeting the requirements stated above by Boyatzis and Sala. More specifically, his work on EI has flourished with our raised understanding of the brain circuitry that is activated by social stimuli. The rapid development of affective neuroscience enabled Goleman to study how brain structures that are important for the processing of emotional stimuli can communicate with each other in rendering the optimal neural state for the individual to become aware of inner as well as social cues and how to manage negative emotions more effectively. In Goleman's view, the overactivation of the amygdala elicited during conflictual or negative mood states can compromise the individual's ability to self-regulate, identify solutions and become attuned to social signals. On the other hand, due to circuitry through which the amygdala is connected to the prefrontal cortex (an area that promotes self-regulation by allowing the individual to inhibit impulses, find solutions to problems and plan ahead) the individual can regulate negative emotions and return to stress-free mental state that promotes emotional stability and allows the individual to initiate constructive social contact.

Goleman initially proposed his EI theory in the 1990's, and later refined his view during the years 2000'. In his seminal 1995 book (9), he identified five components that are essential to EI: self-awareness (knowing one's emotions, goals, strengths and weaknesses), self-regulation (being able to divert

impulses and regulate negative emotions), motivation (directing inner resources towards goal accomplishment), empathy (being considerate of other people) and social skills (being able to establish rapport and maintain social relationships). This series of characteristics represents a combination of traits and abilities that appear to be in connection to biological substrates that promote emotion regulation and social relationships.

In his 2002 book, Goleman refined his initial EI theory by reducing the number of components to four, each of these reflecting the personal *versus* social domain of action and whether it encompasses the process of recognizing *versus* regulating emotions (11). The model has since remained virtually unchanged and Goleman made use of it in many of his subsequent publications and conference presentations.

Figure 3. Goleman’s four EI model components and their main characteristics. Adapted from Goleman et al., (11).

	RECOGNITION	REGULATION
PERSONAL	<u>SELF-AWARENESS</u> <ul style="list-style-type: none"> • <u>emotional self-awareness</u> • <u>focused and clear about goals</u> • <u>self-confident</u> 	<u>SELF-REGULATION</u> <ul style="list-style-type: none"> • <u>emotional control</u> • <u>inner conflict resolution</u> • <u>effective with self work</u>
SOCIAL	<u>SOCIAL AWARENESS</u> <ul style="list-style-type: none"> • <u>attuned to others</u> • <u>empathic</u> • <u>aware of own impact on others</u> 	<u>RELATIONSHIP MANAGEMENT</u> <ul style="list-style-type: none"> • <u>teamwork</u> • <u>negotiating conflicts</u> • <u>inspirational leadership</u>

In trying to identify applicative value for his views, Goleman used his theory to discuss implications for promoting a more effective leadership, in particular. Before EI was even conceptualized, leadership skills and professional success were largely considered to be attributes of cognitive (or rational) intelligence and had little to do with emotional dynamics within and between people. Both

scientists and leaders across professions were unaware of the impact that so-called 'soft skills' could have on organizational success, and dealing with emotions in the workplace was probably considered both irrelevant and a waste of time and resources. However, an increasing number of organizations across domains have nowadays become more attuned to the proven benefits of employing emotionally competent leaders, in terms of both employees' work satisfaction and company cost effectiveness.

Within just a few years after Daniel Goleman first published his scientific perspective on EI in 1995, Israeli psychologist Reuven Bar-On starting writing extensively on his own view on the concept, together with proposing, for the first time, a self-report instrument that aimed at measuring EI, which he called The Emotional Quotient Inventory (EQ-i; 1). This was the first time when the Emotional Quotient concept was used, and it has since become just as popular as its sister concept of IQ.

Two were the major influences that contributed to Bar-On's theory: Darwin's work on emotions and Thorndike's Social Intelligence theory. Regarding the impact that Darwin's evolutionary work had on the scientist, it should be noted that Bar-On considered that emotions served a pivotal and clearly adaptive role in our complex social world, by helping us to navigate through goals and tasks that inevitably involved working with other people. According to the model that he developed, "*emotional-social intelligence is a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express our- selves, understand others and relate with them, and cope with daily demands and challenges.*" (2). Just like Daniel Goleman, Bar-On thought that a solid conceptualization of EI needed reliance on some kind of biological system that would promote both emotional processing and social affiliation behaviours and he found it in Darwin's view on the role of emotions in socialization. On the other hand, Thorndike's theory on social intelligence and its key role played in human performance also proved critical in shaping Bar-On's concept of emotional intelligence. Darwin's writings on the adaptive role of emotions in the social realm and Thorndike's theory on social intelligence exerted such great impact on Bar-On that many times throughout his writings he came to refer to the concept of 'emotional *and social* intelligence' instead of just 'emotional intelligence'.

In Bar-On's view, EI comprises the following five components: (1) recognizing and understanding emotions and to ability to express feelings; (2) understanding how other people feel and the ability to

connect with them; (3) being able to deal with your emotions; (4) the ability to adapt to changing scenarios and solve problems of a personal and interpersonal nature; and (5) being able to exert positive affect and find inner motivation. One can easily notice how emotional and social constructs are intertwined in Bar-On's conceptualization of EI, to the extent to which one could speculate that the whole purpose of experiencing emotions is, in the theorist's view, to serve the individual's social purposes.

In designing his EI instrument, the EQ-i, Bar-On targeted the components stated above, which resulted in a 133-item self-report measure that yields one global EI score and 5 composite scale scores (Intrapersonal, Interpersonal, Stress Management, Adaptability and General Mood) with 15 subscales. Psychometric studies conducted by the author and others showed high reliability and validity, while predictive studies showed links between EI measured with the instrument and social interaction abilities, physical and psychological health and school and work performance (3). Its EI scale scores also correlate well with those measured through other EI tools.

Conclusions. Generally, the Goleman and Bar-On mixed models of EI aimed at an increased understanding of the intricate nature of processes that are activated in individuals when dealing with emotions in complex social contexts. Compared to alternative views (according to which EI was proposed to comprise solely abilities or solely traits), the mixed models have succeeded to incorporate in a meaningful and science-grounded manner two main ideas: 1) that there are neurobiological substrates underlying the EI, represented by both cortical (e.g., frontal and temporal areas) and subcortical (e.g., the amygdala) structures and which are clearly involved in expression of emotions and facilitation of social contact; and 2) that, in view of the modern neuroscience approaches, the EI components bear some degree of flexibility in development and are susceptible to change under favorable circumstances. This plasticity characteristic is given further support by research showing the role of mirror neurons as a neurobiological basis for empathy and modelling emotional competencies in general (10).

Besides being anchored in neurobiological-based approaches, the Goleman and Bar-On mixed models of EI have been successful in reaching beyond their formulated theoretical views by contributing to the design of applicative measurement tools with proven psychometric properties and which have been used widely in clinical practices, schools and leadership organizations. These mixed models on EI

have become not just validated theoretical perspectives, but also significant advancements in modern social sciences that have inspired generations of individuals and organizational structures.

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CHAPTER 3

Emotion Regulation Interventions

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3.1 Emotions in healthcare

Various individuals engaged in the healthcare process, such as medical practitioners, nurses, patients, and family members, encounter a range of complex emotions that exert notable influences, both beneficial and detrimental, on clinical outcomes (1; 2; 3; 4). Experiencing strong negative emotions and the inadequate management of these emotions have been found to be linked to medical students and healthcare professionals' psychopathology such stress, depression, anxiety and burnout and challenging interactions with patients. Additionally, patients' perspectives also indicate that these difficulties might lead to unsatisfactory relationships with healthcare providers. Moreover, these factors have the potential to shape the nature of interpersonal communication, work satisfaction, and the level of faith that patients place in their physicians. The recognition and comprehension of one's own emotions can facilitate the selection of suitable strategies for regulating emotions in order to achieve a desired objective. For instance, encouraging a patient to openly express their distress can result in reduced levels of anxiety, heightened satisfaction with their healthcare provider, and improved attitudes towards adherence to treatment and increasing job satisfaction among healthcare providers.

3.2 Emotion regulation

One of the most widely used definitions of emotion regulation was proposed by Gross (5), which pertains to the cognitive and behavioural strategies employed by individuals to manage their emotions. These strategies involve the deliberate selection of specific emotions, as well as the timing and manner in which they are experienced or expressed. Five distinct emotion regulation strategies were presented in The extended process of emotion regulation (5, 6). These strategies include situation selection, situation modification, attention deployment, cognitive change, and response modulation. *Situation selection* involves actively choosing a situation where desired emotions are more likely to occur. *Situation modification* refers to altering a situation in order to change its emotional impact. *Attention deployment* involves redirecting one's attention within a given situation. *Cognitive change* entails modifying appraisals of a situation after it has occurred, thereby altering its emotional significance. Finally, *response modulation* involves directly influencing and modifying physiological, emotional, or behavioural responses. Within this model, cognitive reappraisal and expressive suppression were the most used in research studies.

Interpersonal emotion regulation is a concept that refers to the strategies employed by individuals to achieve a desired emotional state within the framework of a real-time social interaction (7). On the other hand, co-regulation refers to a specific form of interpersonal emotion regulation characterized by the reciprocal influence of emotional experiences, expressive behaviours, and physiological responses between the partners, leading to emotional and physiological stability for both individuals in an interpersonal relationship (8).

Over time, several approaches have been proposed for the conceptualization and classification of emotion regulation. Augustine and Hemenover (9) conducted a comprehensive examination of emotion regulation strategies, identifying six overarching categories: behavioural, cognitive, engagement, avoidance, antecedent-focused, and response-focused. According to Gross and Jazaieri (10), emotion regulation can be categorized as either intrinsic or intrapersonal, which consists of regulating of one's own emotions, or extrinsic or interpersonal, which consists of regulating of others' emotions. Similarly, Niven et al. (11) proposed that emotion regulation can be classified as either extrinsic or intrinsic, with the desire of worsening or enhancing one's own emotions or the emotions of others individuals. More specifically, the concept of intrinsic affect-improving refers to the intentional efforts made by persons in order to enhance their own emotional mood, while extrinsic affect-improving refers to the actions of persons to increase the experience of positive emotions of others individuals. The concept of intrinsic affect-worsening refers to the intentional desires of one person to induce negative emotions within oneself, while extrinsic affect-worsening refers to the conscious efforts of eliciting negative emotions in others persons.

The regulation of emotions can be categorized as either adaptive or maladaptive (12). For instance, adaptive emotion regulation strategies include reappraisal and acceptance, whereas maladaptive strategies include rumination and suppression. These strategies can be employed to either down-regulate or up-regulate emotions. Furthermore, the model proposed by Zaki and Williams (7) delineates two distinct categories of processes, namely intrinsic processes and extrinsic processes, as well as response-dependent processes and response-independent processes. Thus, the model posits the existence of four distinct forms of interpersonal emotion regulation.

Another area of investigation focused on umbrella concepts that encompass this emotional process. The three components of emotional competence, as identified by Scherer (13), include emotion perception, emotion regulation, and emotion production. On the other hand, emotional intelligence, as proposed by Salovey and Mayer (14), encompasses the processes of appraising and expressing emotions, regulating emotions, and utilizing emotions in adaptive manners. According to Scherer (13), emotion regulation pertains to an individual's aptitude to monitor and manipulate their own emotions in alignment with socio-cultural norms, strategic intentions, and the desire to maintain a state of equilibrium. In contrast, Salovey and Mayer (14) provide a definition for the regulation of emotions which refers to the capacity and inclination to observe, assess, and modify one's own and others' emotional responses in order to achieve a certain objective (14).

3.3 Emotion regulation in Healthcare

Over the past twenty years, a significant body of research has been conducted to understand the associations between distinct emotion regulation strategies and mental health in general or clinical populations. The literature indicates that adaptive emotion regulation strategies, including cognitive reappraisal, actively approaching, positive refocus, positive reappraisal, seeking social support and acceptance are negatively correlated with psychological problems such as depressive symptoms, anxiety, and stress (15; 16; 17; 18); 19). Additionally, the use of maladaptive strategies, including rumination, withdrawal, catastrophizing, and ignoring, is positively linked to adverse consequences such as high levels of anxiety, stress, depression, and insomnia (18; 19; 20; 21). However, less is known on how emotion regulation affects healthcare personal wellbeing and healthcare personal-patient interactions.

In order to effectively navigate the complex dynamics of patient consultations, healthcare professionals must possess the necessary aptitude for emotion regulation. This entails the ability to effectively regulate and express their own emotions, while also creating a supportive environment that encourages patients to freely express their own emotional states. Related to healthcare professional emotion regulation strategies, one interesting line of research concerns which strategies are used by healthcare personal when experiencing strong positive and negative emotions in the presence of the patients. In order to address those high-arousal negative emotions, medical professionals employed a combination of both cognitive and behavioural strategies. The most used strategies by physicians were breathing, keeping the emotion away/focusing on something else, talking/listening to the patient, breaking eye contact, reframing, withholding the emotion (1). In their study, *focusing on something else* consists of ignoring; keeping emotional distance from the situation; continuing the encounter as if nothing was happening; focusing on the (next) task, on the patient, on one's posture; thinking as a professional; thinking of a solution; mentally counting, *talking/listening to the patient* refers to speaking calmly, gradually, with openness; maintaining silence; empathy; understanding; letting the patient express himself; keeping eye contact, *breaking eye contact* consists to gaining time; organizing thoughts, *reframing* consists of thinking of/providing an optimistic, hopeful perspective; rationalizing; accepting, withholding the emotion refers to blocking the feelings; not crying. It is widely accepted that breathing, talking/listening, and reframing are adaptive strategies with positive effects on subjective experience, such as decreasing negative emotions, or mental health issues as stress, anxiety and depression (16; 17; 22; 23). In contrast, keeping the emotion away/focusing on something else, withholding the emotion are considered maladaptive emotion regulation with detrimental effects on mental health (17; 19). The same study aimed at investigating the healthcare personal reactions when experiencing strong negative

emotions. Touching the patient, performing medical procedures, withdrawing from the situation and providing support were the most frequently reactions. Touching the patient and providing support to the patient are considered adaptive interpersonal emotion regulation strategies (24) while performing medical procedures and withdrawing from the situation can be maladaptive strategies (19). The results of another qualitative study suggest that emotional suppression was one of the most frequently used strategy by medical students when feeling that their emotions were impeding their ability to effectively carry out tasks (25). However, although in general, suppression is considered a maladaptive emotion regulation (17), in medical culture could be considered an adaptive strategy with positive consequences on the short-term (26). Furthermore, medical students implemented an additional strategy, which involved engaging in a process of reframing the stressful circumstances by rationalizing negative conduct and directing attention towards the positive abilities of a physician. The students exhibited a tendency to diminish the emotional intensity of the incident through the process of reappraisal, wherein they reassessed the issue and placed greater focus on external factors that may have contributed to the occurrence of the negative behaviour.

Two more recent studies assessed the emotional life of emergency department nurses and hospice nurses. The results of the study where emergency department nurses' emotion regulation strategies were assessed showed that disengagement/detachment, suppression, compartmentalization, distraction, cognitive reappraisal, seeking social support and exercising were the most frequently among this group (26). These findings indicate that a significant number of nurses hold the belief that their strategies are effective in mitigating the detrimental impact of negative emotions on their psychological wellbeing, patients and nurse-patient relationship. Additionally, the results on hospice nurses showed that they use the most extrinsic-affect improving, followed by intrinsic-affect improving.

The results also suggested that they use less frequently strategies such as extrinsic-affect worsening and intrinsic-affect worsening (27). This implies that hospice nurses typically seek to enhance others emotions, particularly for their patients and others involved in the care process.

3.4 Intrapersonal and interpersonal effects of emotion regulation in Healthcare

The manner in which healthcare professionals respond to and regulate their emotions in clinical settings can have significant impacts on both the healthcare professionals themselves and the patients they treat, ultimately influencing the nature of the clinical relationship in profound manners.

In a study aiming at identifying the associations between emotion regulation and life satisfaction, compassion fatigue, and job satisfaction among hospice nurses it was found that intrinsic-affect improving was positively associated with life satisfaction, intrinsic-affect worsening was positively associated with compassion fatigue while extrinsic affect-worsening was negatively associated with lower job satisfaction (27). In other words, when hospice nurses use intrinsic-affect improving to regulate their emotions, they reported a high level of life satisfaction, one indicator of psychological wellbeing, while when hospice nurses use intrinsic-affect worsening they report high level of compassion fatigue. Additionally, hospice nurses who make others feel worse, in this case could be patients, family members of patients or colleagues, have lower job satisfaction. Another study investigated the links between long-term care nursing staff cognitive emotion regulation strategies and burnout (28). It was found that greater use of maladaptive cognitive emotion regulations strategies, such as rumination and blaming others was associated with higher levels of emotional exhaustion. Furthermore, positive reappraisal, an

adaptive cognitive emotion regulation strategy, correlated negatively with depersonalization. Additionally, refocus on planning and positive reappraisal were significantly and positively correlated with personal accomplishment among nurses.

Another line of research concerns the links between health care personal emotion regulation and the healthcare personal-patient relationship. Previous studies showed that patients' perceptions of healthcare personal emotion regulation skills were associated with nonverbal immediacy in doctor-patient interactions, patient satisfaction and communication quality (29). In the second study presented in same paper, it was found that strong and positive associations between healthcare professionals' own-reported emotion reappraisal and patients' satisfaction and positive affect before encountering the healthcare professionals. The links between maladaptive emotion regulation strategies and patient-healthcare professional were also investigated. In a study with physicians as participants, it was found moderate correlations between maladaptive interpersonal emotion regulation strategies, such as withdrawal, imposing oneself and defending oneself, and the occurrence of immediate negative consequences within the physician-patient relationship, increased defensiveness, avoidance of the patient, loss of empathy and of trust in the patient, and relationship termination (1).

Taken together, these results suggests that the strategies used by healthcare professionals to regulate their own emotions have important effects not only on their psychological wellbeing, but also on patients' psychological wellbeing and their satisfaction towards the encounter with the healthcare professional.

3.5 Emotion regulation training for healthcare professionals

Having in mind the high prevalence of mental health problems, such as anxiety, stress, depression, Posttraumatic Stress Disorders and burnout among healthcare professionals (30; 31), various methods for preventing psychopathological symptoms were used in medical settings. One of them is developing competences to manage the aroused emotions and the challenging situations occurred in hospitals. In the following, we will present the results of interventions aiming to developed emotion regulation abilities among healthcare providers. For example, a study aimed to test the effectiveness of an emotion regulation intervention to decrease the occupational stress among Intensive Care Unit and Critical Care Unit nurses (32). The intervention consisted in eight sessions of two hours held during three weeks. During the first and last sessions, participants were invited to fill out the scales, while during the other six sessions, participants were provided with information about differences between various kinds of emotions, short-term and long-term effects of emotions, interpersonal skills (communication, expression and solving conflict), how to expand attention, shift attention and stop mental rumination, how to use cognitive adaptive strategies and how to change behavioural and physiological outcomes of emotions. The results showed that the nurses who were randomly assigned to the intervention group reported a lower level of occupational stress after the intervention. Additionally, they also reported lower levels of occupational stress dimensions such as conflict with physicians, problems with peers, workload, uncertainty concerning treatment and problems related to patients and their families compared to the control group. The results of another recent intervention study with also intensive and critical care nurses as participants present similar patterns of results (33). The emotion regulation training consists of acquiring information related to the psychoeducation and developing abilities such as progressive muscle relaxation, nonjudgmental

awareness, acceptance and tolerance of emotional responses, modification of attention, cognitive reappraisal, problem solving, and interpersonal skills. It was found that the intervention group reported lower levels of burnout, depression and anxiety compared to the waiting list group (control group). Additionally, the intervention group reported higher post-intervention scores of four out of five cognitive adaptive emotion regulation strategies (acceptance, refocus on planning, positive refocusing, positive reappraisal) and lower post-intervention scores for one maladaptive cognitive emotion strategy, catastrophizing.

Researchers were also interested in testing other emotion regulation trainings such as Affect Regulation Training (34). In the last section of this chapter, we will provide a detailed description of this model and some recommendations on how it can be used to develop emotion regulation skills among nurses. In the following, we will provide the results of an intervention study where the effectiveness of this training was tested (35). It was found that participants from the intervention group reported higher post-intervention improvements in emotion regulation skills such as acceptance, tolerance and modification. Furthermore, the ART-group reported also post-intervention improvements in wellbeing and improvements in emotion regulation skills and wellbeing over all three point-time assessments (pre-intervention, post-intervention and follow-up). In other words, the results of this study showed that ART is effective in developing emotion regulation skills and improving wellbeing and maintaining the wellbeing of elderly care workers over a period of six months.

Taken together, the results of these interventions showed that emotion regulation trainings are reliable methods for developing emotion regulation skills and enhancing wellbeing at work, lowering psychopathological symptoms among healthcare professionals.

3.6 Emotional regulation interventions- The Affect Regulation Training (ART)

The ART Model of Effective Emotion Regulation (34; 36) is a model of effective emotion regulation that utilizes techniques from: cognitive-behavioural therapy, dialectical behavioural therapy, mindfulness-based interventions, empathy trainings, emotion focused therapy, and problem-solving therapies. The model demonstrated the importance of emotion regulation skills in psychotherapeutic interventions on the mental health status of hospitalized patients. In a German hospital for various mental disorders, a group of 289 patients benefited from cognitive behavioural therapy and integrative emotional competence training. According to the measurements carried out, if before the intervention through training the results of the test showed significant differences between the clinical group and the control group on all scales (especially on: acceptance, resilience and understanding), after the interventions, in the case of patients who benefited from both the usual treatment and an emotion regulation training, significant improvements were found in the emotion regulation skills scores. Improved coping skills, acceptance, and tolerance of negative emotions are the strongest and most consistent predictors of treatment gain (36). The training interventions modifies the emotional register: experience, expression, regulation. The data of a group experiment on students highlighted the fact that, following three-hour training sessions divided into two parts, the effect of training on emotional regulation skills, happiness and quality of life is significant in the case of experimental group (compared to control group). Therefore, people who learn to adaptatively regulate their emotions will report a higher level of happiness (37).

In *ART* Model, adaptative emotion regulation is conceptualized as a situation-dependent interaction between seven emotion regulation skills (36):

1. The ability to be consciously aware of emotions
2. The ability to identify and correctly label emotions
3. The ability to identify what causes and maintains an emotion
4. The ability to actively modify emotions in an adaptative manner
5. The ability to accept and tolerate negative emotions
6. The ability to approach and confront situations
7. The ability to provide compassionate self-support in distressing situations

Practice *ART Model*

In this section, you are invited to have some practical experiences that empower in your emotional life.

Application 1. *Reflective moment*

1. How do you recognize an emotion to yourself?

2. Could you label the emotions?

3. How do you recognize an emotional storm?

4. How are the automatic thoughts in an adaptative/ non-adaptative emotion regulation?

Application 2. *The Truth about emotions*

It is significant to have a correct and coherent perception about our emotions. According with your emotional life, establish the truth of the follow affirmations:

1. *Letting others know that I am feeling bad is weakness. T/ F*
2. *Negative feelings are bad and destructive. T/ F*
3. *Being emotional means being out of control. T/ F*
4. *Emotions can just happen for no reason. T/ F*
5. *All painful emotions are a result of a bad attitude. T/ F*

If you gave three or more answers with True, you have a lot of Myths about emotions.

Application 3. *Exercise the ability to be consciously aware and to correctly label emotions- Joy*

- *Propose ten words that describe the emotion of Joy.*
- *Propose (three-five) events for feeling Joy.*
- *Identify (three-five) aftereffects of Joy.*

Example:

- Ten words that describe the emotion of joy: amusement, contentment, delight, enthusiasm, hope, happiness, jolliness, joviality, pleasure, satisfaction.
- The aftereffects of Joy: *being friendly to others, doing nice things for other people, having a positive outlook; seeing the bright side* (Linehan, 1993)

Application 4. Joy and Euphoria

- *Propose (three-five) events for feeling Euphoria.*
- *Identify (three-five) aftereffects of Euphoria.*
- *Identify principals' differences between Joy and Euphoria. What do you observe? How could you explain these differences?*

Application 5. Sadness

- *Propose ten words that describe the emotion of sadness.*
- *Propose (three-five) events for feeling sadness.*
- *Identify (three-five) aftereffects of sadness.*

Example:

- Ten words that describe the emotion of sadness: melancholy, hurt, disappointment, pity, sorrow, unhappiness, misery, loneliness, displeasure, gloom
- The aftereffects of sadness: *feeling tired or low in energy, feeling empty, feeling as if nothing is pleasurable any more (38)*

Application 6. Sadness and Despair

- *Propose (three-five) events for feeling Despair.*
- *Identify (three-five) aftereffects of Despair.*
- *Identify principals' differences between Sadness and Despair. What do you observe? How could you explain these differences?*

Application 7. Anger

- *Propose ten words that describe the emotion of anger.*
- *Propose (three-five) events for feeling anger.*
- *Identify (three-five) aftereffects of anger.*

Example:

- Ten words that describe the emotion of anger: dislike, envy, exasperation, frustration, fury, irritation, resentment, agitation, hostility, agitation
- The aftereffects of anger: *feeling incoherent, feeling out of control, muscle tightening* (Linehan, 1993)

Application 8. Anger and Destructiveness

- *Propose (three-five) events for feeling Destructiveness.*
- *Identify (three-five) aftereffects of Destructiveness.*
- *Identify principals' differences between Anger and Destructiveness. What do you observe? How could you explain these differences?*

Application 9. The ability to identify what causes and maintains an emotion

Remember a recent situation when you were *Sadness* and another situation when you were *Despair*.

Complete the table below with:

What effectively happened? What thoughts came into your mind? How do you decided to behave? What were the consequences?

Date & Time	What happened?	Thoughts	Feelings	Behaviour	Consequences
			Sadness		
			Despair		

What do you observe about two emotions, causes and consequences?

What are helping thoughts?

Do helping thoughts give you other feelings?

What else could you do? Would that lead to other consequences?

Application 10. The ability to identify what causes and maintains an emotion

Remember a recent situation when you were *Anger* and another situation when you were *Destructiveness*. Complete the table below with:

What effectively happened? What thoughts came into your mind? How do you decided to behave? What were the consequences?

Date & Time	What happened?	Thoughts	Feelings	Behaviour	Consequences
			Anger		
			Destructiveness		

What do you observe about two emotions, causes and consequences?

What are helping thoughts?

Do helping thoughts give you other feelings?

What else could you do? Would that lead to other consequences?

Application 11. *The ability to accept and tolerate negative emotions*

Think at a specific situation when you experienced a negative emotion in a *loosing situation*. If you just looked at your body, from top to bottom, where you could identify some tensions. If this tension would have *a shape, a color and a name* (write in the space below) ...

Application 12. *The ability to provide compassionate self-support in distressing situations*

If your best friend would be in a distressing situation, what would be your response in term of:

- a verbal message

- a nonverbal response

- a reward

Transfer these responses in relation with you, in a distressing situation.

Some conclusions:

- The interventions for a functional emotional regulation have registered, in the last decades, an increasing attention from both researchers and practitioners
- The impact of the emotional regulation style on different variables (general well-being, affective style, anxiety, depressive mood) represent a strong argument for the integration of emotional regulation trainings in different levels of interventions
- The current trend, at the level of psychotherapy interventions, is to integrate the concepts, techniques and methods belonging to several schools to enhance the results

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CHAPTER 4

Problem-Based Learning in Nursing Education

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4.1. Introduction

Teaching methodologies in higher education have been in a state of constant evolution over the last few decades. UNESCO's report on Higher Education in the 21st Century emphasizes the relevance of higher education in addressing the many challenges facing humanity in this century and suggests the need for a shift from assigning grades to developing competencies in order to strengthen the link between education and the world of work [1]. This orientation stems from a reflection on the need to train graduates to embark on their professional lives with a sufficiently broad range of competencies, encompassing the pillars for education -learning to know, learning to do, learning to be, and learning to live together- as outlined in the Report of the International Commission on Education for the 21st Century [2]. The Organization for Economic Co-operation and Development's Project on the Definition and Selection of Competencies (DeSeCo) identifies the need to reorient curricula and adapt the role of the teacher to help learners acquire competencies [3].

Nowadays, in the field of health sciences, it is becoming increasingly apparent that there is a need to modify and improve traditional teaching methods in order to enhance student motivation and knowledge acquisition [4]. Future professionals will have to deal with problems that call for innovative approaches and specific skills to tackle complex issues. They must be trained using strategies and techniques that specifically apply to this reality [5].

Problem-Based Learning (PBL) is founded upon two conceptual and theoretical arguments. The first of these is the work of the educational philosopher John Dewey, who stressed the importance of learning through experience [6]. According to Dewey, in this real-world experience, students are confronted with a problem that stimulates their thinking, they gather the information they need to find solutions to the problem, and use this to test their knowledge. On the other hand, PBL draws on the socio-cultural theory of Vygotsky, who emphasized the importance of students participating in cognitive learning communities

by exchanging and comparing ideas with others, actively engaging with each other to solve problems while the teacher directs their efforts [6,7].

The use of this methodology dates back to 1969, when McMaster University School of Medicine in Canada introduced it into its curriculum. The aim was to find new approaches that would improve the students' motivation and learning, as they were very dissatisfied with the medical education methods used up to that time [8].

The first class to graduate from the new McMaster University School of Medicine did so in 1972. At the same time, the University of Michigan's Human Medicine program introduced a problem-based course as part of its pre-clinical curriculum. It was also in the early 1970s that the Universities of Maastricht (The Netherlands) and Newcastle (Australia) established medical schools that incorporated PBL into their curricular framework. At the beginning of the 1980s, other schools that had continued to work with a conventional curricular framework began to develop similar plans structured around this new approach. The university leading this trend was the University of New Mexico in the United States. Soon after, other schools accepted the challenge of restructuring their entire curricula around PBL. The universities leading this endeavor were Hawaii, Harvard, and Sherbrooke (Canada) [9].

Barrows (1986) defines PBL as "a learning method based on the principle of using problems as a starting point for the acquisition and integration of new knowledge." He recognizes that the patient diagnostic process was based on a combination of hypothetico-deductive reasoning and multi-disciplinary expertise. A "traditional" classroom-based approach to teaching discipline-specific content (anatomy, neurology, pharmacology, psychology, and so on) did not provide students with a context to apply this in the clinical setting [10]. This traditional approach was further confounded by the rapidly evolving knowledge base of Science and Medicine, which was driving changes in both theory and practice [11].

PBL is a learner-centered teaching and curricular approach that prepares the learner to carry out research, integrate theory and practice, and apply knowledge and skills to develop viable solutions to a defined problem. Fundamental to the success of this approach is the selection of ill-structured (and often interdisciplinary) problems and a tutor who guides the learning process and provides a comprehensive report at the end of the learning experience [11].

Barrows set out the essential characteristics of PBL, reduced to bullet points below [12]:

- Students must have the responsibility for their own learning.
- The problem simulations used in problem-based learning must be ill-structured and allow for free inquiry.
- Learning should be integrated from a wide range of disciplines or subjects.
- Collaboration is essential.
- What students learn during their self-directed learning must be applied back to the problem with reanalysis and resolution.
- A closing analysis of what has been learned from work with the problem and a discussion of what concepts and principles have been learned are essential.
- Self and peer assessment should be carried out at the completion of each problem and at the end of every curricular unit.
- The activities carried out in problem-based learning must be those valued in the real world.
- Student examinations must measure student progress towards the goals of problem-based learning.
- Problem-based learning must be the pedagogical base in the curriculum and not part of a didactic curriculum.

The PBL methodology is perfectly suited to the development of higher education systems because it facilitates not only the acquisition of knowledge, but also other skills such as teamwork, communication skills, assuming responsibility for independent learning, collaborating in the search for information, critically evaluating information, active listening, and respecting the points of view of others [13].

The aim of PBL in nursing education is to “improve clinical reasoning skills through problem solving and critical thinking among students” [14].

4.2. How to Develop a PBL Case-Based Study

Working on a real problem in the classroom begins by identifying and defining the professional competencies to be acquired, distinguishing between the different areas of knowledge, as described in the Delors Report [2]:

- Learning to know (technical competence).
- Learning to do (methodological competence).
- Learning to be (participative competence).
- Learning to live together (personal competence).

For a better understanding of the design and facilitation issues around PBL, we need to analyze the essential characteristics of this learning environment. PBL starts with a problem. This problem is the stimulus for learning. Complex problems with multiple objectives, some of which are imprecise, often have no single correct answer; there may be several solutions or none at all, forcing students to consider alternatives, choose the most viable solution, and provide a reasoned argument to support their choice [15].

In PBL, the student leads the process by searching for information, then selecting and organizing it with a view to solving the problem at hand. The teacher becomes a tutor, guiding the student's learning, suggesting sources of information, and responding to their needs. The aims are to develop thinking skills, activate cognitive processes, and transfer methodologies in order to "learn how to learn." PBL is therefore based on the assumption that learning is an active, integrated, and constructive process that is influenced by both social and contextual factors [9].

The development of a PBL case-based study involves seven key steps [16]:

- Step 1: clarifying unfamiliar terms. Unclear terms and concepts in the problem description are clarified, so that every group member understands the information that is given.
- Step 2: problem definition. The problem is defined in the form of one or more questions. The group has to agree upon the phenomena that need to be explained.
- Step 3: brainstorm. The preexisting knowledge of group members is activated and determined. This process entails the generation of as many explanations, ideas, and hypotheses as possible. The ideas of all group members are collected, without critical analysis.
- Step 4: analysing the problem. Explanations and hypotheses of the group members are discussed in depth and are systematically analysed. Ideas from the brainstorm are ordered and related to each other.
- Step 5: formulating learning goals. Based on contradictions, obscurities, and ambiguities from the problem analysis, questions are formulated that form the foundation for the study activities of the group members. In short, it is determined what knowledge the group lacks, and learning goals are formulated on these topics.

- Step 6: self-study. In the self-study phase, group members search for relevant literature that can answer the questions in the learning goals. After studying this literature, group members prepare themselves for reporting their findings in the next tutorial meeting.
- Step 7: reporting. After reporting what sources group members have used in their self-study activities, a discussion of the learning goals takes place based on the studied literature. Group members try to synthesize what they have found in different sources.

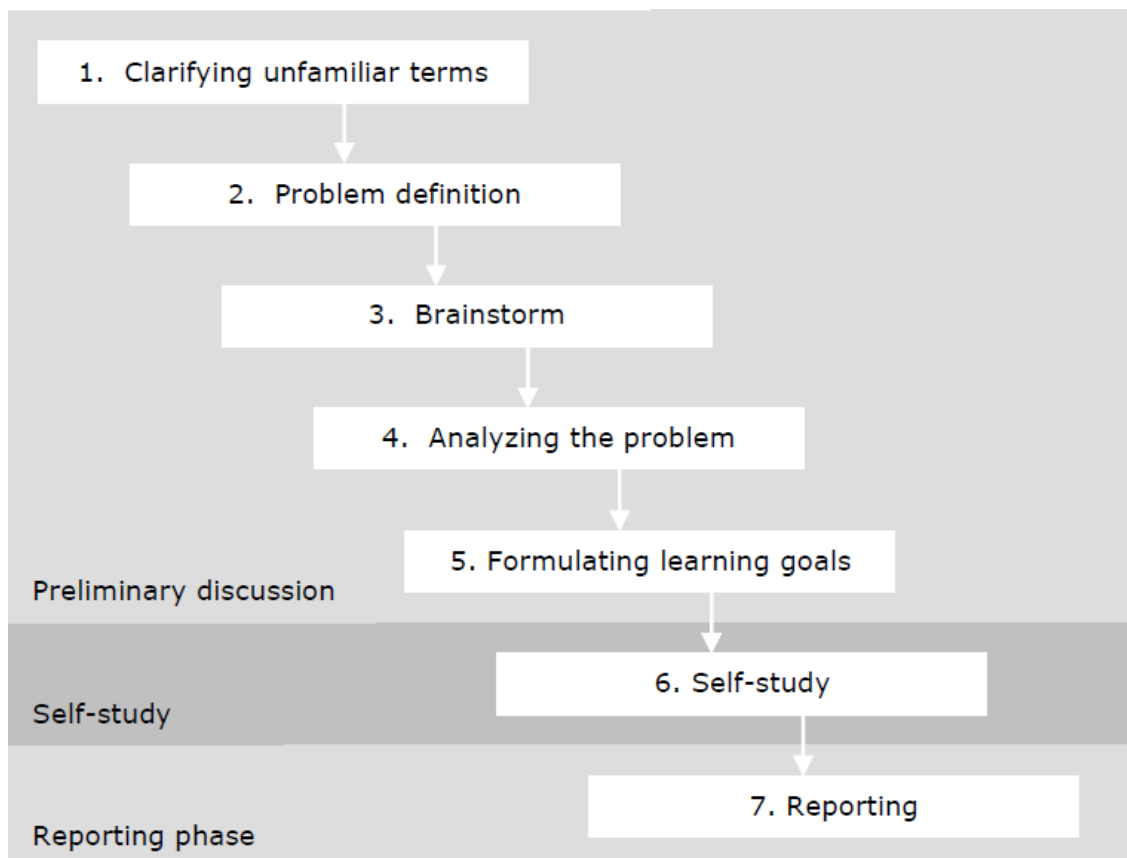


Figure 1. The seven-step approach [15]

4.3. Positive/Negative Emotion Case-Based Studies

Positive Emotion Case:

Mr. John is 64 years old and has been hospitalized for six days in a rehabilitation/physiotherapy unit following a stroke.

John is alert and oriented, and has right hemiparesis.

He immediately started motor rehabilitation with good results.

However, he tells the nurses that he is afraid that he will not be able to regain his motor skills and autonomy. His mood is not the best, he wants his life, his job, and his feelings back.

In the last two days John has reported being able to do exercises that he could not do before.

Enthusiastic about the improvements, he tells the nurse on duty that the situation is clearly improving.

Observing the positive recovery, the professional suggests that Mr. John also does the exercises in the afternoon and tries to do something independently, under the supervision of staff and in complete safety.

John is happy, at last he can see that healing is close at hand AND SAYS: "CAN WE START NOW?"

- Identify the patient's relationship needs.
- Discuss nursing interventions for the person with relationship needs in the light of evidence-based nursing.
- Identify the positive emotions present in this scenario.
- Discuss how to maintain positive emotions in both the patient and the healthcare professional.
- Discuss how positive emotions can drive improved health care in light of evidence-based nursing.

Negative Emotion Case:

A 46-year-old woman grieving the loss of her husband after a long illness. She has a teenage son and daughter, and another daughter of primary school age.

She was diagnosed years ago with an anxiety-depressive condition, which has been well controlled up to now with pharmacological treatment and private psychotherapy.

After the death of her husband she contacts her primary healthcare nurse. Frequent home visits were made throughout the course of her husband's terminal illness, fostering a relationship of trust and co-operation with the whole family. Now, because of her emotional and personal situation, it is she who turns to the nurse for support.

She is unemployed with a primary school education and no specialized training. Her current financial situation is precarious. Her husband held the family together, not just financially, and his death has left the whole family vulnerable, adding stress to an already complicated situation. The widow's pension is not enough to cover all expenses. She has no other family and her relationship with her husband's family is not very good.

A home interview is conducted to try to gain a deeper understanding of her emotional state and to improve her ability to cope with her current situation:

- Define grief and negative emotion.
- Identify the stages of development of negative emotions in the grieving process.
- Identify the main negative emotions that are likely to occur in the clinical case presented.
- Discussion of key nursing interventions for the appropriate emotional management of grief.
- Discuss how to manage emotions appropriately in order to avoid the onset of pathological grief.

4.4. How to Evaluate PBL with Students

In PBL, the evaluation process is integrated into the learning process and the feedback loop must be continuous, so that it serves as a stimulus for the improvement and development of the process itself. The main purpose of evaluation is therefore to provide feedback on strengths and weaknesses and to identify possible areas for improvement.

If changes are made in the way learning and teaching take place, it will also be necessary to change the way learning is evaluated. The aim is to determine whether the student has acquired the necessary knowledge through autonomous and co-operative learning and whether they have also developed and honed the expected competencies through deep reflection and playing an active role in shaping the learning process [17]. The main benefit of students' involvement in evaluation is that they become aware

of their formative process, can appreciate the contribution of others, and can make decisions based on their own judgments.

Some forms of assessment used in the PBL process are briefly described below [18]:

- Written exam. These can be closed or open book exams. The questions should be designed in such a way that the skills are transferable to similar problems or topics.
- Practical exam. These are used to ensure that the students are able to apply the skills they have learned during the course.
- Concept mapping. Students demonstrate their knowledge and cognitive growth by creating logical relationships between concepts and representing them graphically.
- Peer evaluation (co-evaluation). The student is provided with guidance on assessment categories to help in the peer assessment process. This process also underlines the co-operative work environment of PBL.
- Self-evaluation. This gives the learner the opportunity to think carefully about what they know, what they don't know and what they need to learn in order to perform certain tasks.
- Tutor evaluation. This consists of giving the tutor feedback on their involvement with the group. This can be given by the group or by an external observer.
- Oral presentation. PBL gives students the opportunity to practice their communication skills. Oral presentations are a way of observing these skills.
- Written report. This allows students to practice their written communication skills.

Assessment in PBL should be structured so that learners are able to demonstrate their understanding of problems and their solutions in a contextually meaningful way [5,17].

In PBL, two types of evaluation play a fundamental role [17]: formative and summative. Formative evaluation aims to determine whether the objectives set have been achieved. It is performed at the end of each learning task and its purpose is to analyze the results obtained and identify, if necessary, where any learning difficulties are to be found. This is carried out throughout the entire process. Summative evaluation aims, by means of a final assessment, to determine a grade according to how far the proposed objectives have been met, taking into account the value judgments that have been made about the student throughout the learning process.

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CHAPTER 5

Emotional Competences: Student Evaluation Approaches

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5.1 Introduction

To evaluate means to make a judgement and assign a score (1). In the last years, evaluation has become more of a strategy to determine the quality and value of a project, an outcome, or a curriculum (2). Indeed, in the field of nursing education, there is an increasing number of evaluation methods and nursing educators should identify and use the correct tool based on the competencies to be assessed (3). The evaluation phase involves the students, of course, but also the nursing tutor who needs to clearly know the educational objectives to be evaluated (2).

Regarding the educational programme about emotional competencies (EC), the evaluation involves different areas of learning: intellectual and interpersonal communication. Moreover, considering the importance of the PBL methodology used to acquire EC, nursing students also develop critical thinking (4).

To evaluate these different areas in this context, two main approaches can be used which are the oral examination through the triple jump approach and the Assessment of clinical skills using the Objective Structured Clinical Examination (OSCE). A quantitative data collection instrument, namely the Emotional Competence Veiga Scale (ECVS) to measure emotional competence is also recommended. Chapter 6 below presents a detailed description of this data collection instrument.

5.2 The oral examination – triple jump approach

The oral examination through the “triple jump” approach is an individual examination divided into three steps or “jumps” (2).

- *First step or jump:* a short, incomplete clinical case is presented to the student (5). Nursing students have to read and analyse it to identify and request missing information. In this first jump, the tutor evaluates the capacity of nursing students to elaborate on the situation and the mechanisms of critical thinking (2). At the end of this jump, students have to identify the nursing problems of the case presented. This jump required about 30 minutes.
- *Second step or jump:* students independently research and study how to solve the identified nursing problems. In this second jump, students research solutions using their notes taken during the lessons, books, and searching databases or medical records (2; 5). This jump required about 2 hours.
- *Third step or jump:* in the last jump students have to provide a final case summary where they report some hypotheses of nursing problem solutions. In this jump, students have to discuss with the tutor the summary of the problems and the nursing management plan (5). Tutors have to give some feedback to the students and encourage them to evaluate themselves. This jump required about 30 minutes (2).

Tutors evaluate each jump differently and independently. In the first jump, tutors have to evaluate if the student identifies all of the nursing problems, and if the student requires enough information. In the last jump, instead, tutors have to evaluate if the student identifies and prioritises correctly targeted interventions inherent to the case presented (2). The triple jump approach used in the emotional competencies program is reported in Chapter 4.3.

All of the jumps are reported in the following table (Table 4.1):

Table 4.1 Triple jump exam

First jump: definition of nursing problems (about 30 minutes)	
<p>Tutor activities</p> <ol style="list-style-type: none"> 1. Defining the outcome and the activities to evaluate. 2. Presenting the case study to the student. 3. Providing the additional information required by the student. 4. Fill in the evaluation grid 	<p>Students activities</p> <ol style="list-style-type: none"> 1. Reading the case study. 2. Identifying the missing information. 3. Formulating the problem and generating hypotheses. 4. Identifying study topics.
Second jump: identifying how to solve nursing problems (about 2 hours)	
<p>Tutor activities</p> <p>No activities.</p>	<p>Student's activities</p> <ol style="list-style-type: none"> 1. Searching information to understand the problem and solve it. 2. Synthesising information.
Third step: final case summary (about 30 minutes)	
<p>Tutor activities</p> <ol style="list-style-type: none"> 1. Fill in the evaluation grid. 2. Assessing the student's performance achievements. 	<p>Student's activities</p> <ol style="list-style-type: none"> 1. Formulating the final problem and management plan, arguing the results obtained from the research. 2. Self-assessing the level of performance.

5.3 Emotional Competencies Triple Jump case: Mary.

The case

You are the nurse who is working the night shift, you are called incessantly by Ms. Maria to perform actions that you could do on your own (can you give me a drink, can you cover me better...). Maria is vigilant, oriented, and self-sufficient.

At each call, you go to answer promptly, and Maria greets you with a sarcastic smile of derision as if she wanted to challenge you.

On the fifth call, you present yourself to her worriedly as you realise that something is wrong.

First jump (30 minutes)

1. Ask the student to formulate hypotheses about the case: *What nursing problems do you highlight in the case you have just read?*

Expected hypotheses about the case:

- Continuous and insistent calls caused by the need for communication inherent in concern about the ominous prognosis;
- Non-verbal communication caused by fear of death;
- Challenging attitude due to the need to be reassured about palliative therapy/anxiety related to the palliative care pathway.

2. Case-related data to provide to the student if required.

The student requests additional data needed to better frame the case. Mark the data requested by the student with a cross:

- Anthropometric values: weight 48 kg, height 165 cm.
- Personal data: age 58 years.
- Lives with her husband, has two daughters and four young grandchildren.
- Diagnosis: stage 4 lung cancer with bone metastases.
- No brain metastases.
- Ongoing chemotherapy cycle.
- Poor prognosis, recommended palliative therapies by oncologist.
- Maria is aware of her prognosis. Maria has been advised by her oncologist to stop the chemotherapy cycle and start palliative therapy to have the best possible quality of life in relation to her condition.
- Maria is aware that palliative therapy is the best choice but is confused and insecure. She cannot accept that her illness has 'come so far'. She was going ahead with chemotherapy and felt better than at the beginning. Apart from the strong cough she had resumed gardening with her husband. She just felt more tired lately.
- She felt uncertain about the palliative treatment; she knew that the chemotherapy was helping her. She was sure she would come out of it. She had hope of surviving the cancer.
- She is afraid of being abandoned by the doctors.
- She is a Buddhist.

3. Evaluation of the first jump.

Tutors have to complete this part of the following table (4.2). This table will be put together with table 4.3.

Table 4.2 first jump evaluation

Student's Activities	Score
Has the student identified at least two expected hypotheses inherent in the case presented?	/5 ¹
Was the additional information requested appropriate to define the identified hypotheses?	/5 ²

¹1: one hypothesis with help; 3: self-evident hypothesis; 5: all hypothesis.

²1: the quality of the data collected is limited; 3: inadequate data collected relate to no more than one of the hypotheses; 5: the data collected are appropriate.

Second jump (2 hours)

In this jump, tutors have to ensure that the student has:

- Identified the problem;
- Planned nursing interventions;
- Identified topics for independent study.

If the student has not identified key topics, note this on the study agenda. In this case, tutors have to help students to identify the topics.

Third jump (30 minutes)

In the last jump, tutors have to:

- Identifying sources for bibliographic research and the use of databases;
- Evaluating if students apply new knowledge to the solution of problems/hypotheses;
- Evaluate the exposition of the student in a concise manner, through interventions, of the structured response to the problems addressed.

1. Evaluation of the third jump.

Tutors have to complete this part of the following table (6.3). This table will be put together with table 4.2. The sum of the score obtained from the first table and this one, gives to the tutors the total score of the triple-jump exam.

Table 4.3 first third evaluation

Student Activities	Score
Has the student identified at least two care problems inherent in the case presented?	/7 ¹
Did the student identify targeted interventions relevant to the case presented?	/10 ²
Has the student identified the priority of interventions inherent in the presented case?	/3 ³

¹1: one problem that does not reflect the use of theoretical knowledge; 4: problems that are not consistent with the use of theoretical knowledge; 7: problems that are integrated with theoretical knowledge.

²1: interventions not relevant to the case; 5: unclear and unrelated interventions; 10: interventions are very clear and relevant to the case.

³1: inadequate assessment of priorities; 2: sets priorities appropriately; 3: clear evaluation of priorities with explanations.

Self-assessment of the students

Tutors have to encourage students to identify weak points and strengths. The results obtained must be shared with the student in order to provide him/her with feedback. Indeed tutors have to answer the following questions:

- Did the student ask for clarification?
- Did the student understand the information provided?
- Did the student hypothesise a research path?
- Did the student maintain an active attitude?

The answers to these questions provide an overall assessment of the student.

5.4 Assessment of clinical skills using the Objective Structured Clinical Examination (OSCE)

The Objective Structured Clinical Examination (OSCE) is widely used for the evaluation of clinical skill performance in particular focusing on communication skills (6). With OSCE methods, three domains are evaluated: cognitive, affective, and psychomotor (7). The use of an observational grid allows the equity of the assessment of the student's performance (8). Through the OSCE, communicative competencies are evaluated based on the performance of the students during a simulated practical situation (3). The simulation represents a lifelike clinical scenario where the student must put himself at stake using his skills (6). In the EC educational programme, the skills to be assessed are emotional and communicational competencies. Indeed, tutors with OSCE examination could also assess students' problem-solving skills (9). It is important that the OSCE examination is conducted in an equipped setting to assess all the skills reported and, in a centre, where the simulation could be audio-visual recorded (6).

Before conducting an OSCE examination, it is important to prepare a lifelike simulation. The simulation is based on the role-playing method (7). The role of the patient should be played out by a voluntary nurse or an actor. It is important that the students feel like a real-life case, so, it could be a good idea to ask them to wear pyjamas to the “fake patient”. At the same time, the students have to wear the normal uniform used during the clinical placement.

The scenario has to focus on the competencies to be achieved by the students at the end of the educational programme. Therefore, in this case, the scenario created is focused on emotional competencies and communication skills. In the script, it is necessary to insert a section regarding learning objectives and the behaviours expected from the student (6). The central section of the script is the patient history and his/her health problems. The script presents a part with information that the “fake

patient” spontaneously gives to the students and some others that should be requested by the students. The concluding section of the script outlined the student's assignment, detailing the goals to accomplish, key information about the role of the students, the setting context, and the clinical details documented in the nursing file (9).

To evaluate the students' performance a validated assessment grid is needed. The assessment grid evaluates the communication of relevant information, the use of appropriate language, active listening, and the clarity of communication. The assessment grid is composed of four constructs: terminology, listening, attention, and clarity. Each construct should be evaluated between -2 and +2 scores (table 4.4) (8).

Table 4.4 The OSCE assessment grid.

	-2	-1	0	+1	+2
Terminology	Too detailed not appropriate	Too detailed appropriate	Appropriate. Not very precise	Appropriate but does not answer questions immediately	Answers questions immediately
Listening	Hears but does not listen	Listens but does not re-state	Listens and re-states but not always correctly	Listens and re-states correctly	Check whether the fake patient has understood
Attention	Pays no verbal or behavioural attention	Verbal and behavioural attention are inconsistent	Pay verbal attention	Pays verbal and behavioural attention	Give feedback to the fake patient
Clarity	Communication is not clear and information is not precise	Communication is not clear and information is not very precise	Communication is not always clear and information is not always precise	Information is precise but communication is not always clear	Information is correctly understood

The acceptable level of performance is +2 points and corresponds to 18/30. The maximum score, instead, is +8 points and corresponds to 30/30. The OSCE examination is made by almost two tutors. To ensure the validity and reliability of the OSCE examination, it is important that all of the elements are well-prepared and carefully developed (6).

5.5 Emotional Competencies OSCE examination scenario for the role-play

Topic: the role of emotions in the caring relationship with the patient

Overview

1. Description of the situation to be reproduced

Mrs. Maria, aged seventy and suffering from diabetes, was admitted to the diabetology department for diabetic decompensation from oral hypoglycaemia. Mrs Maria was accompanied by her son to the emergency room two days ago due to tiredness, polyuria, polydipsia and general malaise. They have just informed her that she will have to change her therapy: she will take insulin therapy 3 times a day, after blood glucose measurement. You go to the patient who has just called for assistance. Mrs Maria is very worried about her situation and wants to go home as soon as possible.

2. Target: Nursing student II year.

3. Definition of participants' roles:

Elderly patient (co-protagonist): a nursing tutor

Nurse (protagonist): Nursing student

4. Responsibilities of the actors: roles and activities

Patient: worried and uncertain about the new therapy.

Nurse: Establishes a relationship of trust with the assisted person, trying to reassure him/her about the management of the therapy at home.

Aim

1. Main objective: To ensure evidence-based care intervention that meets the needs of the person being cared for in the clinical setting.
2. Intermediate objectives:
 - To develop a relationship of trust with the person assisted:
 - Maintaining an open and respectful conversation with the person assisted
 - Taking the necessary time to establish a meaningful therapeutic relationship
 - Showing understanding and availability
 - Assessing how the context and environment may affect the development and maintenance of trusting relationships
 - Paying attention to aspects of non-verbal communication
 - To manage the emotionality of the person assisted:
 - Identifying the assisted person's fear that hides behind his/her aggressiveness
 - Identifying the cared-for person's concerns
 - Explaining the importance of the correct intake of therapy
 - Sharing relevant information with the person assisted
 - Using appropriate verbal communication, paying attention to the tone of voice, using terminology appropriate to the person's ability to understand
 - Evaluating feedback on the patient's knowledge
 - To manage one's own emotionality:
 - Identifying one's negative emotions to manage them (anger, irritation, ...)
 - Controlling one's emotions with an active and empathic attitude
 - Maintaining proactive and educational listening with the person assisted

Environmental realism: The environment should reproduce a room in a hospital ward, with classic hospital furniture (bed, chair, bedside table, wardrobe, ...). The actors must impersonate the roles accurately, through the correct management of clothing (clothes, ...).

Complexity: The scenario presents an ordinary situation of taking care of the assisted person. The complications concern the emotional situation of the person assisted, which could affect the adherence to home care.

Instructions for the person who holds the position of the patient

You are 70-year-old Maria, who has suffered from diabetes for seven years. You went to the emergency room unwillingly after your son, concerned about your situation, insisted. A week before admission, you felt very tired, so much so that you often sat watching TV and couldn't finish watching your programmes, you had to urinate often, but you think it was because you were drinking a lot. In the ward, the diabetologist said to stay calm, that your discomfort was due to a glycaemic decompensation but that with insulin therapy you would soon be back home, but you don't know them and they don't know you. They changed your therapy, but you are afraid of the injections, you don't know why you had 'glycaemic decompensation', and the doctors don't understand your situation.

Spontaneous information (to give to the students): When you receive the information about the change of therapy from oral hypoglycaemic to insulin, you are very afraid. You have always been afraid of injections and needles, and you don't know how to do them. You call the nurse to ask for clarification, but you are very nervous.

Non-spontaneous information: I am afraid of needles; I am afraid of not being adherent to the therapy because I have always been comfortable with the pill. The doctor was hasty in giving me the news, and for this, I am very angry because the hospital is a place of care and not a place to give hasty information.

Psychological experience:

- State of agitation and worry about the change of therapy
- Worried about the worsening of the illness
- Agitated about the doctor's lack of attention

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CHAPTER 6

The Emotional Competence VEIGA Scale (ECVS)

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6.1 Introduction

Emotional Competence... a Conception in progress

In my commitment to Life, I feel close to the need for reflection... with my eyes on myself, in communion with Spinoza's God ...

Perspectives for an Introduction

In general, workspaces, whether in scientific, technological, and mathematical fields like engineering, neuroscience, or aeronautics, or in humanistic areas such as social work, law, education, or healthcare, increasingly require individuals to possess soft skills that express their emotional competence. The behaviours needed to be assertive have become more complex, interrelated, and demand a combination of multitasking and professionalism, while still requiring a touch of charm and captivation, whether in one's personal or professional life.

The need to manage behaviours that express emotional body states is legitimized, essential, and in an underlying way. This territory concerns the dimensions of emotional competence, namely self-awareness and emotional management. Employers require a CV of empathy, self-motivation, drive and focus on the task. This current concept of professionalism is being expressed in all areas of work in general, and in health in particular.

The 21st century assumed organizations, in general, and health organizations in particular, as spaces for co-creation, drawn in flows of transdisciplinary interactions, designed in a paradigm that seeks quality and improvement. The current paradigms of excellence seek to find executory and evaluative standards, such as behaviour charts and work routes, in the sense and meaning of achieving that excellence, which is why their actors must have a sense of subjective well-being and promote their health through Emotional Education.

In the social and healthcare fields, especially in contexts involving pandemics, wars, or social confrontations, the fragility of human beings necessitates more comprehensive and diverse care approaches. In these situations, the concept of humanity becomes essential as it helps recognize the unendurable aspects of suffering, expressions of anguish, exclusion, and revolt. Caregivers in such contexts must possess emotional dexterity to effectively navigate these sudden, exhausting, and overwhelming situations.

So, in workplace contexts caregivers work in a setting of intellectual and work positions of and for excellence. In this broad context, it is worth placing the central idea that, in the binomial organizations and quality - in terms of human provision - the health-promoting training component should be underlying the holistic perspective, to which Emotional Education, and according to Pérez, et al. (2020) (1) does not omit itself. Thus, quality organizations and Emotional Education can be symbiotic. That is, it is assumed that this binomial will be expanded and promoted if this triangulation is present.

In this perspective, the institutions in general, and the health institutions, in particular, and within these, the organizational managers of the organic units and respective health services, who rescued the quality of care as the priority element of this paradigm co-creator of excellence, in the route of the visibilities, success and recognition of these institutions, are now called to objectify this triangulation, where not only, but also, according to the study by Almeida et al., (2021) (2) the concept of Emotional Competence is inserted.

From the point of view of operationalization, more than a starting theoretical and static construct, it starts with the planning of a transversal strategic axis, from the government entity to the operators in health institutions, capable of identifying units of care behaviour, building monitoring and evaluative attribution plans, to improve the quality of the services provided.

In this process, all resources are relevant and appropriate, especially human resources in an absolutely essential way, because they are the core elements of health teams, which also include nurses. And in them, their characteristics of productivity, knowledge and ability to comply, creativity and, above all, intra and interpersonal interaction.

This context is the exchange of energies, interactions, service provision, which serve and express the acts of care, at a bio, psycho, social, cultural and spiritual level.

The essence of the theme is nursing in action. Within this action, lies the implicit ability to care for oneself, to tend to one's internal world, and nurture one's inner milieu, all in the pursuit of holistic care for the external world. This self-care is perhaps the initial indicator of quality—taking care of oneself.

And in this context, it is important to learn/develop Emotional Competence, in its three self dimensions, at the intrapersonal level: Self-awareness, Self-motivation, Emotion Management; and at the interpersonal level: Empathy and the Management of Emotions in Groups, since it has been proven that “existing equivalences when relating the general competences of the work of nurses with the emotional competences and abilities that emerged from the responses of these professionals...” as we can see in the study by Carício et al. (2021), (3).

The body and/or cognitive expression, in conscience, of feeling emotionally competent, in fact translates an inner harmony, and, therefore, a level of availability to the outside, to the other, which can prove to be a sensitive indicator of the quality of care, and therefore quality in health, which, as defended by Donabedian (2003) (4) , is strengthened in the interpersonal relationship, between client and health professional, by incorporating the principles of respect for the client's values, beliefs and desires and where the client is the centre of attention.

In fact, already at the beginning of the century, Donabedian (2003) (4) in the initial approaches to the formulation of the concept of quality in health, placed it as a structure supported by two sub-structures: (1) the product of the interaction of science and technology of care factors, and (2) the surrounding conditions.

And in this structure, he considered: a) technical-scientific dimension, b) the interpersonal dimension, the interpersonal relationship, health professional and client; c) and the environmental dimension. The author argued that quality in health would result from the way these variables are related, being considered, therefore, by the author as the central elements of the conceptual definition of quality in health. And, in that quality, the emotional interaction, and the perception about that, is a very pertinent issue to reflect about.

In these contexts, the relational and emotional field care, make sense to think about soft skills in general and about Emotional Competence in particular. In fact, when we say Emotional Competence, we describe the ability a person or a team express - or has to express - his or her own emotions with complete freedom, in what part or parts of the body, in what intensity, balance or during of time. The concept, is derived from the concept of emotional intelligence, which seems also to be the ability to identify emotions, and that is present in all human and animal life.

More specifically, when we talk about Competence, we want to talk about the level of skill with which someone interacts constructively with him or herself or other people.

Thus, and because this concept deals with understanding and/or recognizing at what level someone can achieve effectiveness and/or efficiency in a certain dimension, - such as Empathy or Emotional Regulation - it will be presented how the transformation of the concept was developed in construct and the respective operationalization of each of the five dimensions, as well as and necessarily the final operationalization of the global CE.

6.2 Emotional Competence

Before the Concept, an overview of Emotion

The emotions of human beings are activated in the brain in response to different stimuli, which can be generated internally and externally, triggering a complex state of the organism, which is characterized by disturbance or excitement, which anticipates an organized response.

As we can see, in study by Stanojlović, et al. (2021), actually, research shows that the four components that influence each other represent the concept of emotions and complete the overall emotional experience, and these are: autonomous (the autonomic nervous system signals, increase in heart rate, blood pressure); somatic (body language, facial expressions); cognitive (control, management), and subjective feeling (emotion, individual experience). The interplay between emotions and cognition has been the subject of research. In this study, the authors, present the actual concept that *“Emotions can be evoked reflexively by simple physical stimuli (bottom-up), but can also be complex reactions involving cognitive, physiological and behavioural reactions (top-down). The amygdala, the “alert” or “neural alarm” structure, is responsible for conditioning fear, while the medial prefrontal cortex participates in emotion self-regulation and decision making”*. (Stanojlovic, et al., 2021, p.361) (5).

This current proposal corroborates in terms of knowledge and conceptualization, what was previously described in research into Damásio (2000) that always likes to conclude with the idea that *“consciousness and emotion are not separable”* (6), but he always starts from the assumption that emotion is assumed to be a phylogenetically constructed program, and *“...its biological impact is considered very different in terms of three phenomena that, despite being distinct, are closely related: having an emotion, feeling that emotion, and becoming aware that we are feeling that emotion...”* (6) and how these different levels can be present in the person.

Indeed, we can have an emotion and not feel that emotion, and therefore not be aware that we are feeling that emotion. This fact can change the level of self-awareness of a person, who cannot, for that fact, be responsible, much less “guilty”. This is a property that is developed with and during training in Emotional Education, and which, in its proven capacity, brings people closer to their Emotional Competence. Such skills are particularly important in nurses.

It is important to clarify, since the issue of providing care and services is addressed here in a context of greater or lesser expression of suffering, pain and/or anguish, that any of these phenomena may or may not trigger emotions in nurses.

As the author explains: *“... human emotion (6) is triggered even by music and by cheap films, whose power we must never underestimate. The human impact of all these causes of emotions, (...) depends on the feelings engendered by these emotions. It is through these, which are private and directed inwards, that the emotions, which are public and directed outwards, begin their impact on the mind; but the full and lasting impact of feelings requires awareness, for only in conjunction with the advent of a sense of self do feelings become known to the individual who has them”* (6).

And Damásio continues (6) *“... I separate three stages of processing that are part of a continuum: a state of emotion, which can be triggered and executed unconsciously; a state of feeling, which can be represented unconsciously, and a state of feeling made conscious, i.e., which is known by the organism that is having emotion and feeling.”*

It is important to make clear the phenomenon of *“... contrast between the condition of emotion, which is induced without our knowing and turns outwards, and the condition of human feeling, which is essentially known and turns inwards...”* (6), can leave us completely confused and unprepared to face this

phenomenon in us, that others know about me through my expression, than I through the feeling I feel about that emotional expression to which others have already acceded.

This point is essential to understand the value of learning self-awareness – the first dimension of Emotional Competence - from body self-awareness... because, as Damásio explains, “... *like emotion, conscience is based on the representation of the body...*” (6), thus assuming that the body assumes the status of an entity, capable of elaborating its own speech and emotional expressive grammar, and that somehow, what the body says/expresses says nothing better.

6.3 The Emotional Competence Dimensions - Operational terms

Self-awareness

It is the first dimension and emerges from a corporeal self-awareness, produced from a fluid dialogue between the body and the somatosensory systems, where mental maps are constructed and reconstructed in a total and progressive immediacy. In fact, the essence of our consciousness is the body mapped in the brain, in the totality of the bodily structures in functioning or not, in a total and absolute precision. This process, based on the expression of Damásio (6) “...*by mapping your body in an integrated way, the brain manages to create the crucial component of what will become the self*»,(6), and therefore a current and dynamic self, updated through networks of chemical and neural signals, where arms and legs, viscera and vascular networks are completely and in detail mapped – positions, movements, blood pressure, blood pH, artery tension, irrigation hollow viscera, hemodynamics, stasis points, endocrine and exocrine secretions, in short... - in their respective changes at every moment.

Everything and about everything, body and brain exchange dialogues, and “... *the brain is able to do more than map states that are occurring (...), it can transform body states, simulate body states that have not yet occurred...*» (6). In short, the body says to the brain: “*this is how I am constituted and this is the state I find myself in now*” (6) and the brain, which even receives qualitative orientations about the “*states of the body*”, guides the body in the functions to be maintained in the sense of homeostasis, and whenever requested “... *the brain tells the body how to create an emotional state*” (6). Thus, from the point of view of operationalization, the concept of self-awareness concerns the scrutiny and recognition, in consciousness, of any changes in these body states, triggered from an emotional trigger, or taking this activation (arousal) because of an Emotionally Competent Stimulus (ECS) to the subject.

Emotional Management

This dimension, in Emotional Competence concept, has been the subject of progressive studies and therefore progressive changes in its definition and conceptualization. From the beginning of this century with Damásio (2000) (6), and some new perspectives for understanding how the body integrates and manages emotional body states (2010) (11), until the recent research results, namely the presented by Myruski et al. (2022) (7), which unequivocally explain that the key feature of adaptive Emotion Regulation

is the capacity to manage behaviour during a range of emotional challenges. Other literature (Gross, 2015) (8) and other researches, also present for example, the managing frustration and delaying gratification, as common regulatory challenges in childhood – but we can have it in adulthood - , and, people in general and children in particular, all of us along life, can vary in their and ours use of adaptive or maladaptive Emotions Regulation behaviours during these challenges. So, recent authors when assume Emotional Regulation, assume the behaviour regulations in the arousal experience of an emotion.

Based on this assumption and current publications, this dimension starts from the recognition that the act of “management” does not refer to emotion, as an *arousal*, as the autonomic *activation*, but rather and only to the behaviour resulting from this activation. It is important to clarify that the basic emotions, Jamesian, of a sudden and/or unconscious event, are not considered, a priori, an object that can be managed. Even in its late arousal, after recognizing and mapping this body state, at a somatosensory level, it is not considered exactly manageable at a behavioural level spontaneously.

When we’re talking about Emotional Management, what is assumed here is the management - scrutiny and recognition of signs and body modifications and the consequent interaction of the subject, consciously, about this process -, of the behavioural component of secondary and/or social emotions (7), and/or any kind of emotional feelings expressed about emotional body states emerging from an ECS.

The interaction of the subject on his own observation of the emotional occurrence (or emotional feeling), in the sense of his objectives, without suppression, nor loss of homeostasis, of his inner milieu, nor external context, is considered here, management of emotions. It is important to clarify that the so-called regulation of emotions (self-regulation) and cognitive flexibility (Decety & Jackson, 2004)(9), emerge from self-awareness and awareness of the other that develop simultaneously in preschool years and play an important role in this dimension. Its pertinent to present the Langeslag and Surti (2017) (10) perception, defending that we can control our emotions to some extent. But, they also argue that emotion regulation is the use of behavioural or cognitive strategies to generate new emotions or to increase or decrease the intensity of current emotions (10).

In scientific publications we can find some approaches to multiple regulation strategies, including for example, the distraction and or the cognitive reappraisal. Distraction involves thinking about something unrelated and reappraisal entails changing the meaning of a situation by reinterpreting it (10). Reinterpreting the situation can, for example, be done by changing the personal relevance, which has been called self-focused reappraisal, or by imagining better or worse outcomes, which has been called situation-focused reappraisal (9).

Langeslag and Surti (10) advice to reflect about the fact that it has been proposed that the effectiveness of reappraisal to up- and down-regulate emotions may vary depending on the intensity of the emotion, but this has not been systematically tested yet, suggesting that research must continue and results must be reflected, and Ochsner & Gross, (2008) (11) that present the concept and the skill of cognitive emotion regulation, as a kind insights from social cognitive and affective neuroscience, that we can learn and understand.

Self-motivation

In this operational context, the concept of motivation is integrated in the sense of “genomic unconsciousness» (12), and in the words of Damásio “...a series of behaviours that may appear to be decided by conscious cognition, but that are driven by non-conscious dispositions.” (12), and, in order to situate this construct at the level of brain structures, explains that they will be “unconscious bases of behaviour, within the scope of instinct, automatic behaviours, impulses and motivations” (12). In terms of definition, it would be assumed that the concept of self-motivation relates to recognizing the basic elements of the energy that triggers or “moves” a certain attitude or the pursuit of a given behaviour: whether autotelic, or exotelic, and how these two limit points are recognized in the person. But not only that, we also intend to assess what limits and differences the person perceives, between (1) the assumption of a frontal and permanent attitude, (2) the obstinate repetition, (3) the change of the route without feeling of loss or damage, (4) procrastination or laxity.

Empathy

It starts with the concept and function of “mirror neurons” (6), (12) to access the skill of producing “as if” phenomena in the body, to understand and defend the cognitive component of empathy, which is characterized by the capacity to accurately infer the feelings and thoughts of another person, without necessarily experiencing the same feelings as that person. This point is here of the greatest importance. Such a perspective involves neutrality and impartiality of the one who empathizes and has been called perspective taking (Davis, 1983 (13); Ickes, 1997(14), a phenomenon that had already been identified, if there is a dynamic interrelationship (Decety and Jackson, 2004 (15) between the “I” (self-awareness) and the “other” (awareness of the other). The ability to represent and report one's own mental states is what will allow inferential knowledge of the mental state of others.

It is assumed that empathy in human beings is an innate attitude with four dimensions, and in the recent publication (Hoffman, 2000) (16), corroborated that the cognitive component, allows us to understand what Damásio (2010) (12) presented “...the actions of others, by putting ourselves in a comparable bodily state, (...) when we see the action of another person, our somatosensory brain adopts the bodily state that we would assume if we were moving...” (12), clarifying with some specificity that it is “...the connection we establish between our body states and the meaning they have assumed for us, which can be transferred to the simulated body states of others (...) we can assign a comparable meaning to the simulation.” (12).

The affective dimension concerns the cognitive understanding of the feelings and emotions of others, and later allows one to empathize with empathy, in the depths of one's being, the emotions associated with something, whereby it is possible to internalize and personally experience the suffering suffered by others. The motivational dimension is the phenomenon of generating altruistic and interpersonal empathic motivation - feelings of compassion for others - that we observe or recognize. The prosocial dimension concerns how this compassion encourages us to be proactive, taking prosocial or ethical actions in defence of or for something or someone.

In the recent research, Decety & Jackson (2004) (15) presented studies shown that *only part of the network mediating pain experiences (including the anterior cingulate cortex and the insula) is shared when empathizing or evaluating the pain in others*. Most importantly, the authors defended that empathy - as we know the concept - *also necessitates emotion regulation for which the ventral prefrontal cortex, with its strong connections with the limbic system, dorsolateral, and medial prefrontal areas, plays an important role. Once again, we do not assume that there is a unitary empathy system (or module) in the brain. Rather, we consider multiple dissociable systems to be involved in the experience of empathy. Finally, as suggested earlier, empathy is a motivated process that more often than commonly believed is triggered voluntarily. This makes empathy a flexible human capacity as well as a method of gaining knowledge of understanding another, and it is susceptible to social-cognitive intervention, such as through training or enhancement programs for targeting various goals*”(15). As we can see, the concept is more complex and deeply inside interaction between body and brain structures.

Emotional Management In Groups

It is the dimension of the E.C. unifying empathy and emotional management, and which concerns the already mentioned “empathic” perspective-taking, that is, the phenomenon already identified by Decety and Jackson, (2004) (15), if any, and when there is a dynamic interrelationship between the “I” (self-awareness) and the “other” (awareness of the other). This dimension examines the effects of empathy, emotional contagion and emotional management.

It emerges from plural empathy, in which the absorption of the emotional expressions of others are perceived, and the respective impacts on us trigger emotions and emotional feelings to which we manage to give a response and behavioural expression, within an intellectual organization, which keeps us under control, and which, in turn, we may be able to spread to others. Previous studies about the process model of emotion regulation Ickes (1997) (14), has previously demonstrated that antecedent focused emotion regulation results in improved outcomes compared to response-focused emotion regulation when people are attempting to regulate their own feelings.

Reeck and Onuklu (17) in their study about Interpersonal Emotion Regulation (IER), the Consequences for Brands in Customer Service Interactions, they start from studies also demonstrate similar benefits of antecedent-focused emotion regulation when it is applied interpersonally.

These authors focus not only on the consequences of the strategies people use to manage their own emotions, to instead examine the consequences of the strategies people use to manage others’ emotions. So, the current research builds on prior demonstrations that IER can improve relationships between people by showing that these benefits can not only emerge between these social and personal interactors as with some resources or contexts. Reeck and Onuklu (17) corroborant previous results (16), demonstrating that successfully managing negative others emotions can result in improved trust and best interactions. More than these, and taking prior demonstrations (Niven et al., 2012 (18), Bloch et al., 2014 (19) that IER between people results in increased trust and relationship satisfaction.

Operationalize Emotional Competence

Emotional competence has continued to be presented, in the literature, in a similar way to the concept of Emotional Intelligence, but each one of them has a different perspective on capabilities related to emotion, different methodologies of development and application, and different instruments for data collection and analysis of results.

The literature reveals that sometimes they are carelessly applied as synonyms (19), causing theoretical and methodological confusions, (19). Recently, Pérez-González et al (1) in an analysis of previous works, report Robertson et al. (2014) (20) definition of emotional competence as "...the ability to deal effectively with emotional information, that is, with one's own feelings and desires", and argue, quoting Davis & Qualter, (2020) (21), that emotional competence:

"...has been used as an aggregating term and as a multifaceted construct that encompasses emotion-related skills (e.g., emotion awareness, emotion perception, emotion regulation), dispositional skills and qualities (e.g., emotional self-efficacy), which enable the individual to function effectively in emotionally charged situations." Pérez-González, (1)

In a very brief summary, Emotional Competence (E.C.), as an autonomous concept, seems to have emerged with the mixed models of Emotional Intelligence (E.I.), such as those of Goleman and Bar-On, but in fact it did not happen that way. Two authors in different countries – Saarni (22, 23) in the USA and Bisquerra (24, 25) in Spain – developed the construct of Emotional Competences (in the plural), more focused on the contexts of education and youth training, in order to make emotional education training in higher education more understandable and adaptive, as some authors advocated (Fragoso-Luzuriaga, 2015) (26) to develop students' emotional competence, in those contexts.

Later, in Portugal, studies by Veiga-Branco (2004) (27) e (2005) (28) on teachers appear, which presents the concept of E.C. based on the mixed model of E.I. (Goleman, 1995) (29).

Veiga-Branco (27, 28, 30, 31) studies Emotional Competence in the context of teachers and needs of the teaching-learning process, and starts the work, based on the modified concept of E.I. (32), modification that operated when perceiving the added value of E.C., reflecting what the author explores in *Notas* (32): *"... the expression "emotional competence" includes both social and emotional competences, clarifying that "an emotional competence is a learned ability, (...) that results in an extraordinary performance at work"* (32), where he pointed out that:

"Our E.I. determines our potential to learn practical skills that are based on five elements: Self-awareness, motivation, self-mastery, empathy and talent in relationships. Our E.C. shows the extent to which we translate that potential into professional skills".

Thus, later (28) distinguishes this concept from E.I., arguing that "the E.C. exists when someone reaches a desired level of achievement", and that this concept concerns the post-facto. It can only be appreciated simultaneously or after the exhibition of behaviours and/or attitudes, through observation or through the expressed memories, by executing subjects or by observers.

Starting from these elements as a theoretical framework, and having the exploration, identification or recognition of a E.C. profile as the object of study, it creates an Analysis Instrument: the Veiga Branco Scale of E.I. (EVBCIE) (27, 28, 30, 31).

This instrument was subsequently reformulated, to an instrument with 86 items - the Emotional Competence Veiga Scale, (EVCE), used in progressive studies, in successive samples, since 2010, until two years ago, for example, the “Emotional Competence profile in a higher education students” (Veiga-Branco, 2011, (33), the study in “Emotional competence in healthcare professionals: correlational and comparative research” (Veiga-Branco et al, 2012) (34), and the study about “Emotional competence (EC) in physiotherapists in the national network of integrated continued care” (Afonso, et al., 2013) (35), and even out of health scientific area, the study developed in Emotional Competence in Portuguese political decision-makers in Veiga-Branco & Costa (2015) (36).

This data collection instrument, with 86 items, has been progressively under development towards its reduction, resulting in the study of the reduced form, the Emotional Competence Veiga Scale (ECVsr33), in the original Portuguese version: *Escala Veiga de Competência Emocional (EVCEr33)*.

This current reduced version of the Scale, has already been used in some studies, with the respective application and statistical study in several samples, namely in the areas of Health, Education and Finance, as the nursing context in Almeida et al. (2021) (37) and even in Moreira, et al. (2021) (38), and in local political decision makers in the study by Nogueira et al. (2021) (39) having the respective statistical studies, considered the EVCEr33, a measuring instrument with the capacity to study the EC profile, in different areas.

Among others, the profiles of health professionals (34, 37, 38), and recently, the results by Rodrigues, (2017) (40) and by Ferreira (2018) (41), we have more recent results, in recent studies corroborating some EC dimensions values, as the study by Giehl et al. (2020) (42) and the last one by Silva et al. (2023) (43) in Management and Finance contexts. In terms of results, successive correlational studies, with analysis of principal components, have been showing the profile of E.C. through the five dimensions, - self-awareness, management of emotions, self-motivation, empathy and emotional management in groups -, which may be differently correlated with each other and with the E.C., depending on the contexts of the samples.

6.4 Measuring Emotional Competence

To study a phenomenon, primarily non-measurable, the research methodology is clear: it is necessary to transform the concept into a measurable phenomenon, then the phenomenon into a variable and finally operationalize the variable at either a quantitative or qualitative level.

And, at this point, it is important to consider Emotional Competence dimensions, as skills in the phoneme quality (of life), that is recognized as an adjective and therefore subjective as a concept, but in this context, it is considered as a variable to be operationalized, to become the evaluable product of an instrument to be applied.

This instrumental perspective of quality (of life) has to reveal an appreciative and measuring capacity of actions, activities and planning, of decision makers, executors and evaluators, and of all those who interact and integrate the prescriptive and care setting of all health teams.

The necessary transformation of a concept into a construct, and a construct into an evidence-instrument, is quite curious: in fact, it is practically a matter of obtaining the measurement of the quality of actions, through what was identified as acting *quality indicators*. And it will be these elements, in their most elementary form, simplistic or not, that portray and express the signs related to the structure, processes and results of preconceived actions, at the time of formulating the objectives, and that operationalize the concrete evaluation that promotes the quality of “to know to be” in emotional competence interactions in life.

In any life context – personal, social, and work – each of the primary independent variables of Emotional Competence (EC), represented by its five dimensions, can assume the status of behavioural and attitudinal variables of the five core concepts within the construct of Emotional Competence. These concepts reflect behaviours at the relational and inter-relational levels, making them valuable tools for analysing caregiver-user relationships, aligning with attributes such as effectiveness, efficiency, optimization, legitimacy, acceptability, and equity. These attributes, when used and measured in isolation or in combination, contribute to the meaning of 'quality in health' (44), particularly in the context of professional caregivers, including nurses, doctors, lawyers, and military personnel.

It would be both interesting and relevant to leverage the behavioural and attitudinal elements that comprise Emotional Competence to explore certain components of professionalism. These behaviours and interactions are inherent in achieving desirable relational quality. For instance, correlating the dimensions of Self-Awareness, Emotion Management, Self-Motivation, Empathy, and Emotion Management in Groups (teams) with the required functions and skills in various fields of work.

To assess whether individuals exhibit these behaviours in practice, one can simply review the 33 items comprising the Emotional Competence Scale, which effectively represent each of the five dimensions. By doing so, individuals can determine whether these behaviours are present in their lives, whether they have occurred in the past or are ongoing. This scale provides a practical repertoire of attitudes and actions that individuals can access, irrespective of the context.

Every road has a story... what about EVCE road?

The instrument, or the Data Collection Instrument (DCI) that has been used so far, the “Emotional Competence Veiga Scale (ECVS), (EVCE) (28, 31, 34,45) includes 86 items to operationalize the five dimensions of E.C.. The first dimension, Self-awareness was composed by 20 items, the Emotion Management dimension was composed by 19 items, the third dimension, Self-motivation, integrated 21 items, the fourth dimension, Empathy was constituted by 12 items, and the last one, the fifth dimension Management of Social Emotions was constituted by 14 items. These items are constituted as ordinal variables, and each of these items was, in turn, operationalized through a scale measured by a Likert-

type temporal frequency scale (1 to 7, with 1 - "never", 2 - "rarely", 3 - "occasionally", 4 - "usually", 5 - "often", 6 - "very often" and 7 - "always", with participants being able to choose how often they experience the situations described.

The Psychometry of the Data Collection Instrument (DCI), and from the point of view of descriptive statistical analysis, assumes that the EVCE cut-off point is 4. To measure the EC profile, 3 levels of E.C. are considered: the **low level**, between 1 and 3.49; the **moderate level** between 3.50 and 5.45, and the **high level** between 5.46 and 7.

Therefore, in order to obtain the level of Emotional Competence as a global construct, we will have to obtain the average values of the means of the five dimensions. To obtain the level of each of the dimensions we have to obtain the average values in each one.

The actual scale, EVCEr33, as Data Collection Instrument (DCI) and that has already been used, (37, 38, 39, 42, 43) includes only 33 items to operationalize the five dimensions of E.C., as the following.

- The first dimension, Self-awareness is actually composed by 8 items, one of which, is an inverted item;
- the second one, the Emotion Management dimension is now composed by 7 items, three of which, are inverted items;
- the third dimension, Self-motivation, now integrates 7 items, two of which, are inverted items;
- the fourth dimension, Empathy, is actually composed by 5 items, four of which are inverted items;
- the last one, the fifth dimension Management of Social Emotions actually integrates 6 without inverted items.

For example, and to better understanding, the level of Management of Social Emotions dimension we have to obtain the average values of those 6 items, and if the average is between 3.50 and 5.45, we can assume that our sample presents a **moderate level** in **Management of Social Emotions**.

As the previous DCI, in the actual, all items are also constituted as ordinal variables, and each one is also operationalized and measured by the same Likert-type temporal frequency scale, and is also applied the same Psychometrics.

Therefore, and as has been explained, the analysis of the Instrument has to consider the normal configuration items and the inverted items, that must be assumed in a reverse way, among the total items of the EVCE. From the point of view of constructing factor analysis: the items related to each dimension of the E.C. must be submitted to Principal Component Analysis with varimax rotation, whose set of extracted factors aggregates a certain profile in each dimension of the E.C.. The scale was successively and progressively applied and after each use, the results were subjected to exploratory validation of the instrument, through analysis in main components (SPSS), so, in a first time, for the

Portuguese population (studies published and carried out in Portugal: two with teachers (27, 28) and three with nurses: Ferreira (2018) (41) studied the Formal and Informal caregivers in Primary Health Care Units, Veiga-Branco & Lopes (2012) (44) studied the Nursing Teams in Continued Care National Network, and, some years before, Agostinho, 2008 (45), had previously studied hospital nurses, through Principal Component Analysis.

In the successive application of the Scale, it was verified that the successively and sequentially obtained internal consistency values (α Cronbach), assume the validity of the DCI and provide a rigorous statistical treatment. find a level of quality for the successive Emotional Competence profiles of successive samples, and through exploratory factor analysis, we can have a summarized perception of this profile. The successive and progressive results obtained made it possible to access the respective construction of the averages analysed and the predictive variables of E.C. and that led to the construction of an E.C. profile.

In the Serious Game and Emotional Competence studies, we had an analyses, where we can observe the following in the text.

Data Analysis Methodology

The data analysis process took place in two phases. The first phase focused on the validity, reliability, and confirmation of the emotional competence scale used in the questionnaire. The second phase of the data analysis was intended to descriptively analyse the results obtained and identify statistically significant differences between groups.

1st Phase

It should first be mentioned that all the methodological requirements for carrying out the factor analysis of the emotional competence scale were verified. All variables are metrics (Likert scale), all factors have at least 5 variables and there are more than 5 observations per variable (Hair et al, 2010 (46)).

Confirmatory analysis was carried out using structural equation analysis (SEA). The use of SEA allows a qualitative leap from an exploratory model to a confirmatory model, going beyond classic statistics:

Another advantage of using this methodology is that the SEA allows testing the global fit of models and individual significance of parameters in a theoretical framework that includes various types of linear models.

The internal reliability of the scales was examined using Cronbach's alpha analysis. Cronbach's alpha is one of the most used measures for internal verification of a group of variables (items) and can be defined as the correlation expected to be obtained between the scale used and other hypothetical scales of the same universe, with an equal number of items, which measure the same characteristic.

2nd Phase

In addition to carrying out the descriptive analysis of the variables using frequency distribution tables (in the case of the nominal variables), some measures were also examined, such as the mean, standard deviation, minimum, maximum, and median (in the case of variables of a quantitative nature).

To test the existence of statistically significant differences in the dimensions of emotional competence according to gender and the fact of being student workers, Student's t-tests were used for two independent samples. 1-way ANOVA tests were used to test the existence of statistically significant differences in the emotional competence dimensions according to the year of attendance and age groups. Since we are working with large samples, the assumption of population normality for carrying out these parametric tests was validated in most crosses by invoking the central limit theorem.

All statistical analyses were performed with IBM SPSS Statistics 24.0 and IBM AMOS (Chicago, IL)

Results

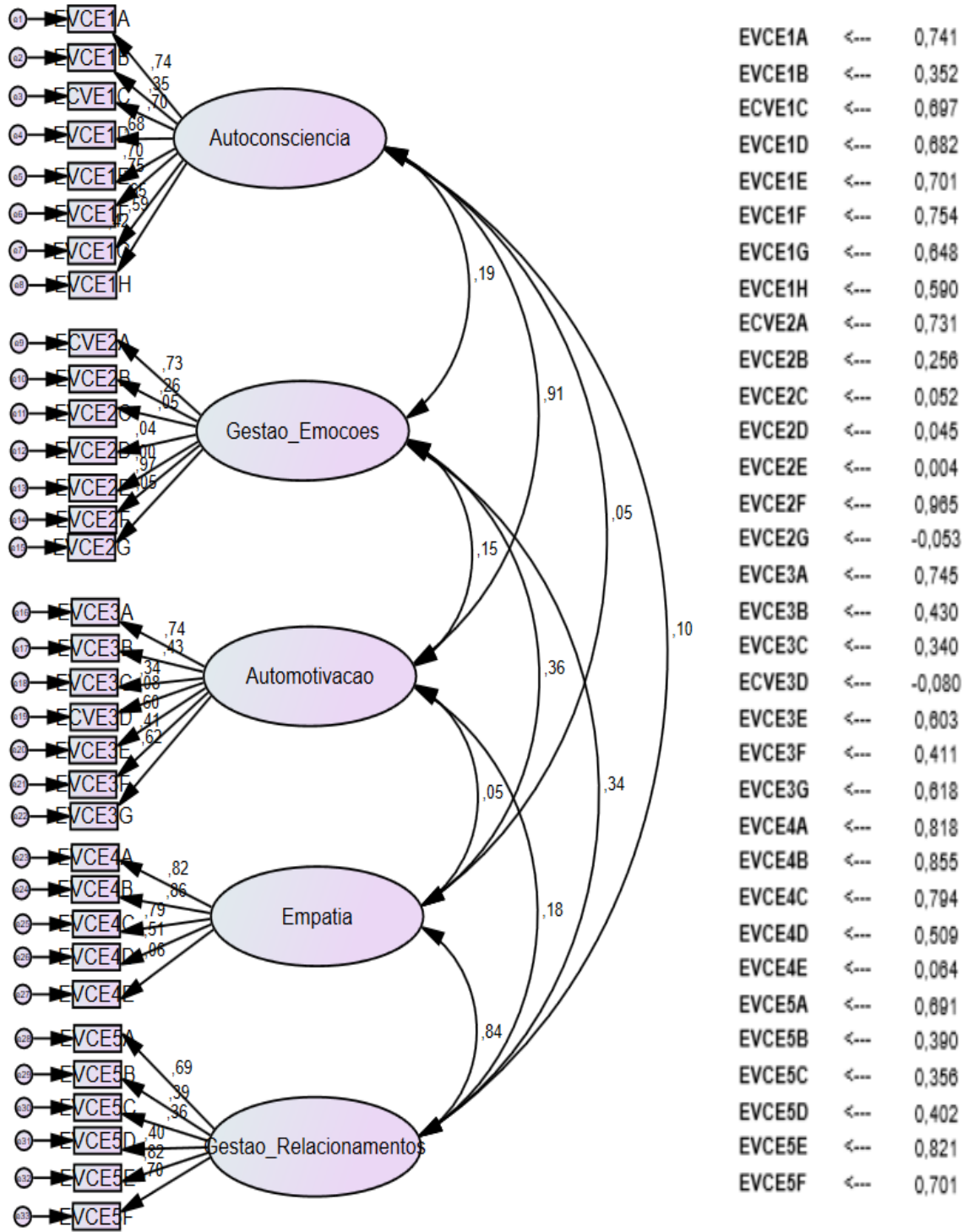
The list of EVCE-r33 items and the corresponding division by dimensions are presented in first place:

Table 1 – Items by dimension (Dim), Description in the Model (Discripti), Items, and Inverse Items

Dim	Description	Item Description	Inverse Item
Self-awareness	EVCE1A	I allow myself to be absorbed by these emotions, which I am unable to escape, and they end up conditioning my behaviour.	Yes
	EVCE1B	I have the exact notion of the type of feelings that invade me; e.g. if it's anger, fear, contempt... hate, frustration... I can define them.	No
	ECVE1C	Once invaded by negative feelings, I can't control them...	Yes
	EVCE1D	Decreases my level of reasoning. I can't concentrate easily...	Yes
	EVCE1E	My behaviour changes at the relational level... I remain silent; euphoric, sulking, etc...	Yes
	EVCE1F	I am mentally stuck in these feelings for a long time. That feeling always comes back...	Yes
	EVCE1G	I'm the unstable type, with various mood swings...	Yes
	EVCE1H	I'm the Unlucky type, I'm unlucky in life...	Yes
Emotional Management	ECVE2A	I did active physical exercise (aerobic). I spent the energy in activity.	No
	EVCE2B	I reasoned. I tried to understand... and identify what led me to anger. I thought better of that situation...	No
	EVCE2C	I had to unload... I tend to use objects, people or situations as targets for my anger, even though I feel less good about myself afterwards.	Yes
	EVCE2D	I live in a state of chronic worry about the event that caused my rage... and I keep thinking about the words/people/attitudes that caused it.	Yes
	EVCE2E	Apparently peaceful... Intrusive, persistent thoughts that haunt me day and night...	Yes
	EVCE2F	I feel relief if I practice physical exercise or sport.	No
	EVCE2G	I feel relief if I eat or drink.	Yes
Self motivation	EVCE3A	Pessimist... (whatever I do, it will go wrong).	Yes
	EVCE3B	I'm able to get out of any trouble!	No
	EVCE3C	Calm in life. I am completely absorbed in what I am doing, indifferent to what surrounds me...	No
	ECVE3D	Apparently calm, I'm doing what I have to do... ruminating on the thoughts that occur to me	Yes
	EVCE3E	Uninteresting... Self-pity invades me. I just feel "down"	Yes
	EVCE3F	Resentful... Contempt, resentment invades me. I cut ties with those who reject me, I resent that person(s)	Yes
	EVCE3G	Who thinks: It went wrong as a result of a personal defect, that's who I am.	Yes
Empathy	EVCE4A	"Recording"/noticing the feelings of others.	No
	EVCE4B	"Reading" non-verbal channels (voice tone, hand gestures, facial expression, gaze direction, behavioural attitude, position, etc.)	No
	EVCE4C	Realize the consonance between the words and the body attitude of the person.	No
	EVCE4D	Use calm (but consciously) to listen... I realize that I feel good listening to people	No
	EVCE4E	I become receptive to the instability of the other and trigger an unstable attitude. I get irritated.	Yes
Relationship Management	EVCE5A	I can understand how people are feeling...	No
	EVCE5B	In my relationships with others, I clearly say what I think, regardless of the opinion they express.	No
	EVCE5C	I have control over my own feelings.	No
	EVCE5D	I can pick up on their feelings and I seem to start absorbing them.	No
	EVCE5E	I have an innate sensitivity to recognize what others are feeling.	No
	EVCE5F	I feel the interaction... I feel physically synchronized with those around me.	No

Given this information, it was obtained the following model of structural equations with a view to confirmatory factor analysis as we can observe in the Figure 1.

Figure 1 – AMOS Models: Confirmatory Factor Analysis EVCE-r33 (standardized coefficients)



After specifying and obtaining the confirmatory measure model, let's now examine some of its empirical indices that assess the goodness of fit of the obtained model:

After the statistical analysis considered for this purpose, it was found that: Virtually all indices refer to a model with a good fit. As we can observe in Table 2, only the RMSEA (*Root Mean square Error of Approximation*) with the value 0,083, refers to a Poor fit:]0.5; 0.10[, as it tends to penalize this model due to its complexity.

Given these results, it is considered that there is no need to question the model, and it should not be rejected, and which is considered the acceptance with no need for refinements through an exploratory strategy to find a model that best explains the observed data. Thus, the conditions for using the EVCE-r33 scale in the sample are met.

Table 2 – Distribution of the Absolute Indices of the Model quality assessment

Absolute indices	Value	Diagnosis
X ² /df	2,718	Good fit: ≤ 2-3
Root mean squared residual	0,253	Closer to 0 than 1. Well rated model
Adjusted GFI	0,690	Good fit:]0.6; 0.8[
Root Mean square Error of Approximation	0,083	Poor fit:]0.5; 0.10[

As we can see in Table 3, the main characterizing traits of the sample of 241 nursing students, presents the sociodemographic variables, where we can observe that students present age with mean age of 20,48 years old, (standard deviation of 4.18 years), as maximum with 25 years old and the minimum with 17 years old, with the vast majority of respondents (82, 6%) being up to 21 years old. We can verify that the majority (n=215; 89,2%) are female students, and 151 (62,5%) attending in the first and second academic years, 73 students (30,3%) in the first and 78 students (32,4%) in the second academic year. When asked if they were student workers, only 30 (12.4%) of respondents answered in the affirmative, so the minority of the students who made up this sample were working students.

Table 3 – Distribution of absolute and relative values of the sample sociodemographic variables

	n	%
Sex		
Female	215	89,2
Male	24	10,0
Other	2	0,8
Age categories		
Up to 21 years	199	82,6
More than 21 years	42	17,4
Year attended		
1 st	73	30,3
2 nd	78	32,4
3 rd	61	25,3
4 th	29	12,0
Student worker		
No	211	87,6
Yes	30	12,4
Age: X=20,48 years (SD 4,18); Min: 17; Max: 25		

σ (sigma) – Standard Deviation

The descriptive analysis of the 5 dimensions in study, presents, in Table 4, that the reliability results were satisfactory in almost all dimensions. Only the emotional management dimension has a Cronbach's alpha value below the acceptable value ($0.498 < 0.600$).

On average, the emotional competence dimension with the highest expression in the sample is "Empathy" (mean 5.02 and standard deviation of 0.81). On the opposite side is the "self-motivation" dimension with a mean value of 4.27 (standard deviation of 0.71).

But and considering the The Psychometry of the Data Collection Instrument (DCI), to measure the EC profile, and in the 3 levels of E.C. considered, we can observe the low level, between 1 and 3.49; the moderate level between 3.50 and 5.45, and the high level between 5.46 and 7.

In analysing Table 4, it can be seen that the students in the sample present a moderate level of effectiveness, whether in each of the dimensions or in the overall CE, since all the respective average values are between 3.50 and 5.45.

However, it appears that there is a part of the sample, which presents a low level of effectiveness, in any of the dimensions with minimum values between 2.13 (sd=0,91) for self-awareness, 2.14 for emotional management (sd=0,75) and self-motivation (sd=0,71), and for Relationship Management ($X=2,33$; sd=0,79). Conversely, it also appears that some of the students presenting a high level of effectiveness in terms of the five dimensions, as we found maximum values the high level of ($X=7.00$) in terms of self-awareness (sd=0,91), empathy (sd=0,71), and relational emotional management (sd=0,79).

The highest level found was Empathy, with an average of 5.02 indicating that students present a moderate level in this dimension, and with a Cronbach value ($\alpha =0,743$) indicating that there is a good level of internal consistency between the items.

The lowest mean value ($X=4,33$) in the sample indicates that it has moderate level in Relationship Management but also the value of Minimum (2,33) also indicate that a part of students are in low level in that dimension.

Table 4 – Values of Descriptive analysis of the EVCE-r33 dimensions and Global Emotional Competence

	No Items	α	Min	Max	x	σ
Self-awareness	8	0,851	2,13	7,00	4,41	0,91
Emotional management	7	0,498	2,14	6,57	4,51	0,75
Self-motivation	7	0,602	2,14	6,14	4,27	0,71
Empathy	5	0,743	3,00	7,00	5,02	0,81
Relationship Management	6	0,729	2,33	7,00	4,33	0,79
Global Emotional Competence	33	0,865	3,27	6,36	4,48	0,57

σ (sigma) sd -Standard Deviation; α - α de Cronbach

In global of the sample, we can verify a Moderate General Emotional Competence Female Profile ($X=4,47$; $sd=0,55$) and Male Profile ($X=4,65$; $sd=0,66$), and with no statistically significant differences between ($p=0,148$) genders sample. Male profile is higher due to the significantly higher Emotional management profile.

There are statistically significant differences in the self-awareness dimension according to gender, with male respondents presenting a significantly higher mean ($X=4,84$; $sd=1,06$) and ($p<0,05$), different of female sample with average 4,38 ($sd=0,88$). Close to statistical significance ($p=0,057$) is also the highest mean value of those respondents in the Emotional management dimension, and female students with 4,49 ($sd=0,75$).

On the contrary, but without statistically significant differences, female sample present higher mean in the Empathy dimension ($X=5,05$; $sd=0,81$) and $p<0,145$, and Relationship Management dimension with mean 4,36 ($sd=0,78$), with respectively lower values of male sample with average 4,80 ($sd=0,82$) in the Empathy dimension, and Relationship Management with the mean of 4,24 ($sd=0,84$), but the both in the moderate profile.

Table 5 – Values of Mean and stand deviation (St.Dv.) of the five EVCE-r33 dimensions according to gender

	Female		Male		<i>p</i>
	Mean	Standard deviation	Mean	Standard deviation	
Self-awareness	4,38	0,88	4,84	1,06	<0,05
Emotional management	4,49	0,75	4,80	0,76	0,057
Self-motivation	4,25	0,69	4,52	0,77	0,073
Empathy	5,05	0,81	4,80	0,82	0,145
Relationship Management	4,36	0,78	4,24	0,84	0,484
General Emotional Competence	4,47	0,55	4,65	0,66	0,148

σ (sigma) sd -Standard Deviation

Observing Table 6, we can see that both groups - students up to 21 years and more 21 years – present the higher profile in Empathy dimension, with youngers mean of 5,06 ($sd=0,80$) and the others with mean of 4,82 ($sd=0,88$), but we can see that in this difference, respondents aged up to 21 years have a significantly higher mean in the dimension related to empathy.

The lower profile of two groups students - up to and more than 21 years - is in Relationship Management with mean 4,37 ($sd=0,79$) and 4,17 ($sd=0,76$) respectively, without statistical significance ($p=0,130$)

Table 6 – Values of Mean and stand deviation (St.Dv.) of the five EVCE-r33 dimensions according to age categories

	Up to 21 years		More than 21 years		p
	Mean	Standard deviation	Mean	Standard deviation	
Self-awareness	4,39	0,91	4,53	0,91	0,351
Emotional management	4,53	0,76	4,43	0,75	0,409
Self-motivation	4,25	0,72	4,38	0,64	0,284
Empathy	5,06	0,80	4,82	0,88	<0,05
Relationship Management	4,37	0,79	4,17	0,76	0,130
General Emotional Competence	4,49	0,56	4,45	0,61	0,734

σ (sigma) sd -Standard Deviation

It is observed, in Table 7 that the highest profile is in Empathy dimension for both groups, with mean of 5,04 (sd=0,80) to No student worker group, and to Student worker group the value of 4,90 (sd=0,94). Differently, the lowest dimension's profile, is in Self-motivation dimension (X=4,26; sd=0,72) for No student worker group, and for the Student workers, the lowest dimension's profile, is in Self-awareness dimension (X=4,35; sd=0,95).

But we can see that there are no statistically significant differences in the EVCE-r33 dimensions depending on being a student worker or not.

All dimensions, as well as the Global Emotional Competence, present average values that express a moderate profile, for both groups: No student workers with the mean of 4,48 (sd=0,56) and Student workers with the mean of 4,46 (sd=0,61).

Table 7 – Values of Mean and stand deviation (St.Dv.) of the five EVCE-r33 dimensions depending on student worker

	No student worker		Student worker		p
	Mean	σ	Mean	σ	
Self-awareness	4,42	0,91	4,35	0,95	0,680
Emotional management	4,53	0,74	4,40	0,86	0,363
Self-motivation	4,26	0,72	4,37	0,63	0,408
Empathy	5,04	0,80	4,90	0,94	0,457
Relationship Management	4,32	0,76	4,42	0,99	0,517
Global Emotional Competence	4,48	0,56	4,46	0,61	0,827

σ (sigma) sd -Standard Deviation

As we can see in Table 8, students from all years of learning in nursing, have the highest average values in the Empathy dimension, but the highest between these groups are the 3rd (X=5,09; sd=0,87) and the 1st year (X=5,02;sd=0,85), and in contrast, it appears that the dimension with lower averages is Self-motivation, namely for the students in the 1st year (X=4,21; sd=0,77) and the 2nd year (x=4,29; sd=0,73),

and the Relationship Management presents also the lower overages in the 2nd (X=4,29; sd=0,76) and to the 4th (X=4,33;sd=0,75) years students.

Global Emotional Competence, with no statistically significant differences between groups (p= 0,599), presents in all academic years values up the cut point, but lower in 2nd (4,44; sd=0,52), and the highest is of 4th years students (X=4,58; sd=0,53).

Considering the values of standard deviations, the variables that represent each of the dimensions of Emotional Competence present a normal distribution. There are no statistically significant differences in the EVCE-r33 dimensions depending on the year the nursing student attends.

Table 8 – Values of Mean (X) and stand deviation (σ) relative the five EVCE-r33 dimensions depending on the sample academic year attended.

EC Dimensons	1 st		2 nd		3 rd		4 th		p
	x	σ	x	σ	x	σ	x	σ	
Self-awareness	4,42	0,97	4,32	0,85	4,36	0,96	4,74	0,74	0,198
Emotional Mangt	4,46	0,86	4,47	0,66	4,62	0,77	4,56	0,66	0,576
Self-motivation	4,21	0,77	4,29	0,73	4,28	0,66	4,36	0,57	0,784
Empathy	5,02	0,85	4,98	0,74	5,09	0,87	4,98	0,84	0,859
Relationship Mangt	4,30	0,82	4,29	0,76	4,43	0,83	4,33	0,75	0,735
Global EC	4,45	0,64	4,44	0,52	4,52	0,57	4,58	0,53	0,599

σ (sigma) sd -Standard Deviation; X-mean;

In brief conclusion and with regard to statistical analysis, it appears that the variables under study present a normal distribution, and that most of them do not present significant statistical differentiation power, in relation to the values of the profiles found.

The five dimensions of EVCEr33 present a Moderate Profile, as well as Global Emotional Competence.

Each of these dimensions can be learned, reinforced

There are two very brief metacognitive exercises in the conceptual-labour field of health care that need to be addressed, even if briefly. The first is that it is not true that the only emotionally challenging contexts are those in which clinicians deal with life-or-death decisions. Especially because not even in these they are completely alone. The second is that it is urgent to deconstruct the idea that classical training is enough. More than this, it is important to add that it is absolutely healthy and developmental, for any professional field, to expand the respective areas of exercise and training, and that this is precisely an expressive window of the state of the art of caregivers in general and nursing development in particular. And previous training completed cannot, and should never, be sufficient for the human fabric of any profession. If it is prior to the now, it does justice to and concerns an eventually current and emerging reality, but which is never static or immutable. And not just for professionals... Users, patients, and even family members, are currently consuming more culture and information, which is why, in their status as citizens, they learn to discover rights, and in these, the right to quality. And so, they tend to progressively demand more and better quality of care.

They prioritize details, dominate expressive languages of this quality, adding to the technical instrumental executory component, the attentional and relational component to feel therapeutic.

And studies have often shown that health professionals in general, and nurses in particular, without training or with insufficient training in emotional competence and intra and interpersonal communication skills, - namely in the expression of specific competences in the area of nursing related to a person in a critical situation,(38, 40, 44) – experience greater and more evident levels of stress and emotional exhaustion when trying to control their own emotions and those of others (47, 48,49, 40, 51), in different Nursing contexts, from the pre-hospital area to intensive care units.

It remains to be said, and as already presented above, that the criteria units related to the specific competences are explicit with regard to the interactions that build and promote the therapeutic relationship, and like all activities/executive actions, from decisions to the implementation of plans in stressful environments, require good levels of emotional self-awareness and emotional management, not least self-motivation. And considering the profiles already studied in nursing, their predictive power for Emotional Competence in nurses was verified (37).

However, there is still a lot to study and understand about how we can reinforce the skills and dimensions that constitute Emotional Competence. It is essential to continue producing specific training in Emotional Education to develop all human beings in general in this type of soft skills, considered essential for relational interactions in the professional fabric of health contexts.

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CHAPTER 7

Virtual Reality in Emotional Competence Education

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7.1 Virtual Reality (VR)

With the modernisation and advancement of healthcare and clinical environments, and simultaneously a rapid growth and evolution in computer science and technology, so has the call and demand for safe and efficient clinical nurse training grew over the years. Growing opportunities exist to modernize healthcare education into programs designed to satisfy the expectations and needs of the digital generation, due to technological breakthroughs and their affordability (King et al., 2018). As a result, Virtual Reality (VR) has been becoming increasingly popular integrated into professional nursing curricula with the promise of revolutionizing nursing education, streamlining teaching and learning procedures, offering a fresh and interesting approach to nurse training (Park, Kim and Kim, 2020). Indeed, VR can be used as a pedagogical resource for all health care professionals' training (Ferrandini Price et al., 2018).

VR generates 4D visual and auditory scenes that can be navigated and interacted with (Vince, 2004). Although it is unclear when virtual reality technology first entered nursing education, simulation and computer-based technologies have been used and researched as a teaching tool by Ivan Sutherland since the late 1960s with the term VR believed to have been first coined by Jaron Lanier in 1987 (Arvind Mallik, 2018). Utilizing a headset that covers the user's eyes and displays the virtual environment, together with hand-held controllers or other input devices to interact with the environment, a user is often fully immersed in a VR experience (Bailenson & Yee, 2007), eliminating a real-world interaction (Azuma, 1997 ; Mills et al., 2022; Vince, 2004). With such tool, users can interact with digital objects and settings as if they were real through a computer-generated simulation (Riva, Wiederhold, & Wiederhold, 2016). VR technologies enable a new perceptual extension, creative construction and a unique social involvement (Bricken & Byrne, 1993).

7.2 Virtual reality in Nursing Education

Virtual reality (VR) has been employed to nursing education, improving teaching and learning methods, thus aiding in nursing students' skill development, confidence building and clinical practice preparation (Chen et al., 2020; Biyik Bayram & Caliskan, 2022). Additionally, VR technology has been shown to improve students' critical thinking and problem-solving abilities as they get to practice and apply their knowledge in a secure and regulated setting (Lang et al., 2018). VR technology offers nursing students the chance to practice and explore a multitude of skills, hence learn by doing, in a safe, secure and controlled setting without putting patients at risk or harm, and hone their clinical reasoning abilities in a more productive and enjoyable learning environment (Alimohammadi, Norouzi, & Alhani, 2017). In fact, evidence-based findings has shown that VR technology in tertiary education offers nursing students a unique and engaging learning environment that can boost motivation, improving learning results (Kim & Kim, 2018).

Furthermore, Bender et al. (2018) has shown that utilizing virtual reality simulations to practice patient care scenarios enhanced patient care abilities and skills more effectively, and with less fear and anxiety than when caring for real patients. As a result, VR in nursing education has also benefitted patient safety (Biyik Bayram & Caliskan, 2022), enhancing patient care outcomes (Pfeiffer et al., 2019) and patient satisfaction (Gee et al., 2020). While much published scientific evidence has shown that VR technology has been employed in various nursing education programs to address a wide range of skills and topics, no evidence was encountered that prior to this project VR technology has been used to help develop emotional competence skills.

Notwithstanding the above, nurse educators must not consider VR technology as a fool-proof aid to nursing education. Albeit the benefits of integrating an immersive technology to nurse training, one must be cautioned against other realities which may entail a variety of risks or other challenges necessitating preventing actions. These include:-

- i. **Physical discomfort:** Some students may experience physical pain or headaches from VR simulations due to prolonged use or an uncomfortable fit of the VR gear, known as cybersickness (Cobb et al., 1999; Davis et al., 2015; Obukhov et al., 2022).
- ii. **Physiological distress:** In some people, especially those who are unprepared or untrained in its use, VR simulations can also lead to worry, stress, or even panic in certain situations (Costello, 1997). Some students need more time to understand and adjust to it (Chang & Lai, 2021).
- iii. **Health and safety concerns:** Since VR technology immerses the user in a simulated environment, there is a possibility of danger or injury if the user becomes unaware of their immediate surroundings. Use of VR necessitates large dedicated spaces with safety measures in place.
- iv. **Cost:** One of the primary challenges to applying VR in nursing education is the cost of equipment, its maintenance, and the cost of developing and updating VR simulations which can be very high, making it difficult for some nursing programmes to justify the investment.
- v. **Technical issues:** Due to its complexity and tendency for technical issues, VR technology has the potential to disrupt learning processes and waste time and resources.
- vi. **Lack of Institutional support:** several public forum participants noted that getting faculty support was a recurrent problem. Faculty members frequently lack knowledge of, or inadequate grasp of the technology, so participants remarked that this challenge must be overcome by providing evidence of VR's usefulness (Cook et al., 2019).
- vii. **Desensitization:** While VR can offer a safe and controlled environment for students to practice their skills, it may not fully replicate the complexity of real-life patient situations. There is a risk of desensitization to real-life patient situations. Students may become desensitized to certain situations or may not fully develop the interpersonal and communication skills necessary for patient care. This risk highlights the importance of using VR simulations in conjunction with clinical practice or simulation labs, thus supplemental to traditional means of training rather than replacing them, because human interaction is crucial especially in learning social and communication skills (van der Linde-van den Bor et al., 2022).

7.3 The SG4NS Serious Game

The gaming industry produces VR games which allow for the study of the users' experience and emotions while playing the game. One of the best game genres that allow for this type of experience is known as Escape Rooms (Oliveira, 2022). The latter are a genre of game focused on problem-solving involving puzzles and mysteries that can be solved through riddles and symbols, challenging the player psychologically and allowing a relationship between the player's mind and body (Oliveira, 2023).

The development of such game requires a thorough understanding of how emotions are aroused in the human body, and in turn, the game becomes very effective at eliciting emotions in the player, involving the latter more deeply in the experience, allowing for the best possible gaming experience. The use of virtual reality technology further allows 'full immersion', with a sense of 'presence', 'feeling in the body' as if the experience was real, leading to greater player involvement and active participation in the experience (Oliveira, 2022).

The central goal of incorporating a Serious Game into the Emotional Competence Course was to invoke a spectrum of emotions in students within a controlled and captivating environment, while delivering an immersive and engaging experience to further motivate students' active participation. The latter Escape Room game genre presented this project with the ideal scenario for a VR Serious Game tool to assist the teaching and learning of emotional competence skills to the students. The potential of VR technology and the Escape Room genre as a powerful means of eliciting emotions in players has been demonstrated in a study by Oliveira et al. (2023).

To ensure accessibility for all students, the game was intentionally designed with a simple interface and minimal controls. This approach catered to students unfamiliar with virtual reality, allowing them to navigate and engage with the game effortlessly. The emphasis on simplicity aimed to remove potential barriers, enabling a broader range of students to benefit from the emotional exploration facilitated by the Serious Game within the course.

The game commences with the student/gamer finding oneself in a house, exactly within a kitchen environment, in a dark and unlit environment. Some parts of the house were completely dark and has to be navigated with a flashlight. Written post-it notes on the kitchen-top guide the student to further clues to explore the home environment which consists of a number of rooms, including a living room, a bedroom, a balcony, a box room, an office and a laboratory found on two floors, unravelling other puzzles during the process. The overall ambience is unlit, ghostly (by way of strange sounds and whispers from a woman along the stairway), designed in a manner to stimulate the student's emotions. Among the instructions given, the gamer must open a trash bin using a hammer, requiring a tough action to retrieve a key from within the trash surrounded by cockroaches. The students must navigate around the house, opening doors and following instructions to gather a number of keys and pages from a diary, which are dated and followed by text signed "John".

At one point, the gamer is faced with a seemingly unconscious, albeit not dead woman lying on the floor, who is "Mary". Mary's body changes position every time the player looks away. When the player approaches the body, Mary's eyes follow the player. At another point, the player has to pass through a hole in the balcony and walk over a narrow plank, eliciting a fear of height. The narrative of the game focuses on the lives of the game's characters, John and Mary. Each six pages of the diary features a date which the player needs to connect in a specific order to obtain a code, which opens a cabinet in the laboratory. Upon successfully opening it, the player sees their reflection in the mirror and realises they are "John". The author of the game claims that although there is this storyline, it remains open-ended, allowing each player to have their own personal interpretation of what happened. The objective of the game is to convey the narrative to the player in a way that is engaging and arouses curiosity about what happened (Oliveira et al., 2023).

Following gameplay, students actively participated in open discussions during the course, recalling and analysing the emotions they experienced while navigating the virtual environment. Among the array of positive and negative emotions experienced, the students highlighted fear, apprehension, disgust, curiosity, mystery, concern, helplessness, frustration, boredom, confusion, anger, surprise, shock/alarm, excitement, anxiety, tension, embarrassment amazement, wonder, awe and satisfaction. The structured

post-game discussions provided a platform for students to articulate and reflect on their emotional responses, fostering a deeper understanding of their own emotional competencies. This reflective component was instrumental in linking the virtual experience to real-world emotional competence, enriching the overall learning process.

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CHAPTER 8

Conclusion and Future Recommendations

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8.1 Summary

Changes in health care systems, the nursing profession and nursing practice have elicited new demands for nurse education and nurse educators. The nurse workforce, nevertheless, remains the largest population of health care workers in most countries. On average, across the EU countries, there are 8.3 nurses per 1 000 population in 2020 in EU countries (The Organisation for Economic Co-operation and Development [OECD]/European Union, 2022). Increasing prevalence of chronic diseases, ageing population, global health issues (Shustack, 2020), e.g. pandemics (Lake, 2020), many environmental risks (Alvarez-Nieto et al., 2018) and technological solutions have enabled modifications and shifts in changed health care systems. The nursing profession and nursing practice have sought to adapt accordingly (European Commission, 2017). Nurses remain central to the efficient and effective delivery of care in hospital settings, long-term care facilities, and the primary care and community settings. The competence of nurses therefore maintains crucial importance in health care systems. The quality of nursing care and the education of nursing students remains the fulcrum of good health systems.

Against this backdrop, the demands and the needs to adopt new teaching approaches and methods, and adaptive strategies to nurse educators' work and competence are indicated (Salminen et al., 2021). It is hoped that this handbook contributes to the narratives and efforts seeking to optimize nurse educators' work and competence. The competence of nurse educators is essential if high quality and evidence-based nurse education is to be offered towards developing student nurses' knowledge, skills and attitudes (World Health Organization [WHO], 2021). The authors of this handbook trust that this handbook is a valid and useful contribution towards the development of nurse educators' required competence in enabling and guiding the development of emotional intelligence amongst nurse students.

In essence, this handbook is an eclectic resource of information and reflections for nurse educators regarding the development of emotional intelligence amongst nursing students. The development of emotional intelligence amongst nursing students has been distinguished as a central asset of nurse education. This contention echoes through the project and through all its deliverables and outputs including this handbook. Specifically, this chapter provides recommendations for nurse educators for the future, in this regard. In the following sections academics from the SG4NS project share the outcomes of reflection and evaluation exercises which they pursued in the final months of the project period. The recommendations draw upon a critical analysis of their experience in the project activities and upon the evaluation feedback which they gathered in the course of conducting the project between 2020-2023 across six project partner universities in Portugal, Italy, Romania, Spain and Malta.

The SG4NS project (2020-2023) was designed and conducted to address the demands in modern health care systems referred to above and to contribute towards the development of the nurse educator practice with regards to their efforts towards developing emotional intelligence amongst nursing students. With this project the first steps to address the need for novel and effective approaches to developing emotional intelligence were paced.

The project comprised several activities and outputs including the conduct of a literature review, the development of a Serious Game which implied the use virtual reality immersive technology and a instructional workshop; all with a focus on developing emotional intelligence amongst nursing students. The instructional workshop was well received by the attendees who volunteered participation. The multinationalism of the participants was deemed an enriching facet of the project. The recommendations below emanate from all of the above.

8.2 Future recommendations for nurse educators' contribution to development of emotional competence amongst nursing students

Recommendation 1: Universal nursing students' "emotional intelligence development" requirements

The requirements of nursing students' emotional intelligence need to be discussed and harmonised at a pan-European level, and gradually and eventually at a global level. In view of the phenomena of globalisation and nurse mobility across the global nurse workforce, universal consensus regarding the requirements of "emotional intelligence development" of nursing students is indicated. Further research is suggested to seek guidance in designing "emotional intelligence development" strategies which are universal enabling the provision of and access to educational resources which can guide and support the development of emotional intelligence amongst students across the globe. The SG4NS project comprised an initial step in this direction. Wastage and inefficiency, arising from fragmentation of investments and duplication of initiatives, are challenges which nurse educators are currently experiencing (Leaver et al, 2022), hence, international collaborations are viewed as real sustainable solutions to address identified gaps and discrepancies in nurse education regarding emotional intelligence development. The determination of universal nursing students' emotional intelligence requirements will consolidate and economise expertise, resources, initiatives and investments across different countries and is therefore recommended.

Recommendation 2: Develop international nurse educators' educational opportunities, regarding the development of emotional intelligence amongst nursing students

There is a need to model nurse educator competence and to base nurse educator education on universal guidelines and parameters which draw, in turn, on the best available evidence. This recommendation is being proposed in view of advocating the benefits of universal levels of development of emotional intelligence amongst nursing students in current realities, referred to above. The literature extensively calls for improved and more equality across the quality of nursing education globally so as to address disparities in nursing service quality across the globe (Satoh et al.2020). Continuing professional development (CPD) is a self-directed learning process (Drude et al., 2019) that is called for throughout

the duration of an educator's activity. A universal structured CPD programme/s for nurse educators to support the "emotional intelligence development" of nursing students is recommended. This CPD will allow for continued development of nurse educators' competence in this regard (Pool et al., 2015) and will enable them to meet dynamic realities over their years of professional practice as educators.

Recommendation 3: Direct nurse education institutions and nurse educators' employers to channel resources, including time and money, to support nurse educators' strategies and approaches which are directed towards the development of emotional intelligence of nursing students

Advances in the use of technology in education and changing characteristics of student populations require knowledge and skills which are associated with modern modes and methods of teaching and learning. On one hand global and work management challenges faced by nurse educators (EU-OSHA 2018, Howard et al., 2022) including technological advances alongside demographic changes across Europe that increase the demand on health care and a shortage of nurses and nurse educators, are recognized elements of current nurse education institutions. On the other hand, nurse educators suffer from high workloads which is typically unevenly distributed over the academic year (Rinne et al., 2022). In addition they experience mental strain and work-related stress (Singh, 2020) The resources required to develop knowledge and skills sets and the resources needed by nurse educators to integrate and use new technologies effectively in their teaching are to receive more attention and investment. Insights from this project support the view that there is little research on the needs of nurse educators in this regard. This knowledge gap highlights the need for future research. It is important to avoid overlooking the fact that individual educators and country specific contexts have different requirements because (1) initial starting lines vary across context and (2) the rate and nature of the dynamism in a specific context also varies from any other. Investment that is channelled specifically to emotional intelligence development is therefore recommended.

Recommendation 4: Establish an international hub for “emotional intelligence development” for the nursing profession

The sharing of knowledge and expertise between the partner entities in the SG4NS has provided a rich space for the learning and development. Therefore the establishment of a hub for the “emotional intelligence development” for the nursing profession is recommended to advance the quality development of emotional intelligence across the globe. One of the main functions of the hub will be to foster collaborations between entities in different countries as well as to enable exchanges between individual educators in-person and of resources, experiences and expertise. Such a hub is believed to have the potential to increase the possibilities for professional international collaboration in a structured and systematic manner to enhance unified and harmonised education of nursing students across the globe in this regard. The learning and growth that arose from the transnational experience of this project is commendable and further learning and growth of this nature is recommended. The hub will allow for assimilation, review, and evaluation of future research studies in view of effective dissemination of evidence and best practice. In the least, the recommended hub will serve as a repository for resources that facilitate teaching and learning for nurse educators. The outputs of the SG4NS project, including the serious game and the literature review and workshop will be the founding components of this hub. Other resources will be co-created by educators or teams of educators and shared across nations, to support the future’s nurse educator workforce and the nursing students of the future. At most, the hub may (1) share advice regarding “emotional intelligence development” in the nurse workforce to global organisations as is the WHO and the ICN, and (2) will provide a formal working arena for research. This research activity is necessary as it provides the evidence that may inform policy, practice, teaching and learning.

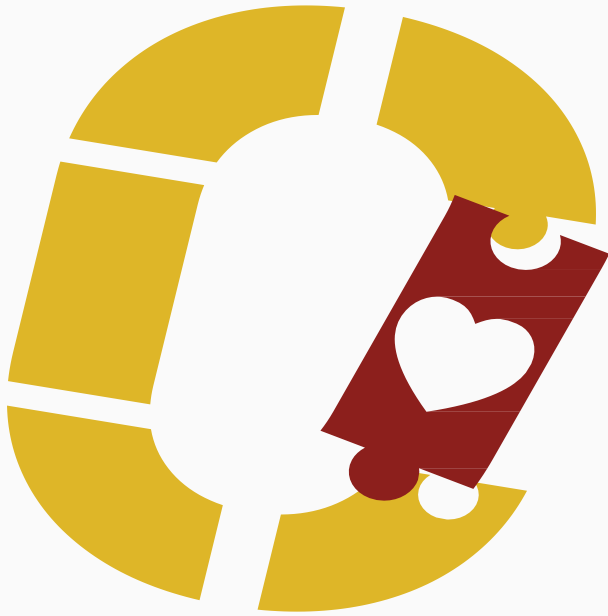
Recommendation 5: The adoption of immersive technologies, including the use of serious games and VR headsets in enabling the development of emotional intelligence, requires caution and should be preceded by a situational analysis of the context

The SG4NS project utilised an immersive serious game including the use of VR headsets. Whilst proving to be an element of attraction for students to engage in a workshop regarding the development of emotional intelligence, gaps and limitations in the proficiency and comfort of both educators and students with the use of the referred technology tools and equipment presented significant challenges. Also, the duration of the learning activity which entailed the use of the VR headsets and the venue of the learning activity would have clearly benefitted from more wider considerations when planned. These challenges, upon evaluation, were identified as potential threats and inhibitors which jeopardised and compromised the teaching and learning to varying extents across different individuals.

In view of the above, it is recommended that prior to the conduct of an educational initiative utilising such tools and equipment as are VR headsets and serious games, the approach and strategy of the educational initiative is to be, cautiously mapped against an analysis of the situation, that is, of the context in which this educational initiative will be provided and delivered.

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