UNIVERSITAT JAUME I

Emotional intelligence: a new way to assess it and its importance to understandwork outcomes

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Emotional intelligence: a new way to assess it and its importance to understand work outcomes

Inteligencia emocional: un nuevo modo de evaluarla y su importancia para entender los resultados laborales

Memoria presentada por Martín Sánchez Gómez para optar al grado de doctor por la Universitat Jaume I.

Doctorando:	Director de tesis:
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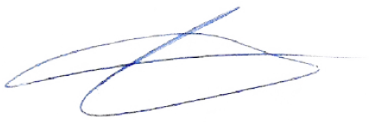

Castelló de la Plana, May 2021

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Para los que entendieron esta locura con la mayor de las corduras.

Para los que confiaron en mí cuando incluso yo dejé de hacerlo.

For those who understood this madness with the greatest of sanity.

For those who trusted me even when I stopped trusting myself.

Research project and funding

The present PhD thesis has been developed with the help of the Generalitat Valenciana and the European Social Fund. They gave me the chance to obtain a predoctoral contract to develop this doctoral project. Moreover, I participated in two research stays also funded by them: Universidad de Málaga and Università Europea di Roma. The details are:

▪ Predoctoral Research Grant (ACIF/2017/201). Subvenciones del Programa para la promoción de la investigación científica, el desarrollo tecnológico y la innovación en la Comunitat Valenciana [2017/647].

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It is also important to note that my research has been carried out with help from "Emotionally Intelligent Organizations," a research group at the Universitat Jaume I. In recent years, this group has been mainly supported by the project "Development of an emotional literacy program aimed at promoting emotional leadership and emotionally intelligent work teams." The details are:

▪ Grant for new scientific research projects (UJI-A2018-10). Convocatòria de projectes d'investigació científica i desenvolupament tecnològic. Pla de promoció de la investigació de la Universitat Jaume I 2018, Programa de foment de projectes d'investigació.

List of publications

The present PhD thesis comprises the following three scientific publications. Note that the Web of Science (WOS) Journal Citation Reports (JCR) statistics reported refer to the most recent data (year 2019).

1	Sanchez-Gomez, M., & Breso, E. (2019). The Mobile Emotional Intelligence Test (MEIT): An ability test to assess emotional intelligence at work. *Sustainability*, *11*(3), 827. https://doi.org/10.3390/su11030827 WOS (JCR) Impact Factor: 2.576; Category: Environmental studies; Rank: 53/123 (Q2)
2	Sanchez-Gomez, M., & Breso, E. (2020). In pursuit of work performance: Testing the contribution of emotional intelligence and burnout. *International Journal of Environmental Research and Public Health*, *17*(5), 5373. https://doi.org/10.3390/ijerph17155373 WOS (JCR) Impact Factor: 2.849; Category: Public, environmental, and occupational health; Rank: 32/171 (Q1)
3	Sanchez-Gomez, M., Breso, E., & Giorgi. G. (2021). Could emotional intelligence ability predict salary? A cross-sectional study in a multioccupational sample. *International Journal of Environmental Research and Public Health*, *18*(3), 1322. https://doi.org/10.3390/ijerph18031322 WOS (JCR) Impact Factor: 2.849; Category: Public, environmental and occupational health; Rank: 32/171 (Q1)

Martín Sánchez Gómez was involved in the design, data collection, data analyses, and drafting of the manuscript for each of the included scientific publications.

This thesis has been accepted by the co-authors of the publications listed above; they have waived the right to present them as a part of another PhD thesis.

Table of contents

Abstract [Resumen]

Abstract

After three decades of research, emotional intelligence (EI) has proven to be a fundamental ability for understanding human behavior in different social contexts, including the workplace. Among the different variables associated with EI, some stand out, such as performance, life satisfaction, or labor welfare. However, the evaluation of EI presents a series of challenges that question a large part of the studies over these 30 years. Therefore, the first objective of this doctoral thesis was to develop an EI measurement instrument that would reduce the weaknesses of the existing ones, and the second objective was to determine the role of EI on some variables of great importance in the work environment.

Throughout the three studies that comprise this thesis, there were a total of 3,531 participants aged between 18 and 68 years (M = 34.4, SD = 9.47); 58.7% were women. The participants belonged to different labor sectors.

The main results of this thesis indicate that: (1) The Mobile Emotional Intelligence Test (MEIT) is a reliable and valid measure of EI. It is important to use ability tests versus self-report questionnaires when evaluating a competence such as EI, and there are benefits of taking advantage of technology to measure EI. (2) EI of employees is related to job performance through professional efficiency and exhaustion; EI acts as a protective variable when preventing the development and chronic progression of worker burnout. (3) Those workers with the highest EI and emotional repair capacity achieve the greatest professional success, which leads to obtaining a higher salary.

In conclusion, this doctoral thesis provides a new methodology for evaluating EI in work environments as well as evidence about the role of EI in understanding burnout, performance, and salary, key variables in the organizational environment.

Resumen

Después de tres décadas de investigación, la inteligencia emocional (IE) ha demostrado ser una habilidad fundamental para entender el comportamiento humano en diferentes contextos sociales, entre ellos el laboral. Entre las distintas variables asociadas a la IE destacan algunas como el rendimiento, el bienestar con la vida o la satisfacción laboral. No obstante, la evaluación de la IE presenta una serie de desafíos que han puesto en evidencia los hallazgos de una gran parte de los estudios sobre el tema a lo largo de estos 30 años. Por tanto, el primer objetivo de la presente tesis doctoral fue desarrollar un instrumento de medida de la IE que redujese las debilidades de los existentes, y el segundo objetivo fue determinar el papel de la IE sobre algunas variables de gran importancia en el entorno laboral.

A lo largo de los tres estudios que componen la presente tesis, contamos con un total de 3531 participantes con edades comprendidas entre 18 y 68 años (M = 34,4; DT = 9,47); el 58,7% de los cuales fueron mujeres. Los participantes pertenecieron a distintos sectores laborales.

Los principales resultados de esta tesis señalan que: 1) MEIT (*Mobile Emotional Intelligence Test*) es una medida fiable y válida de la IE; la importancia de emplear pruebas de habilidad frente a cuestionarios de auto-informe a la hora de evaluar una competencia como la IE; así como las ventajas de aprovechar la tecnología para ello; 2) la IE de los empleados está indirectamente relacionada con el rendimiento laboral a través de la eficacia profesional y el agotamiento; la IE actúa como variable protectora a la hora de prevenir el desarrollo y la progresión crónica del agotamiento de los trabajadores; 3) son aquellos trabajadores con mayor IE y capacidad de reparación emocional los que alcanzan mayor éxito profesional, lo que conduce a obtener un salario superior.

En conclusión, el presente trabajo doctoral brinda una nueva metodología para evaluar la IE en entornos laborales, así como evidencias acerca del rol de la IE a la hora de entender el burnout, el rendimiento y el salario, variables clave en el entorno organizacional.

Framework

The present PhD thesis has been carried out within "Emotionally Intelligent Organizations," a research group coordinated by Edgar Bresó Esteve, full professor at Universitat Jaume I. As indicated above, this thesis has followed a path in parallel to the project "Development of an emotional literacy program aimed at promoting emotional leadership and emotionally intelligent work teams." This thesis represents a 3-year longitudinal research project (from the 2018/19 to the 2021/22 academic years) that aimed to provide new insights on the associations between emotional abilities and work outcomes in multioccupational Spanish workers. In addition, in this project we have conducted important work to teach emotional abilities in several Spanish companies.

The "Emotionally Intelligent Organizations" research lines are:

- Assessment of emotional intelligence (EI) in employees, and design and implementation of intervention programs for improving EI in work environments
- Psychosocial health evaluation in organizations
- Development of emotional competencies in workers
- Design of mobile applications
- Development of evaluation methods based on mobile applications
- Diagnostic and training methods in the management of emotions by means of apps

The "Emotionally Intelligent Organizations" services are:

- Development and implementation of literacy and emotional education programs
- Training in EI

The "Emotionally Intelligent Organizations" research group has also aimed to improve our society using EI as a key variable. To achieve this ambitious target, we have organized dozens of activities among which are three international conferences about EI and a master's degree program about EI in organizations, which has now been running for 6 years. All these actions have contributed to the development of socio-emotional skills in our immediate

surroundings. According to World Economic Forum (WEF), our work could help to achieve three of their 17 sustainable development goals: good health and well-being, quality education, and decent work and economic growth. Thus, the results obtained from the present PhD thesis will be relevant not only to provide novel scientific information, but also to establish new initiatives and work-based programs aimed to improve health status and work performance in employees around all the world.

This PhD thesis is structured around four major blocks: general introduction, aims, manuscripts, and conclusions. The aims were approached through two main sections: The first one addresses the importance of an accurate EI assessment (first manuscript), while the second highlights the role of EI to understand workplace outcomes (second and third manuscripts). The present PhD thesis has been designed and developed in accordance with the Universitat Jaume I Doctorate Regulations (approved on January 26, 2012, with the most recent modifications on July 25, 2013) and with the Doctoral Programme in Education Regulations for the 2015/2016 academic year, both based on the Royal Decree 99/2011, of 28 January, which regulates official doctoral studies (information retrieved from: www.uji.es/estudis/centres/escola-doctorat/normativa/normestudi/).

General introduction

1. The development of the emotional intelligence construct

1.1. Birth and expansion of the concept

In recent decades, few psychological constructs have had such an impact on society as emotional intelligence (EI). This term has attracted the attention of psychologists, educators, and human resources technicians, among others, causing its popularity to grow exponentially. Thirty years after the appearance of the scientific concept, proposed by the Yale University researchers Peter Salovey and John Mayer (1990), EI's contribution to the field of social psychology is undeniable. A fruitful field of research was born around this new idea of intelligence, which today has developed into a mature area of investigation with applications in multiple areas of the human sphere (Mayer et al., 2016).

Although the concept of EI is relatively recent, the first use of the term was recorded more than 50 years ago (Leuner, 1966). In later years, the idea that cognition and emotional processes could interact to improve thinking grew (Fiori & Vesely-Maillefer, 2018). However, the scientific origin emerged in 1990, as a result of the article entitled "Emotional Intelligence" published in the journal *Imagination, Cognition and Personality*. Continuing the line followed by previous researchers, Salovey and Mayer defended EI as a set of interrelated emotional skills. To do this, they based their idea on a long tradition in the field of intelligence. Researchers such as Thorndike (1920) had already proposed social intelligence, while others like Gardner (1983) and Sternberg (1988) had proposed more inclusive approaches to understanding different types of intelligence, including some aspects as interpersonal and intrapersonal capacities. However, the 1990 article represented the starting point of this whole story.

The passage of time has given Salovey and Mayer the status of the parents of EI, although there was a time when it was Daniel Goleman who captured all the attention. In 1995, Goleman published the book *Emotional Intelligence*, which became a worldwide success that served to amplify the media and scientific effects of this concept. From there, the growth of research has increased substantially. For example, looking at the Thomson Reuters' Web of Science database, there is a clear view of the exponential growth of scientific articles related to EI. Since 2015, the annual number of publications on the subject has been over 1,500 (Figure 1).

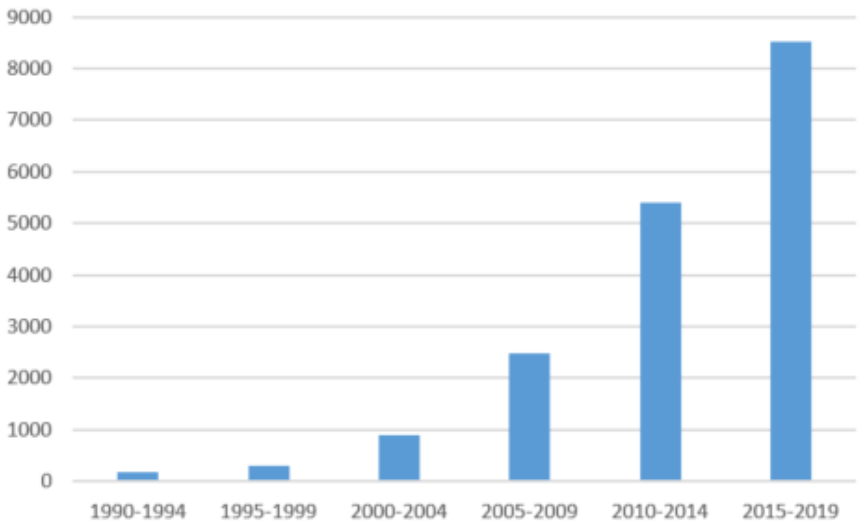

Figure 1. Number of publications related to emotional intelligence. Source: Web of Science.

1.2. The four stages

The evolution of EI has been very fast, so the usual stages associated with the emergence of a new concept have happened almost in parallel. Nevertheless, we can differentiate four periods of special relevance.

In the first decade since the birth of EI, most advances were focused on the development of theoretical models. Among them, those proposed by Goleman, (1995), Bar-On (1997) and Mayer and Salovey (1997) stand out; the latter will be developed in depth in section 2. However, Petrides et al. (2007) proposed a new model a decade later; it has also received significant acceptance among scholars on the subject. As we will see, the beginning of a new period does not imply the end of the previous ones, because work is still being done.

At the end of the first decade, the second stage emerged, in which the focus was on developing reliable assessment instruments, going through self-report questionnaires to situational or ability tests, many of which are still used today. Among the most prominent we find the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002), an ability test, and the Trait Meta-Mood Scale (TMMS; Salovey et al., 1995), a self-report questionnaire. Despite the large number of existing questionnaires, the difficulties in evaluating EI mean that many research teams are still trying to improve existing instruments, something that we will discuss in detail in section 3.

Later, we could consider the beginning of a third stage characterized by the search for predictive relationships of EI. In the last two decades, researchers have aimed to demonstrate the relative contribution of emotional abilities on different important aspects of the human sphere, beyond other already existing psychological constructs. It has been assumed that individual differences in EI have important consequences, positive when EI is high, and negative when it is low (Sarrionandia & Mikolajczak, 2020).

Finally, the fourth and final phase that EI is experiencing is related to intervention programs. After determining in great detail those areas and aspects in which EI plays a fundamental role, the next logical step is to design and implement scientifically proven training programs to improve the emotional skills of the population. Among the different proposals developed, socio-emotional learning stands out; Marc Brackett is the main standard bearer of this approach. Brackett, a direct disciple of Mayer and Salovey and currently the director of the Emotional Intelligence Laboratory at Yale University, has developed with his team an international training program for the development of EI (Recognizing, Understanding, Labeling, Expressing, and Regulating [RULER]), which is currently being implemented in numerous countries (Brackett et al., 2019).

1.3. Critics

EI has generated considerable controversy since its advent. Of all the criticisms that have been raised, the most fundamental involves the lack of agreement concerning what EI is (Cherniss, 2010). Indeed, the EI concept has been developed and investigated by multiple theorists of various fields, generating in some cases as much expectation as ambiguity, given the multitude of models and theoretical approaches (Diaz-Castela et al., 2013). This diversity of models and conceptions about the construct has generated an important lack of clarity (Mayer et al., 2008). However, this has also been and is a problem for general intelligence, which after 100 years of investigations still does not have a clear definition (Cherniss, 2010). To solve this problem, three solutions have been proposed: (a) to reject the concept of EI; (b) to accept that there are a variety of approaches to understand the same phenomenon and take advantage of each one; and (c) to choose one model over the others, trying to add enough evidence to show that it is the most appropriate. It seems that a mixture between options

b and c have prevailed, because different EI models continue to coexist, with the Mayer and Salovey proposal the most used by the scientific community.

EI has also lived with many criticisms by skeptics, in part due to the appearance of numerous non-scientific publications proposing an exaggerated importance to EI (Extremera et al., 2020). For example, Goleman said that EI abilities explain more than 80% of life success (Goleman, 1998, p. 320). All of this has invited some people to think of EI as something pseudoscientific, lacking scientific support. This situation has tarnished the robustness of the construct and had led to a poor propagation of the concept (Davies et al., 1998). Nevertheless, since the appearance of EI, numerous criticisms have led scientists to clarify conceptual and measurement aspects and their overvalued importance in certain vital areas, something that has helped to consolidate the construct more quickly (Maul, 2012).

There are still detractors, especially those who try to invalidate the concept by proposing that EI is not a type of intelligence (Locke, 2005). Nevertheless, many investigations have already demonstrated the usefulness of the construct, the complementarity between different theoretical approaches, its interrelation with other constructs, and the possibility that the skills that compose it are measured with valid and reliable instruments, and trained through systematic and rigorous proposal learning in various spheres of human life (Mattingly & Kraiger, 2019; Zeidner et al., 2008).

2. Theoretical approaches to emotional intelligence

The most common theoretical approaches to EI in the literature are trait EI and ability EI (Petrides & Furham, 2000). On the one hand, the trait EI approach views EI as emotion-related dispositions at a hierarchically lower position than personality traits that determine the way people behave in emotional situations (Petrides et al., 2007). On the other hand, the ability approach conceives EI as a form of intelligence and specifies that cognitive processing is implicated in emotions, is related to general intelligence, and therefore ought to be assessed through performance measures (Fiori & Vesely-Maillefer, 2018). One of the most acknowledged and scientifically rigorous ability models of EI is Mayer and Salovey's four branch model (Hodzic et al., 2018).

Mayer and Salovey (1997) proposed EI as a set of related skills to process emotional information. They divided these skills into four branches: (a) perceive, value, and express emotions with accuracy; (b) access or generate feelings that facilitate thinking; (c) understand emotions and emotional awareness; and (d) regulate or manage emotions to promote emotional and intellectual growth (see Figure 2).

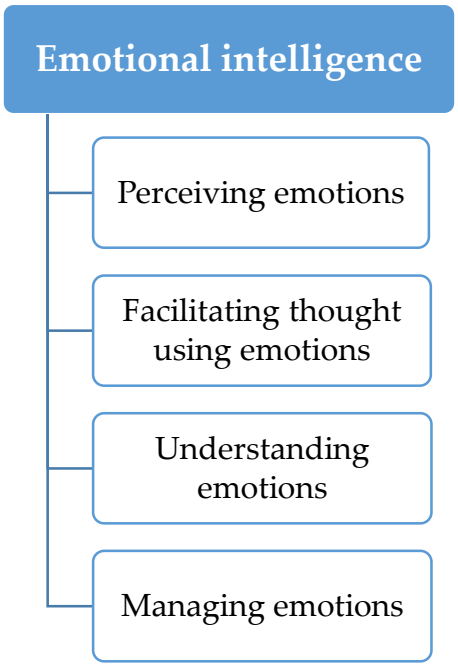

Figure 2. The original four branch model of emotional intelligence proposed by Mayer and Salovey (1997).

Within each branch of the model, the authors described a set skills or problem-solving areas from least to greatest difficulty (see Table 1). The four EI branches are theorized to be hierarchically organized, with the last two abilities (understanding and management), which involve higher-order (strategic) cognitive processes, building on the first two abilities (perception and facilitation), which involve rapid (experiential) processing of emotion information (Mayer & Salovey, 1997; Salovey & Grewal, 2005). In this sense, when trying to explain emotional behavior, recent studies have defended that EI ability can be defined as a single construct made up of two distinct components (see Figure 3). One is related to top-down and higher-order reasoning about emotions, depending more strongly on what is acquired and linked to culture and knowledge about emotions (crystallized component of the EI skill or knowledge about emotions). The other is based on perceptual responses from the bottom up to emotional information, which requires rapid processing (fluid component of EI ability or emotion information processing; Fiori & Vesely-Maillefer, 2018).

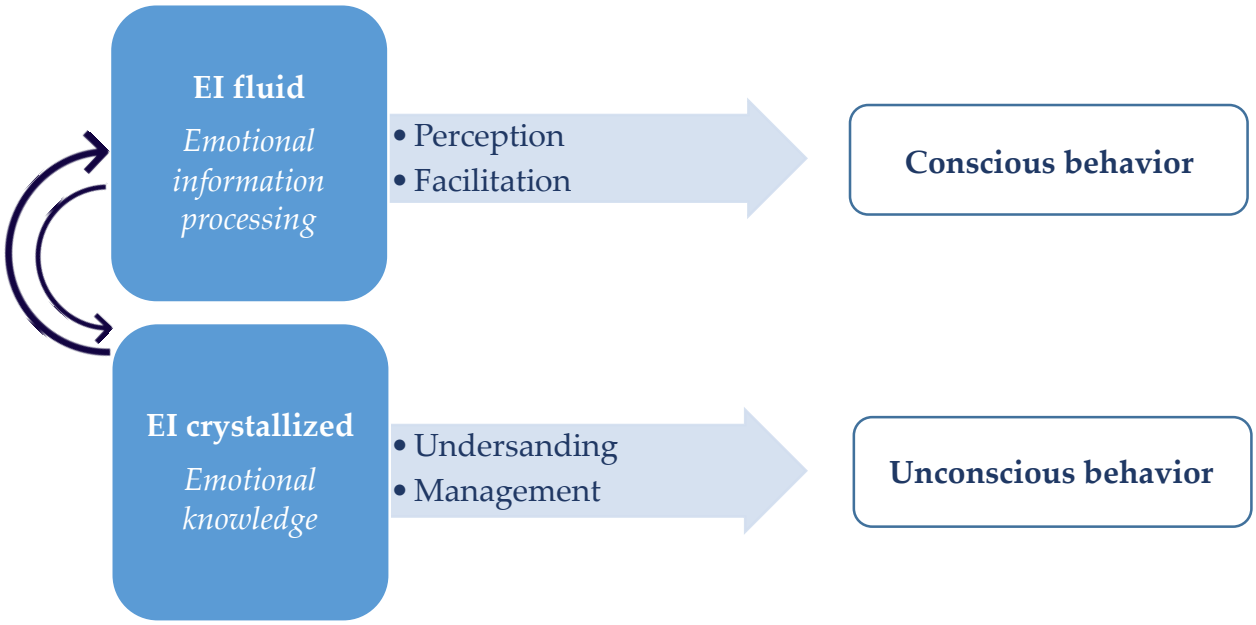

Figure 3. Conceptualization of emotional intelligence (EI) ability to explain emotional behavior through fluid and crystallized intelligences.

In summary, EI is considered a set of skills ordered from a lower level (perception) to a higher level (management). However, it is important to note that despite their hierarchical distribution, the different abilities of the model work in parallel through complex information processing systems, not sequentially (Fiori & Vesely-Maillefer, 2018).

After more than 30 years, research teams from around the world have tried to demonstrate, with the rigor and systematic nature of science, the usefulness and importance of basic skills integrated within the ability model originally proposed by Mayer and Salovey (1997) and updated years later (Mayer et al., 2016). This theory has allowed researchers to structure knowledge and combine findings and separate areas of cognition, emotion, affective states, neuropsychology, or interpersonal functioning, among others. The original authors proposed two starting assumptions: (a) emotions provide information to us that is useful and should not be ignored and that can enhance cognitive activities and motivate adaptive behaviors and (b) individuals differ in the skills that they bear to harness this information (Salovey & Mayer, 2020).

Nevertheless, this model has also been criticized mainly for two reasons. The first one is related to it being too restrictive and leaving aside such important aspects as empathy and several social abilities (Matthews et al., 2006). Difficulties in conceptualizing something so complex has probably been the main reason why several theoretical approaches to EI have appeared. However, we must recognize the value of those theorists who have contributed to extend the empirical support of the concept. The second one is related to the second branch (facilitation), which has shown difficulties to be considered an individual factor, because it was found redundant with the other branches (Fiori et al., 2014; Palmer et al., 2005). Hence, there is a revised three-branch ability model, comprised of emotion recognition, emotion understanding, and emotion management (Joseph & Newman, 2010; MacCann et al., 2014; see Figure 4).

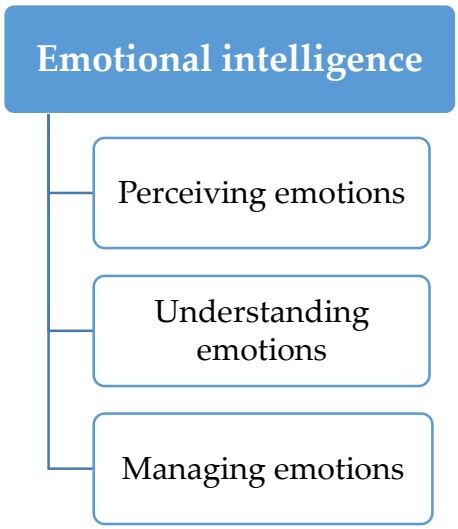

Figure 4. The updated Mayer and Salovey ability model of emotional intelligence.

Beyond the trait and ability models, so-called mixed models have been proposed. Among them are Bar-On's emotional social intelligence (ESI) model (Bar-On, 2006) and Goleman's model of emotional competences (Boyatzis et al., 2000), which include other non-cognitive features like social skills, motivation, self-esteem, and personality aspects (Hodzic et al., 2018).

Finally, integrative models of EI attempt to reconcile and combine different theoretical approaches. Integrative EI models are, for example, the multi-level developmental investment model (Zeidner et al., 2003), Mikolajczak et al.'s (2009) tripartite model of EI, Fiori's (2009) dual process approach, and Joseph and Newman's (2010) cascading model of EI. Thanks to these multiple proposals, the need for a more integrative theoretical development has been confirmed. The conceptual challenge undoubtedly remains to articulate these comprehensive approaches that also consider the culture and social context of the person as determining factors of what it means to behave in an emotionally intelligent way (Extremera et al., 2020).

In summary, it could be said that there is a distinction between the models that understand EI as an ability, with the Mayer and Salovey model as the main representative, and the rest of the models, which can be classified as socio-emotional. This distinction between EI, based on the common definition of the construct, and the various competencies associated with it, seems to provide much-needed clarity and coherence to the field. However, it is not a perfect solution because there will always be difficulties in reaching a consensus on whether certain attributes are actually part of EI. Nevertheless, focusing on a common definition of EI provides some degree of coherence to the field without completely abandoning the broader models (Cherniss, 2010).

Table 1. The four branches of the updated emotional intelligence (EI) ability model from Mayer et al. (2016).

1. Perception, assessment, and expression of emotions
1.1. Identifying emotions in one's physical states, feelings, and thoughts
1.2. Perceiving emotions in other people through their vocal signals, facial expression, language, and behavior
1.3. Perceiving emotional content in the environment, visual arts, and music
1.4. Expressing emotions accurately and expressing needs related to those feelings
1.5. Understanding how emotions are displayed depending on context and culture
1.6. Discriminating between precise and imprecise emotional expressions
1.7. Identifying misleading or false emotional expressions
2. Emotional facilitation of thought
2.1. Generating emotions as an aid to judgment and memory (in relation to feelings)
2.2. Generating emotions as a means of connecting with another person's experiences
2.3. Prioritizing thought by directing attention (to important information) consistent with the present feeling
2.4. Taking advantage of mood swings to generate different cognitive perspectives (e.g., from optimistic to pessimistic, stimulating consideration of multiple points of view)
2.5. Selecting problems based on how the current emotional state might facilitate cognition
3. Understanding and analysis of emotions; use of emotional knowledge
3.1. Labeling emotions and recognizing relationships between them (e.g., between words and emotions, such as the relationship between liking and loving)
3.2. Determining the antecedents, meanings, and consequences of emotions (e.g., sadness is often accompanied by loss)
3.3. Considering the likely situations to elicit different emotions
3.4. Differentiating between moods and emotions
3.5. Understanding complex and mixed feelings (e.g., simultaneous feelings of love and hate, or mixtures such as "dread," as a combination of fear and surprise)
3.6. Recognizing likely transitions between emotions (e.g., such as the transition from anger to satisfaction or from anger to guilt or shame)
3.7. Understanding how a person might feel in the future or under certain conditions (affective anticipation)
3.8. Recognizing cultural differences in the evaluation of emotions
4. Reflective regulation of emotions to promote emotional growth and intelligence
4.1. Being open to feelings, both pleasant and unpleasant, and the information they convey
4.2. Clinging to an emotion or detaching from it depending on the judgment made about its usefulness or informational value
4.3. Monitoring emotional reactions (in relation to oneself and others) to determine how clear, typical, influential, or reasonable they are
4.4. Evaluating strategies to maintain, reduce, or intensify an emotional response
4.5. Managing effectively one's own emotions to achieve a desired result (e.g., reducing negative emotions and enhancing positive ones, without repressing or exaggerating the information they carry)
4.6. Managing effectively the emotions of others to achieve a desired result

Note. Source: Rodrigo-Ruiz et al. (2019).

3. Emotional intelligence assessment

An important part of all the controversy around EI came from the way in which the measurement of EI has been considered over the years, especially if we compare traditional intelligence quotient (IQ) and EI measures (Diaz-Castela et al., 2013). While traditional IQ tests have been focused on logical problem-solving strategies, EI assessment has been focused on the emotional logic required to come to solutions (Mayer & Salovey, 1997). Furthermore, some critics have argued that the nature of the EI concept makes it impossible to develop measures to evaluate it correctly (Matthews et al., 2006). Nevertheless, independently from theoretical approaches or models, most experts agree that EI refers to measureable individual differences in experiencing and processing emotions and emotion-related information (Siegling et al., 2015). In addition to this, the coexistence of different theoretical approaches to EI has facilitated the emergence of different ways of evaluating as well as the evolution of this area.

To date, continuing the EI trait-ability approaches, the evaluation of EI has been carried out mainly through self-report measures and ability tests. Self-report measures were the first to be used due to their low cost and easy administration (Sanchez-Gomez & Breso, 2019). In this type of questionnaire, participants must indicate the degree of agreement or disagreement with a series of statements that refer to their emotional abilities, thus developing a self-assessment of their own abilities. Accordingly, self-reports are made up of questions such as: "I usually spend time thinking about my emotions" or "I pay close attention to feelings." One of the most used questionnaires in research has been the TMMS developed by Salovey et al. (1995), which assesses the levels of interpersonal EI through three factors: attention to feelings, emotional clarity, and mood repair. These measures have received criticism, mainly because they provide an estimate of EI skills, that is, they assess what is known as perceived EI (Salovey et al., 1995) and not the actual emotional capacity that the individual possesses (Fernández-Berrocal & Extremera-Pacheco, 2005). Accurate introspection is required to report precisely actual skills, which is unusual in most populations (Paulhus & Vazire, 2007). Furthermore, these measures overlap with the Big Five personality tests (Miao et al., 2017). In general, people misjudge their own intelligence levels, either general intelligence or EI (Brackett et al., 2006). In addition, most of the EI measures through self-reports are influenced by the interviewee's self-esteem and mood (Van der Linden et al., 2012).

As a result of the criticisms made to the self-report measures, researchers have focused on evaluating EI as the elaboration of measures that understand EI as a skill, thus giving rise to the execution tests (O'Connor et al., 2019). These

tools are more objective than self-reports, however, they require more time and effort, both in their development and in relation to their completion (Extremera & Fernández-Berrocal, 2004). While there are different execution measures for the evaluation of EI (Sanchez-Gomez & Breso, 2019; Śmieja et al., 2014), the most used and extended is the MSCEIT (Mayer et al., 2002). Similarly to the IQ tests, participants must answer a series of multiple-choice questions for which there is a correct answer. This instrument is made up of eight types of tasks that measure the four branches (i.e., two tasks for each branch) of the Mayer and Salovey model: perception, facilitation, understanding, and emotional regulation. Of note, this instrument is not immune to criticism, as will be explained in detail in study 1 of this thesis. The creators of the MSCEIT have also recognized the limitations of their test, admitting validity problems and an unconsolidated factorial structure (Mayer et al., 2002, p. 514). In that regard, as seen before, the facilitation branch is actually part of the emotional regulation branch (MacCann et al., 2014), so the updated model of EI ability actually comprises only three branches (Rodrigo-Ruiz et al., 2019).

Notwithstanding the above situation, the main trouble inherent in the skills tests corresponds to the scoring criteria. Unlike in general intelligence tests, in which the tasks have objectively correct answers, in the case of an EI measure, it is difficult to know if the answer to a test item is correct, partially correct, or wrong. Given the difficulty of assigning the adequacy of the emotional response, the scoring problem has been solved through a consensus criterion, both expert and population based, which means that the most frequent response is considered the most correct (MacCann & Roberts, 2008). Moreover, EI ability tests reveal whether a person has developed these skills, but they do not say anything about whether that same person uses them in their daily life, an aspect that is highlighted in the self-report instruments, those that indicate the degree of emotional self-efficacy (Pena & Repetto, 2008). Despite the problems of these tools, the scientific literature defends their usefulness against the rest, so we have summarized the main tests developed to date to assess EI ability. Some instruments integrate all branches of the model (see Table 2), whereas other instruments assess specific branches (see Table 3).

In summary, despite the diversity of available tests, the development of instruments for evaluating EI is still in an initial period (Rodrigo-Ruiz et al., 2019). So, researchers and professionals should consider the development of instruments that solve the problems that still exist.

Table 2. Summary of comprehensive emotional intelligence ability measures.

Name	Reference
Multi-factor Emotional Intelligence Scale (MEIS)	Mayer et al. (1999)
Description: It is considered the preliminary version of the MSCEIT. Currently in disuse, it is not an alternative to the aforementioned questionnaire.	
Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)	Mayer et al. (2002)
Description: Composed of eight types of tasks, it is the most used test. Nevertheless, it presents some problems.	
Test of Emotional Intelligence (TIE)	Śmieja et al. (2014)
Description: Participants are provided with descriptions of emotional problems and asked to indicate which emotion is most probable in a given situation. It presents problems such as having only one type of task, which reduces its ecological validity.	
Test de Inteligencia Emocional de la Fundación Botín (TIEFBA)	Fernández-Berrocal et al. (2018)
Description: It was developed according to the paradigm of the Situational Judgment Test and comprises eight scenes designed to evoke positive and negative emotions in adolescents**.**	
Mobile Emotional Intelligence Test (MEIT)	Sanchez-Gomez & Breso (2019)
Description: The only digital questionnaire. The MEIT assesses EI through nine different tasks. It is the most similar test to the MSCEIT that has been developed.	

Table 3. Summary of specific emotional intelligence ability measures.

Name	Reference
Perception instruments	
Japanese and Caucasian Brief Affect Recognition Test (JACBART)	Matsumoto et al. (2000)
Frankfurt Test and Training of Social Affect (FEFA)	Bölte et al. (2002)
Understanding instruments	
Situational Test of Understanding (STEU)	MacCann & Roberts (2008)
Situational Judgment Test-based measure of Emotional Intelligence (STJ)	Sharma et al. (2013)
Management instruments	
Situational Test of Emotion Management (STEM)	MacCann & Roberts (2008)
Maximum-Performance Emotional Management Abilities (MP-EMA)	Freudenthaler & Neubauer (2005)

4. Emotional intelligence in organizations

A growing body of literature points to the important role that context plays in emotion regulation (Lindsey, 2020). The current global situation is characterized by a competitive climate where organizations need to optimize their productivity to obtain the maximum benefits and differentiate themselves from the competition; these abilities largely depends on the performance of their workers (Liu & Atuahene-Gima, 2018). Job performance has been described as those behaviors or actions that are relevant to the objectives of the organization (Campbell, 1990); it includes aspects such as contextual performance and counterproductive behaviors (Rotundo & Sackett, 2002). In this complex and constantly changing context, knowing the predictors of work outcomes is increasingly relevant (Cha et al., 2017). For this reason, hundreds of researchers are trying to analyse the human component of organizations to understand the performance of individuals, which can be determined by the skills and abilities that they possess or have the capacity to develop while performing their work (Lingling et al., 2014).

Research in this area has revealed the importance of personal resources when it comes to understanding results in work environments (Buruck et al., 2016). In addition to the technical skills necessary to develop any profession with precision, it is necessary to incorporate individual and social resources (Charbonnier-Voirin & Roussel, 2012). Here is where the so-called "soft skills" enter (e.g., communication, commitment, empathy, and motivation): They are essential for the proper development of professional work. Among them we find EI, which has been widely studied. The findings on the subject show that workers with higher EI tend to be more productive (Asrar-ul-Haq et al., 2017), more self-effective (Sahin, 2017), experience more satisfaction (Yin et al., 2013), suffer less burnout (Mérida-López & Extremera, 2017), and show a lower intention to leave the profession (Mérida-López et al., 2020).

However, a healthy and productive work environment is threatened by the multitude of professionals who suffer from work overload, time pressure, and stressful interactions with their surroundings, aspects that often lead to intense emotional exhaustion (Arens & Morin, 2016). Emotional exhaustion was operationalized by Maslach and Jackson (1981), who defined it as a prolonged response to chronic emotional and interpersonal stressors arising in the work environment. It supposes an experience of emotional discomfort and daily physical exhaustion (Tziner et al., 2020). This generates fatigue, anxiety,

concentration difficulties, frustration, and incivility, among other consequences (Koon & Pun, 2018; Patel et al., 2018). In summary, experiencing emotional exhaustion is an obstacle when it comes to performing a profession correctly, especially those in which direct contact with other people is required, which significantly reduces performance (Salvagioni et al., 2017).

EI has recently been proposed as an important and useful feature to reduce the impact of emotional demands on workers in different fields (Hong & Lee, 2016; Yin, 2015). Several researchers have found that high levels of EI help reduce the negative effects of workload, emotional exhaustion, job dissatisfaction, and stress, helping to improve social relationships, performance, teamwork, and leadership effectiveness, among other aspects (Teles et al., 2020). Likewise, researchers have also proposed the positive consequences of having high EI. Having high emotional capacities not only helps reduce the impact of work demands, but also encourages and helps to give the best of oneself at work. Recent studies indicate that EI functions as an important labor resource and helps to improve aspects as fundamental as satisfaction, performance, and social relationships at work (Law et al., 2008; Miao et al., 2017).

In conclusion, all these results show the importance of EI as a key personal resource that could have a buffering effect against work demands and a leveraging effect when we talk about work outcomes. Facing a wide variety of these threats will allow a better adaptation to changing and demanding environments, something that is becoming more common and necessary every day (Dirican & Erdil, 2020). However, further investigation is needed for a better understating of the mechanisms that explain the EI impact over human behavior at work, especially when ability measures are used.

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Aims [Objetivos]

Aims

The present PhD thesis had two main aims. The first aim was to develop a new tool to assess EI through mobile devices. The second aim was to deepen the knowledge about the role of EI in the organizational environment. These two aims were approached by the following specific aims.

Section 1. Emotional intelligence assessment

- To examine the current tools to assess EI, highlighting their strengths and weakness (study 1)
- To develop a new way to evaluate EI following the EI ability model proposed by Mayer and Salovey (study 1)
- To validate the MEIT, an interactive test to evaluate EI in the workplace (study 1)
- To use the MEIT and to demonstrate its accuracy in organizational research (study 3)

Section 2. Emotional intelligence at work: Understanding its role over work outcomes

- To examine the relationship between EI and work performance (study 2)
- To analyze the role of EI as a protective variable that can prevent the development and chronic progression of worker burnout (study 2)
- To examine the mediator role of burnout in the relationship between EI and work performance (study 2)
- To analyze the influence of EI on salary (study 3)
- To understand the EI relevance as a fundamental variable to achieve career success (study 3)

Objetivos

La presente tesis doctoral tuvo dos grandes objetivos. En primer lugar, desarrollar una herramienta para evaluar la IE a través de dispositivos móviles; en segundo lugar, profundizar en el conocimiento sobre el papel de la IE en el entorno organizacional. Estos objetivos fueron abordados mediante los siguientes objetivos específicos de acuerdo a dos secciones:

Sección 1. Evaluación de la inteligencia emocional

- Examinar las herramientas actuales para evaluar la IE, destacando sus fortalezas y debilidades (Estudio 1).
- Desarrollar una nueva forma de evaluar la IE siguiendo el modelo de habilidad de la IE propuesto por Mayer y Salovey (Estudio 1).
- Validar MEIT, una prueba interactiva para evaluar la IE en el lugar de trabajo (Estudio 1).
- Utilizar MEIT y demostrar su precisión en la investigación organizacional (Estudio 3).

Sección 2. Inteligencia emocional en el trabajo: entendiendo su rol sobre los resultados laborales

- Examinar la relación entre IE y desempeño laboral (Estudio 2).
- Analizar el papel de la IE como variable protectora frente al desarrollo y la progresión crónica del burnout en trabajadores (Estudio 2).
- Examinar el papel mediador del burnout en la relación entre la IE y el desempeño laboral (Estudio 2).
- Analizar la influencia de la IE en el salario (Estudio 3).
- Comprender la relevancia de la IE como variable fundamental para lograr el éxito profesional (Estudio 3).

Manuscripts

Study 1. The Mobile Emotional Intelligence Test (MEIT): An Ability Test to Assess Emotional Intelligence at Work

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The Mobile Emotional Intelligence Test (MEIT): An Ability Test to Assess Emotional Intelligence at Work

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Abstract: The present study analyzes the Mobile Emotional Intelligence Test (MEIT), a new ability-test to assess emotional intelligence (EI) in a digital way. Taking into account the importance of emotional competencies in the study of employees' wellbeing and performance, the instrument tested is based on the most supported ability model (Four-branch Mayer and Salovey Model), and it evaluates emotional capacity through nine different emotional tasks. A total of 1549 participants (841 women and 708 men) with an average age of 27.77 (SD = 8.75) fulfilled the MEIT, consisting of 42 items. The score on the test is based on expert judgments: professional psychologists and emotional intelligence specialists. In addition to the MEIT test, a series of questionnaires was used to assess relevant constructs which research has shown to be related to EI (general intelligence, personality traits, and life satisfaction); besides, another measure of emotional intelligence trait (TMMS-24) was included. The results showed that the MEIT is a reliable and valid test that is useful for both scientific research and individual assessment. Statistical analysis provides evidence of the reliability and validity of the three-factor structure of the questionnaire. Moreover, internal consistency measures were high. In line with previous studies, MEIT maintains the expected relationships with the rest of the constructs studied. Finally, the limitations of the present study and the need for future research on emotional intelligence assessment are discussed.

Keywords: MEIT; emotional intelligence; ability test; mobile; digital; validation

1. Introduction

1.1. Workplace Health

Work is fundamental to economic and psychological wellbeing for individuals and for society overall. Health promotion in workplaces has become a central feature of health policy in many countries due to the epidemic in chronic diseases and the ageing population. Different findings offer a baseline for new initiatives related to promote healthy workplaces and healthy individuals by improving conditions [1–4]. Moreover, it has been demonstrated that workplace health promotion programs have a positive return on investment (ROI) [5]. Therefore, it is necessary to attend to psychological aspects to improve and dignify workplaces. For that reason, the present study implies an advance in the assessment of Emotional Intelligence (EI), considering that it is a key competence in interpersonal relationships in work places and a basic ability for future enterprises.

1.2. Emotional Intelligence Concept

Organizations increasingly seek to maximize labor performance, and thus they focus on so-called 'soft' abilities, among which EI is prominent.

The concept of EI was established 25 years ago, and since then it has been developed, gaining popularity and visibility among researchers and professionals. According to the definition suggested by Salovey and Mayer [6], EI is "the subset of social intelligence that implies 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 action" (p. 189).

The mentioned model is currently the most supported scientifically in the study and practice of EI worldwide. It is an integrative model that understands EI as a combination of four different skills: (1) Adequate perception of one's own and others' emotions; (2) Emotional facilitation of thinking; (3) Understanding of one's own and others' emotions; and (4) Proper management of emotions to achieve a specific aim. In this way, EI is considered a set of skills ordered hierarchically from an inferior level (emotion perception) to a superior level of complexity (management). These intertwined skills influence people's ability to interact with others in a proper manner [7], to communicate in an effective way [8], to manage conflicts [9], to manage stressful situations [10], and to create a positive labor environment [11], among many other aspects. After years of research, it has been assumed that these skills can explain important outcomes such as social relationships, illegal drug and alcohol use, and deviant behavior or salary [12–14], and it is therefore necessary to come up with adequate measurement instruments for these abilities.

1.3. Emotional Intelligence and Its Measure

So far, two different ways of assessing EI have been developed [15]: The first one is based on the use of self-report, through which it is expected that people expose how well they perceive and manage emotions. According to this, EI is measured by means of self-perceptions, using items that ask questions such as: "I usually spend time thinking about my emotions" or "I pay much attention to feelings". One of the most widely used questionnaires in research has been the Trait Meta-Mood Scale (TMMS) developed by Salovey, Mayer, Goldman, Turvey, and Palfai [16], which assesses the levels of interpersonal emotional intelligence through three factors: attention to feelings, emotional clarity, and mood repair. These questionnaires intend to inform in a precise way about the actual abilities; hence, a very precise introspection is required, which is unusual for most people [17]. In general, people wrongly estimate their own levels of intelligence, either their general intelligence or EI [13]. Besides, most of the EI measures through self-reports are influenced by the interviewee's self-esteem and mood [18].

The second form of evaluating EI consists on using skill tests based on performance criteria. These tests are more objective than self-reporting, however they demand more time and effort, both process structuring and administrative-wise [19]. Another inherent difficulty in skills tests corresponds to the score criteria. Facing the difficulty of assigning emotional response suitability, the score procedure is based on agreement, which means that the most frequent answer is considered the most correct one, or according to experts [20]. The most widely used ability measure has been the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) developed by Mayer, Salovey, and Caruso in 2002 [21].

1.4. Mobile Emotional Intelligence Test (MEIT): A New Way of Evaluating Emotional Intelligence (EI)

Although numerous measurement instruments have already been created [22–26], each of the existing instruments has its disadvantages. The deficiencies of these measures are diverse; there is remarkable duration for some tests, low reliability for others, or additional equipment needs. Even the most widely used test (MSCEIT) is not without difficulty [27]. Regarding the weaknesses that the EI evaluating instruments present, it is necessary to develop a new one that rectifies the problems found. Consequently, the Mobile Emotional Intelligence Test (MEIT) was developed, a web-based survey able to evaluate the many aspects covered by EI in a worthy and reliable way, bearing EI as ability. In 2013, an article was published that meant this present project's genesis [28]. Therein, the use of digital methodologies for EI evaluation was defended, inasmuch as it turns out to be a new model of obtaining data more rapidly, easily, and accessibly than the ones used so far.

Despite the fact that the development of this test is based on the theory of Salovey and Mayer [6]—according to which EI implies a set of four cognitive skills, named "branches", that serve to process emotionally relevant information—it was decided to exclude emotional facilitation. Due to this, the MEIT only counts emotional perception, emotional understanding, and emotional management. The reason for this decision is based on different studies that support the exclusion of the Facilitation branch through models that show better data [29–31]. Furthermore, the results of the eight MSCEIT subtests meta-analysis demonstrated quite high correlations among the factor of Facilitation and Perception, which caused the authors to recommend a three-factor model, obviating the facilitation branch [32]. MacCann, Joseph, Newman, and Roberts [33] defend that there exists a distinction between the second branch (emotional facilitation) and the other three, since perception and expression of emotions (first branch) as emotional understanding (third branch) and regulation (fourth branch) are related with the process of thinking about emotions, while the second branch (emotional facilitation) includes the use of emotions to ease thinking. For all these reasons, the facilitation branch was not evaluated in the MEIT.

Socioemotional problems tend to be too complex and ambiguous to justify only one type of answer as correct; thence, it was decided to classify the answer options in accordance to its adequacy instead of classifying them as "precise" or "inexact". Assuming that EI is a skill or set of skills rather than a personality characteristic [34], the more frequent answers are considered more appropriate than the infrequent. Moreover, given that experts in emotions are more prone to have a shared and accurate social representation of the correct answers [35], it was determined that the MEIT score be obtained by comparing the individual answers with the statistical distribution of the results taken by 32 experts in psychology and emotional field (17 men and 15 women). For that, all the possible answers in each item were considered by the proportion of experts that selected the answer. For instance, if 70% of experts chose answer "1" in an element, while 20% chose answer "2" and 10% answer "3", the individuals that chose answer "2" in this item would have a score of 0.20, while the participants that chose answer "1" would have a score of 0.70. In this study, the reliability among evaluators (coefficient of intraclass correlation) was 0.93.

In an attempt to offer a detailed analysis to the EI factorial structure, besides the factorial analysis, it was planned to provide empirical data about MEIT reliability and validity. In order to achieve this purpose, internal consistency was evaluated, as well as its convergent and divergent validity. Since some EI skill tests reveal discrepancies depending on age and genre, this type of group difference was also analyzed. In terms of EI convergent and divergent validity, it was intended to observe its relation to constructs that have been demonstrated to have a connection with EI:

Fluid intelligence. If EI represents a type of intelligence, the results of intelligence tests should correlate to the EI tests. Numerous previous studies have demonstrated that EI, through capability tests, is correlated in a significant way, but low with the fluid intelligence [36–38]. That correlation has to be moderated to exclude the possibility of constructs overlapping [39].

EI feature (self-report). Previous research confirms that the feature scales are incapable of predicting the results in the ability tests that they measure. The correlations between EI feature and EI ability are low [38,40], which shows that the first questionnaires evaluate aspects related to personality while the ability questionnaires evaluate aspects related to cognitive skills. Therefore, a significant, although weak, correlation is expected in EI self-reporting in the MEIT results.

Personality. The concerning results in the relationship between EI and personality are ambiguous, largely due to the different strategies of EI measurement used. Evaluating EI as a feature through self-reports leads to a considerable overlap between EI and the main five features of personality [41,42]. Nevertheless, when defining EI as ability no significant relationships should be expected with the main dimensions of personality. According to these bases, many empirical studies [38,43,44] have shown that EI evaluated as ability shares only a small fraction in the common variable in personality. For example, MSCEIT only correlated with openness (0.25) and kindness (0.28) [38].

Life satisfaction. The previous results confirm that there is a relation to EI, both for self-report scales and through ability tests. In the first case, the correlation between the EI score (measured through SREIT-Self-Report Emotional Intelligence Test) and psychological wellbeing (measured through Ryff's questionnaire) was 0.69, while the correlation between the EI score obtained through MSCEIT and Ryff's psychological wellbeing questionnaire was 0.25 [38]. For this, significant, although weak, correlations are expected between the life satisfaction questionnaire and the MEIT results.

Gender. Research conducted using self-reports shows different results about gender differences in EI [22,45,46], however when EI performance indicators are used, the result show that women obtain slightly higher scores than men [12,13]. It is expected that differences between genres are similar in the present study.

Age. Theoretically, if EI is an ability it should increase with age due to the acquisition of knowledge about emotions and the context in which they are developed [39,47]. However, other authors do not find significant association between age and EI ability [48,49]. According to these data, EI increases with time, but declines with age as any other cognitive ability [50]. It is probable that from childhood until adulthood people develop emotional abilities but that cognitive deterioration affects EI. Thus, small, although significant increases in each EI branch are expected until a certain age, as well as a small decrease in the older participants.

1.5. Aims of the Study and Research Hypothesis

The aim of this paper is to validate a new instrument to obtain an EI measure through tasks that consider emotional skills. For this, the MEIT inner structure and a wide net of convergent, discriminant, and psychosocial variables were analyzed. Based on previous research [26,33,34,51] it is expected that MEIT correlates significantly to fluid intelligence and wellbeing, however that results will differ from personality features and EI self-reporting, showing correlations close to 0. It is also predicted that higher scores will be found in women and adult participants.

2. Materials and Methods

2.1. Sample

We analyzed the data of 1549 people (841 women and 708 men) aged between 18 and 68, with an average age of 27.77 years (SD = 8.75). The sample was composed of 434 university students, 904 workers, 161 unemployed people, and 50 pensioners. Every subject has Spanish nationality. It is important to note that, in order to maximize validity, participants filled in questionnaires voluntarily and without economic reward; the lack of economic reward guaranteed that people who completed the tests were unbiased. The confidentiality of the data collected and the responsible use of the information taken from the investigation were reported. To examine the test–retest reliability, 140 people were selected randomly and surveyed at baseline and after two weeks. The design of this study was transversal and included EI aptitude measure, EI feature, fluid intelligence, life satisfaction, and personality.

2.2. Instruments

Mobile Emotional Intelligence Test. The MEIT evaluates perception, understanding, and emotional management, in that order, through 42 items in seven types of different tasks. To develop these tasks, the most empirically supported EI models were followed [52,53]. The first perceptive task (micro-gestures) consists of the identification of others' emotions. By means of six photographs of people expressing different moods, the user has to select, through four answer options on a 1-to-5 scale, the emotional degree that the person in each photograph is experiencing (Figure 1).

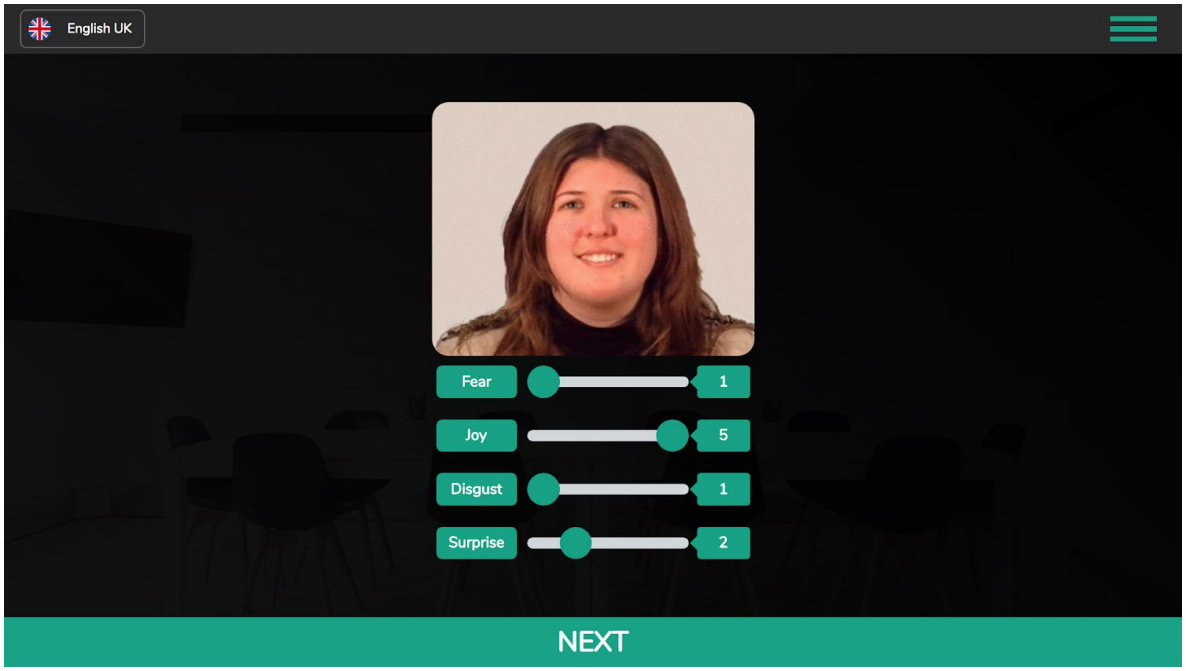

Figure 1. Micro-gesture task ("perception" branch).

In this sense, the approaches are diverse as well as the critics that have been carried out in the distinct ways of evaluating emotional perception [54,55]. In general, taking into consideration that emotions are the result of an interaction between the subject and the stimuli that surround him or her, it seems obvious that the evaluation of a subject's emotion should be performed resorting to instruments which allow emotion measuring at the moment when they are produced and not retrospectively. Thus, in this task the facial expressions were presented in a video form that allows observation of the change in facial gesture from the neutral status to the characterized status by a combination of determined emotions. This technical innovation raises ecological validity and the test's predictive value inasmuch as observing moving instead of static faces helps to perceive emotions in a similar way to that which is done in everyday life.

The second task in the perception branch is called "identification", where self-perception is evaluated. The user has to identify, on a scale of 1 to 10, how much intensity and wellness he or she feels when experimenting the shown emotion (Figure 2). In total, 10 distinct emotions are shown. For developing this task, Russell's classic "circumplex" model [56] was used as a base. There, emotions are considered to be a combination of two variables (energy and wellbeing), understanding energy as the neurological activation level and wellness as the (positive versus negative) valence.

The third perceptive task is named "faces" (three items with four images each one), and consists of selecting the most suitable photograph for the emotion shown in the superior part of the test (Figure 3).

The first understanding task (composition) is composed of three screens, and assesses the user's ability to understand how simple emotions evolve into more complex ones. For this, the subject is presented a name of a complex emotion together with a decanter, under which three test tubes represent simple emotions. The user then has to put the exact quantity of each emotion contained in the test tubes in the decanter to construct the indicated emotion (Figure 4). The development of this test was inspired by Plutchik's emotional taxonomic model [57].

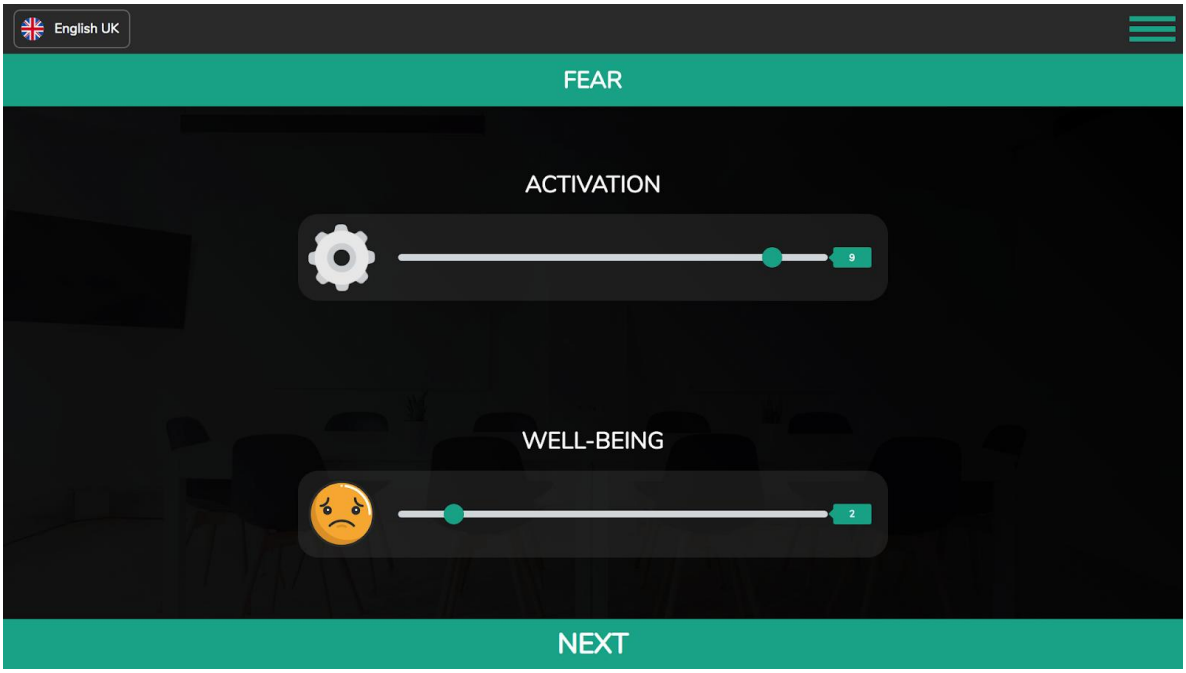

Figure 2. Identification task ("perception" branch).

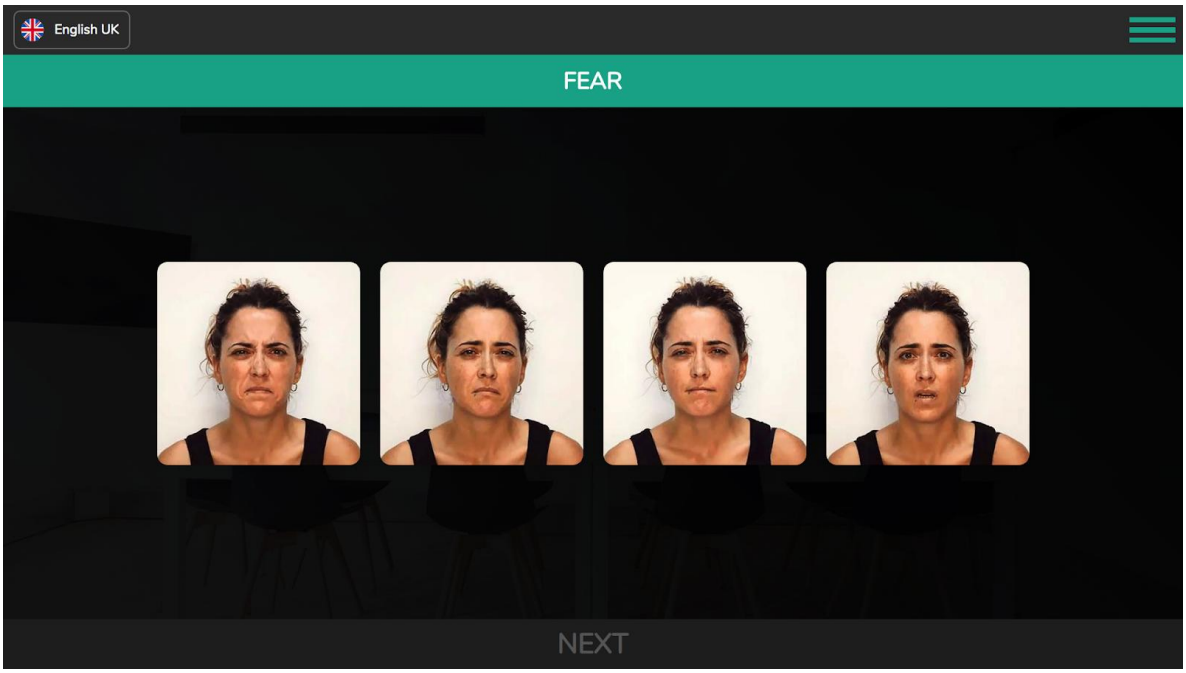

Figure 3. Faces task ("perception" branch).

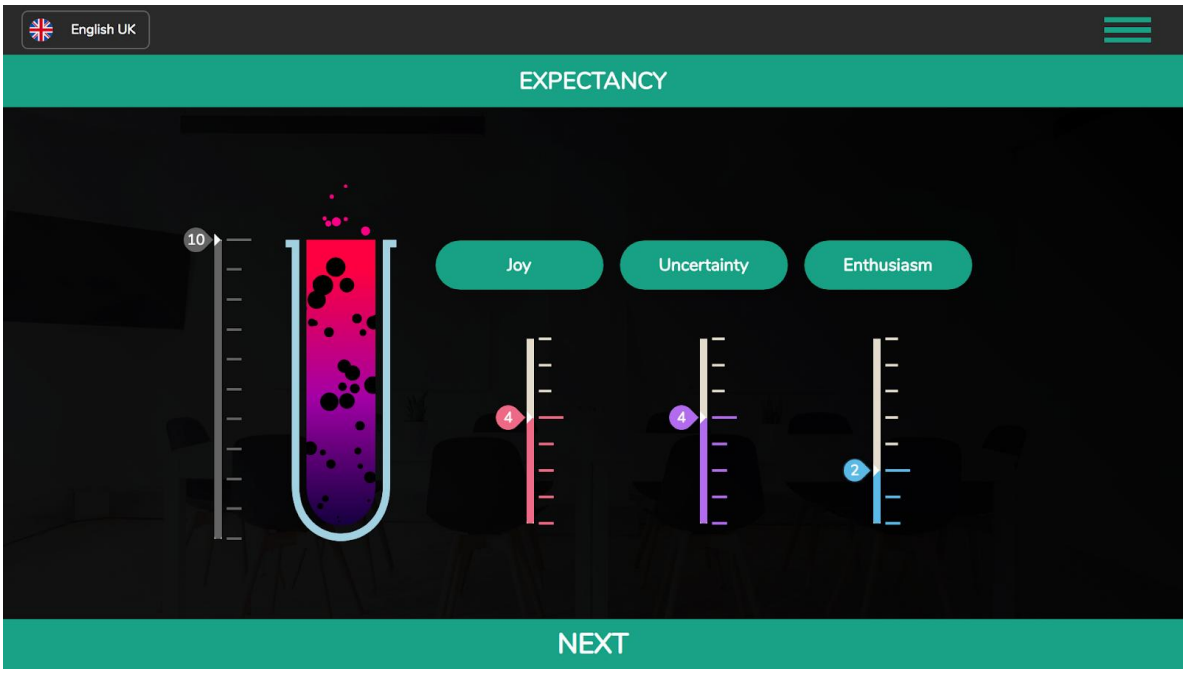

Figure 4. Composition task ("understanding" branch).

The second understanding task (deduction) evaluates people's ability to know how moods conduct to others depending on a described situation. In each of the three items that form this task, there is a story in which the main character lives a situation that causes a succession of emotions. The user is given two out of three emotions, and his or her aim is to guess the three among four answer options (Figure 5).

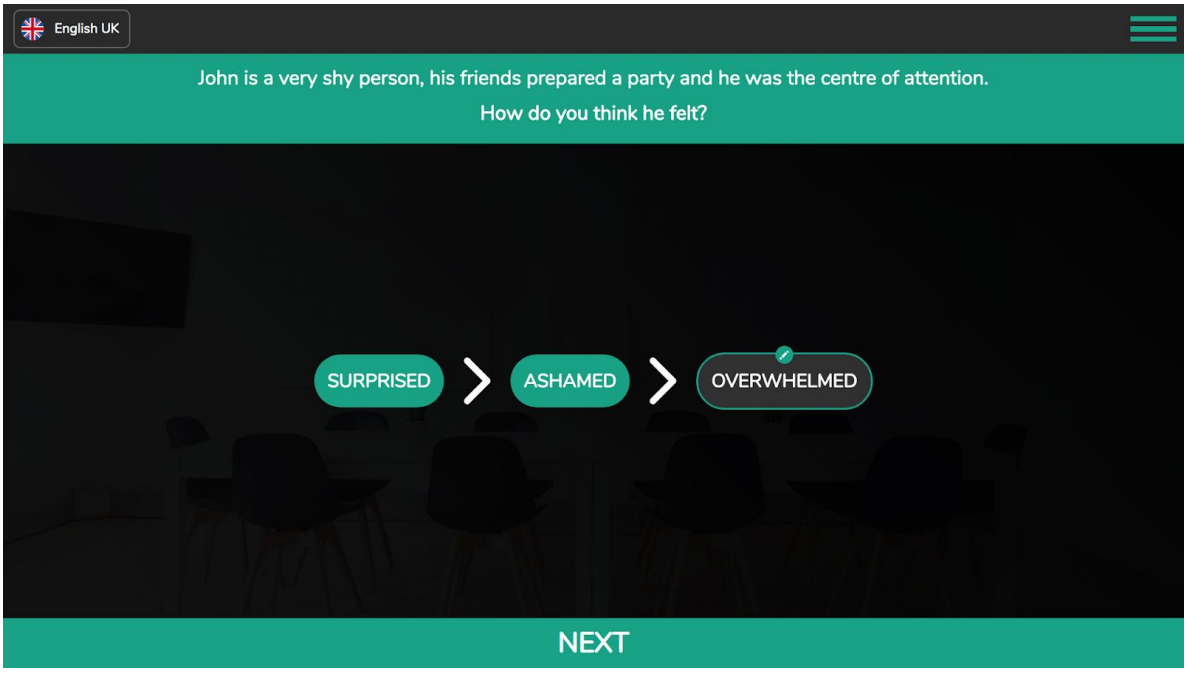

Figure 5. Deduction task ("understanding" branch).

The third understanding task (retrospective) is the same task as the previous one, but inverse; that is, the subject is given a series of emotions experienced by the main character and the subject has

to indicate, among three possible events, what he or she thinks may have happened to produce that emotion (Figure 6).

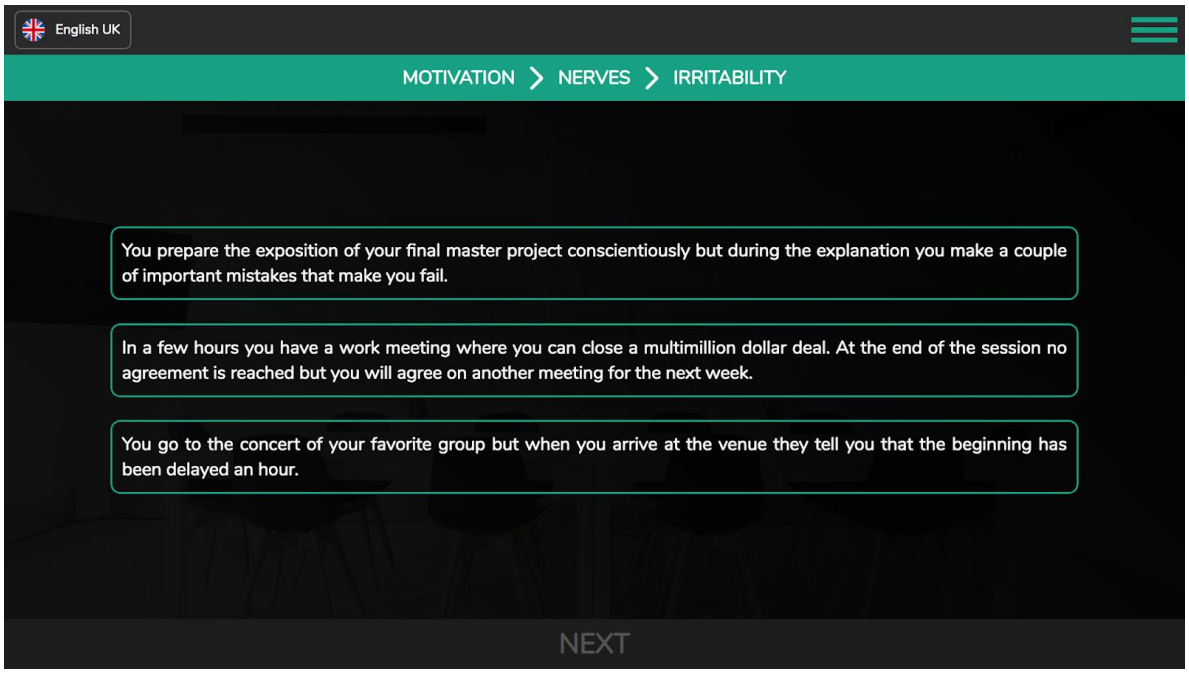

Figure 6. Retrospective tasks ("understanding" branch).

Lastly, the management branch is evaluated through a task (stories) composed of 14 items grouped in seven different situations, each one composed of two phases. The situations are classified according to the environment to which it makes reference (company, co-workers, and customers). The user reads a story that tells of a significant emotional event and has to indicate which is the best action to manage the indicated feelings (Figure 7).

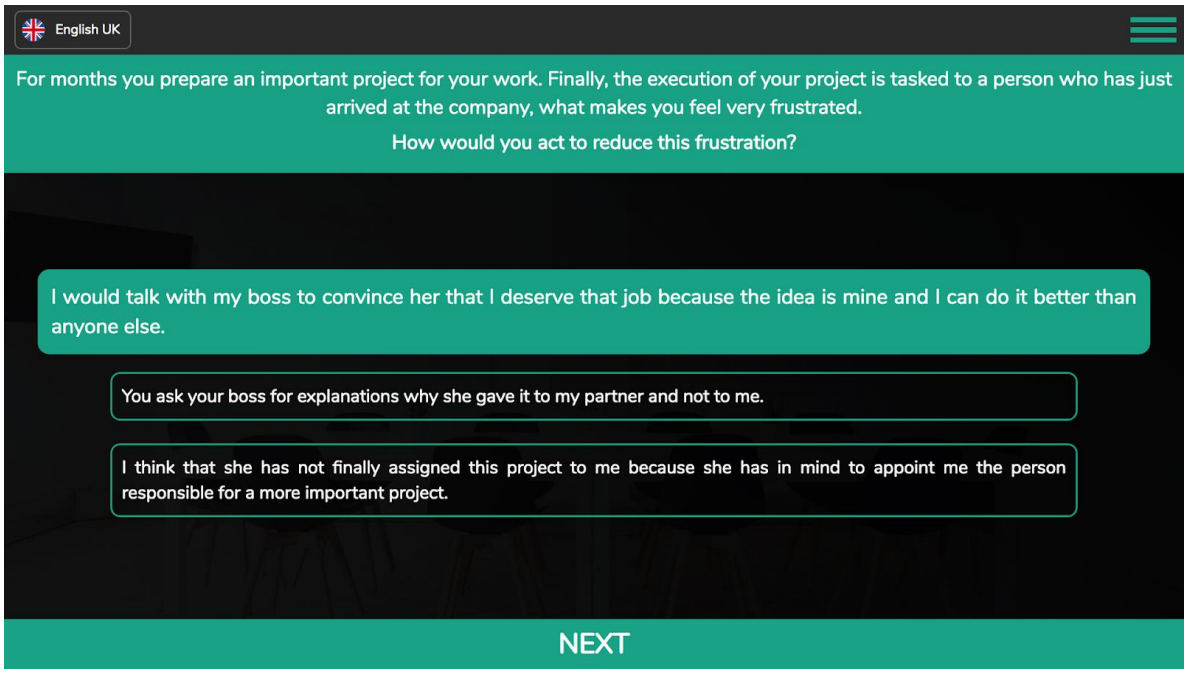

Figure 7. First step of stories task ("management" branch).

This branch is undoubtedly the most difficult to evaluate due to the challenge of measuring how people act in specific emotional situations in real life. After observing distinct possible solutions that allow achieving as much ecological validity as possible, it was decided that the best way of evaluating emotional management is making the user become completely involved in a story in which he or she is the main character and in which their decisions drive him or her to one situation or another. In this way, it is easier for the user to offer a real answer rather than one based on what he or she considers socially correct, since his or her answer has consequences that will be developed in the next question (Figure 8).

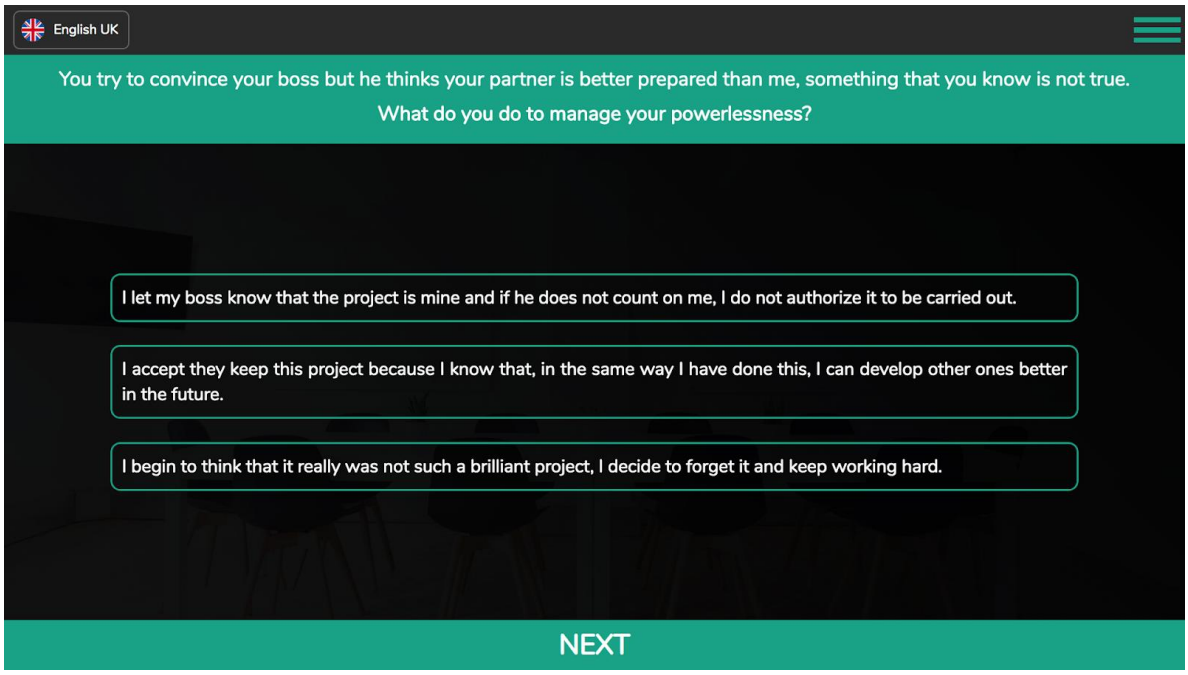

Figure 8. Second step of stories task ("management" branch).

Trait Meta Mood Scale (TMMS-24). EI understood as feature has been evaluated with the TMMS questionnaire [16] in its reduced version translated into Spanish [58]. It is an EI self-report measure composed of 24 items with answers from 1 to 5. The tests assess three subscales (emotional attention, emotional clarity, and emotional repair), each one of which is composed of eight items, such as "I pay much attention to my feelings", "I am rarely confused about how I feel", or "I worry about being in too good a mood". Cronbach's alpha values for the three dimensions were 0.88, 0.86, and 0.90 respectively.

RAVEN. Raven's advanced progressive matrices tests [59] has been developed as a relatively efficient measure of general intelligence through geometric figure based on Spearman's g factor. In this study, a short form composed of 12 items was used, comparable to the larger form, developed by Arthur and Day [60]. The Cronbach's alpha value obtained in the present study was 0.78.

Satisfaction With Life Scale (SWLS). Developed by Diener, Emmons, Larsen, and Griffin [61], this scale is composed of five items, such as, "In most ways my life is close to my ideal", whose answer is given by a scale similar to Likert, from 1 (strongly disagree) to 7 (strongly agree). The SWLS Spanish version was used by the author in its web, and its Cronbach's alpha value was 0.81.

Mini-markers. Personality was measured through the test designed by Saucier [62]. This evaluates the five main personality traits using 40 descriptive adjectives, for example "talkative" or "shy", with which participants were self-marked in a nine-point scale from 1 (extremely inaccurate) to 9 (extremely accurate).

2.3. Procedure

This study conformed to the ethical guidelines mentioned in the Helsinki Policy Statements. All the process was carried out online in the year 2017. Firstly, participants were recruited from an online panel database already constructed by the research team. This database was formed of subjects who had participated in previous research not related to EI in different Spanish universities. A total of 8920 people were sent an email advertising the chance of participating in the study and providing details of its conditions. Secondly, those who decided to form part of the research were sent another email with the required information to complete the questionnaire fields and a link to enter the tests. It was recommended to work in silent environments, completing the tests without interruptions, and to answer individually. A total of 1607 subjects completed all the test fields. However, once the data-collecting process was finished, the final sample was composed of 1549 subjects, since all users who had response times of less than three standard deviations were deleted. For this, the time that subjects needed to read each item and the average response time to each item was obtained. The total average execution time was 1 h 26 min.

2.4. Data Analysis

The SPSS 24.0 statistical program (IBM) was used to calculate descriptive statistics, correlation analysis, internal consistency, and variance analysis. AMOS version 7.0 [63] was used for the confirmatory factor analysis (CFA). The goodness-of-fit of the models was evaluated using absolute and relative indices. Attending LISREL user guide version [64], the absolute goodness-of-fit indices calculated were: (1) The χ^2 goodness-of-fit statistic; (2) The root-mean-square error of approximation (RMSEA); (3) The goodness of fit index (GFI); and (4) The adjusted goodness of fit index (AGFI).

The relative goodness-of-fit indices computed were: (1) the χ^2 goodness-of-fit statistic; (2) The Root Mean Square Error of Approximation (RMSEA); and (3) The comparative fit index (CFI). The CFI is a population measure of model misspecification that is particularly recommended for model comparison purposes [65]. Non-significant values of χ^2 indicate that the hypothesized model fits the data. Values of chi-square and RMSEA are to be smaller than 5 and 0.08, respectively. Values of CFI greater than 0.90 are considered as indicating a good fit [66].

3. Results

3.1. Descriptive Statistics and Reliability

Table 1 shows basic descriptive statistics for the MEIT, each of the three branches and each of the tasks that make up the test. Besides the average scores, the standard deviation, the kurtosis, and the skewness index are also depicted. The skewness and kurtosis results show distributions that can be treated as normally distributed. Additionally, the reliability values are also shown in Table 1. Following the procedures used in other cases to estimate the reliability of skill tests (MSCEIT), the correlation between the two halves was calculated. The MEIT full-test split-half reliability is 0.91, a result that is highly satisfactory. The three branch scores of Perceiving, Understanding, and Managing range between 0.77 and 0.92. The individual task reliabilities ranged from 0.71 to 0.91. Compared with the MSCEIT, reliabilities were very similar [21].

Table 1. Descriptive statistics and reliabilities for the Mobile Emotional Intelligence Test (MEIT).

Total Score	Mean	SD	Kurtosis	Skewness	Reliability
MEIT	26.67	4.27	0.24	−0.11	0.91
Perception	16.1	2.39	0.21	−0.02	0.92
Micro-gestures	5.89	0.75	0.08	−0.06	0.91
Identification	5.69	0.55	0.09	0.02	0.87
Faces	5.17	0.45	0.11	0.03	0.84
Understanding	4.89	0.55	0.07	−0.06	0.86
Composition	1.74	0.15	0.08	−0.10	0.87
Deduction	1.49	0.25	0.06	−0.06	0.85
Retrospective	1.55	0.48	0.07	−0.08	0.79
Management	5.68	1.20	0.02	0.01	0.77
Company	1.75	0.48	0.09	0.05	0.71
Coworkers	1.98	0.57	0.06	−0.02	0.73
Customers	1.95	0.58	0.03	−0.01	0.77

3.2. Factor Structure and Intercorrelations

The one-factor model should load all eight MEIT tasks. The three-factor model loads the three designated tasks on each of the branches [21,52]. The confirmatory models shared in common that error variances were uncorrelated; latent variables were correlated, that is, oblique, and all other paths were set to zero. Both the general factor model and the three-branch model showed a good fit to the data. The adjustment parameters for the three-branch model were: $\chi^2 = 1.406$; CFI = 0.989; and RMSEA = 0.027. Figure 9 represents this model together with the standardized beta coefficients.

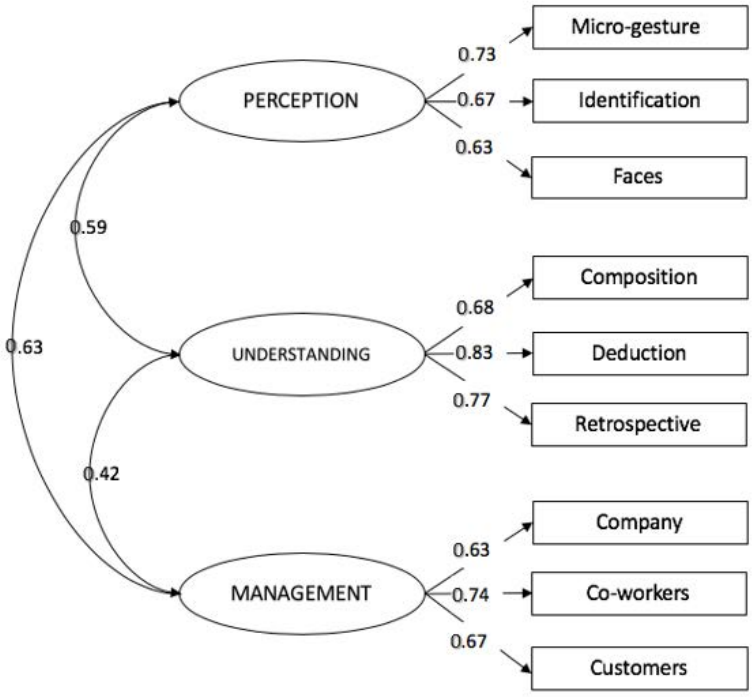

Figure 9. Results of the confirmatory factor analysis MEIT (i.e., perception, understanding, and management) (N = 1549).

As shown in Table 2, the correlational analyses revealed that branches of the MEIT are mutually intercorrelated and strongly related to the total score.

Table 2. Intercorrelations for the MEIT.

	MEIT Total	MEIT Perception	MEIT Understanding	MEIT Management
Perception	0.78 **	-	-	-
Understanding	0.80 **	0.57 **	-	-
Management	0.83 **	0.60 **	0.65 **	-

** $p < 0.001$.

3.3. Validity (EI Trait, Personality, Intelligence, Satisfaction with Life)

In this section, the MEIT concurrent validity analyses are presented. To do this, correlation analyses were performed between the MEIT scores and the score in TMMS-24 (EI trait), mini-markers (personality), RAVEN matrices (Intelligence) and SWLS (satisfaction with life) (see Table 3).

Table 3. Correlations between MEIT and other tests.

	MEIT Total	MEIT Perception	MEIT Understanding	MEIT Management
EI (TRAIT)	0.16 **	0.17 **	0.08 **	0.11
Personality				
Extraversion	0.01	0.09	0.10	−0.03
Neuroticism	−0.01	−0.07	0.04	−0.08
Openness	0.03	0.08	−0.03	−0.05
Conscientiousness	0.09	0.01	0.08	0.12
Agreeableness	0.07 **	0.11 **	0.06 **	0.09 **
Intelligence	0.20 **	0.08 **	0.19 **	0.24 **
Satisfaction with life	0.18 **	0.09 **	0.17 **	0.21 **

** $p < 0.001$.

The total score of the MEIT correlated with self-reported EI at a significant but low level. Significant correlations were found between the MEIT subscales and personality traits. Weak, although significant, correlations with agreeableness, and the lack of any other relationships with the remaining "Big Five" dimensions of personality, should be interpreted as evidence that the MEIT does not cover preferences, habits, or inclinations. The total score in EI was positively and significantly associated with intelligence, while positive and significant correlations were found among all the subscales of the MEIT and intelligence. In this case, the moderate correlations between the MEIT and RAVEN suggest that EI is a set of mental abilities, and is related to intelligence. Finally, positive and significant correlations were found between the subscales of the MEIT and satisfaction with life.

3.4. Sex Differences and Correlations with Age

The main multivariate effect was significant for all branches (Wilk's lambda (3, 1587) = 24.96, $p < 0.0001$). In line with previous studies [12,13], women obtained higher scores than males in all the branches: perception of emotions, F (1, 1780) = 46.44, $p < 0.001$, d = 0.34; use of emotions, F (1, 1780) = 43.61, $p < 0.001$, d = 0.32; understanding of emotions, F (1, 1680) = 36.35, $p < 0.001$, d = 0.31; and the regulation of emotions, F(1, 1780) = 81.40, $p < 0.001$, d = 0.45. According to the criteria of Cohen [67], the effect size of these differences was small to moderate (<0.5). An analysis of variance was performed to analyze the gender differences in the total score. Women had a higher total than males: F (1, 1780) = 95.67, $p < 0.001$, d = 0.48. The size of the effect was moderate.

Regarding age, what was expected was confirmed. The correlations of Pearson showed low associations between the total MEIT and age (r = 0.09, *p*, 0.001.), as well as in the rest of the branches: perception (r = 0.06, *p*, 0.001), understanding (r = 0.11, *p*, 0.01), and management (r = 0.09, *p*, 0.001).

4. Discussion

This research was developed with the objective of discovering the psychometric properties of the MEIT, a new test of ability to evaluate EI. Generally speaking, the MEIT was found to be a reliable test of emotional intelligence. Thus, the hypotheses were confirmed.

Reliability measures in the MEIT subscales do not differ substantially from other tools of this type [68]. Many studies introducing new EI methods face the problem of weak convergent validity. The results seem to be in line with the empirical data published until now. The total score of the MEIT correlated with self-reported EI at a significant but low level oscillating around the threshold of a small effect size [67]. Compared with the convergent validity evidence, the discriminant validity evidence for the MEIT is promising. According to the ability-based approach, emotional intelligence is not a personality trait, and thus its measures should not share much variance with major personality dimensions. Many empirical studies [13,38,43,44] showed that EI shares only a small fraction of common variance with personality. In line with that, the MEIT proved its independence of personality. Weak, although significant, correlations with Agreeableness, and the lack of any other relationships with the remaining Big Five dimensions, should be interpreted as evidence that the MEIT does not cover preferences, habits, or inclinations. The moderate correlations between the MEIT and RAVEN suggest that EI is a set of mental abilities, related to intelligence, but independent of it. These findings are also consistent with EI literature [36–38].

Regarding gender differences, previous research shows that women tend to score higher than men on EI ability tests [12,13,69,70]. Also in the present study, women outperformed men in every single subscale of MEIT, and consequently in the total score. Such confirmation of the generally recognized phenomenon of women's advantage concerning emotional abilities is additional evidence supporting the MEIT validity.

According to Mayer and Salovey's theory, EI should increase with age due to the accumulation of knowledge about emotion and its social context (Mayer, Caruso, and Salovey, 1999; Burns, Bastian, and Nettelbeck, 2007). The results are in line with such prediction, and although the effect is very small and does not reach the small effect size threshold proposed by Cohen (1988), these results follow the line of previous investigations [30,39,47]. No evidence was found to support curvilinear changes in EI branches across lifespan.

5. Conclusions

In general, the instrument shows a clear internal structure, and its analysis reveals that the MEIT complies with the main criteria for assessing the validity of the EI test [34,50]. The empirical research confirms that the MEIT meets the psychometric rules related to reliability, validity (factorial structure), and discriminant validity. Nevertheless, the MEIT still presents some limitations. Future research should prove its reliability by examining, for example, whether the MEIT scores remain stable over time using a test–retest design and confirming that the test shows adequate reliability in other populations. It will also be necessary to explore the convergent validity of the MEIT with existing EI measures based on ability, such as the MSCEIT. A high correlation between the MSCEIT and the MEIT would definitely be adequate evidence for the convergent validity of the latter. Unfortunately, it was ruled out to use MSCEIT because it was not possible to integrate it digitally into the battery of tests and due to its long execution time.

Throughout this work, diverse EI evaluation instruments have been described. All of them have been validated and used in diverse research designs. However, EI evaluation methodologies are still undergoing a wide range of improvements [71]. For this reason, a new instrument has been presented, which combines characteristics of other tests that have already been published, adding some improvements that overcome the mentioned tests' weaknesses. It is important to consider the MEIT project innovation. Its technological character allows, firstly, facilitating its access, since users can access the tests anywhere, easing its administration. Moreover, thanks to this technological integration, the MEIT has advantages such as the possibility to register the user's answer time or to

incorporate videos in the development of the test. The MEIT also facilitates the date collection and its posterior analysis. It should not be denied that this type of platform helps to perceive the psychological evaluation as attractive, interesting, and motivating for both tested and tester. Thence, for example, in relation to perception, the MEIT combines fixed stimuli (photographs) that represent emotions, with dynamic stimuli (videos) in which the change from a neutral face to the emotion expression is appreciated. On the other hand, evaluating the understanding of emotions, the MEIT includes a combination of items in which basic emotions are used with other items to make complex emotions use. In terms of answer mode, items with enforced choice answer were combined with items in which the participant is asked to estimate the determined emotions' intensity. In this way, the possible bias that the use of the same analysis methodology has in the evaluation of human abilities has been minimized. Thus, the MEIT allows distinguishing not only those users that answer correctly among those that do not, but also those who answer rapidly among those who answer correctly. Besides, the MEIT is less vulnerable to the prejudices that affect the EI self-report measures, such as social desirability and answer style, as it is not based on self-perception and cannot be apparently falsified [13].

The MEIT was developed as a measure of an EI alternative ability. The main aim was to create an instrument to evaluate EI through skill tests that is easy to use and administrate and that does not require long time execution. The MEIT supposes a new approach about previous works. Primarily, it eases accessibility and the popularization of the evaluation of emotional perception without losing scientific rigor. Additionally, it increases the methodological rigor in this arduous task, including technological advances. All this may mean the first step towards a new dimension in the field of psychosocial evaluation: evaluation through mobile devices. The main goal has been accomplished. The MEIT is useful and valuable because it incorporates a distinctive set of characteristics which enrich the collection of available EI tests and will serve to advance the domain. In this sense, MEIT can be useful both for researchers and for educators who require a reliable and valid way to assess changes in EI, as well as to measure the impact of EI interventions.

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Study 2. In Pursuit of Work Performance: Testing the Contribution of Emotional Intelligence and Burnout

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In Pursuit of Work Performance: Testing the Contribution of Emotional Intelligence and Burnout

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Abstract: Previous research has highlighted the connection between emotional intelligence (EI) and work performance. However, the role of job burnout in this context remains relatively unexplored. This study aimed to examine the mediator role of burnout in the relationship between EI and work performance in a multioccupational sample of 1197 Spanish professionals (58.6% women). The participants completed the Wong and Law Emotional Intelligence Scale, the Maslach Burnout Inventory, and the Individual Work Performance Questionnaire. As expected, the results demonstrated a positive relationship between EI and performance, and a negative relationship with burnout, which has a mediator effect in the relationship between EI and work performance. Professionals with high levels of IE and low burnout reported the highest performance. Multiple mediation analyses showed that employees' EI was indirectly connected to work performance via professional efficacy and exhaustion, even when controlling the effects of sociodemographic variables. The same pattern was found when multiple mediations were conducted for each EI dimension. These findings demonstrate the importance of burnout in understanding work performance and emphasize the role of EI as a protective variable which can prevent the development or chronic progression of workers' burnout.

Keywords: burnout; emotional intelligence; multioccupational sample; performance; professional efficacy; exhaustion

1. Introduction

1.1. Work Performance in the Current Situation

The current global context has created a competitive environment where companies are interested in optimizing their performance to obtain maximum profits, which depends largely on the performance of its workers [1]. Work performance has been described as behaviors or actions that are relevant to the goals of the organization [2]. Traditionally, the study of individual performance has focused on the task performance aspect, which is defined as the proficiency with which individuals perform the core substantive or technical tasks of their job [2]. However, research has since agreed to describe work performance in a way that goes beyond individual work performance to include contextual performance and counterproductive work behaviors [3,4]. Contextual performance is described as those behaviors supporting the organizational, social, and psychological environment in which the technical core must function [5]. Counterproductive work can be defined as behavior that harms the well-being of the organization [3].

In an attempt to better understand this issue, research has focused on the factors related to work performance [6]. The findings indicate that it is necessary to incorporate individual and social resources to understand the whole labor sphere, in addition to the technical competencies required to develop any profession accurately [6]. Nowadays, this relationship is particularly interesting due

to the characteristics of the global work environment and the way in which organizations try to define relationships in the workplace, where reduced or nonexistent social interactions are a common theme [7]. The need to examine how different factors are related to work performance is even more relevant in Spanish companies, which find themselves in a worse financial situation than their European counterparts [8]. In this complex and everchanging context, knowing the predictors of job performance is increasingly relevant for organizations [9].

1.2. Emotional Intelligence and Work Performance

Previous research has proposed personal resources as fundamental variables to understand work environments [10]. Effective performance requires the conjunction of both cognitive and emotional skills that allow the individual to analyze their environment and make the best decisions [11]. Among all these variables, emotional intelligence (EI) is becoming increasingly important to understand the individual outcomes [12–14]. EI emerged 30 years ago [15], and since then, it has gained relevance among researchers and professionals alike [16]. According to the main model of EI proposed by Mayer and Salovey, EI is a kind of social intelligence comprising four branches, each related to a specific ability: (1) Perceiving one's own as well as others' feelings and emotions, (2) using emotions to facilitate thought, (3) understanding and discriminating among emotions, and (4) managing them [17].

Previous research has found that performance at work is strongly affected by emotions and feelings, which are an inherent part of the human existence in any context [18]. Those workers with higher emotional intelligence tend to be more successful [19,20], more productive [21,22], and less susceptible to perform counterproductive work behaviors [23]. Moreover, subjects with higher EI have shown more engagement than their colleagues [24], less burnout [25], and a lower intention to quit [26].

Emotional intelligence is strongly related to emotional and social skills, which positively influences skills like empathy, teamwork, communication, achievement orientation, and negotiation—all characteristics that favor good work performance [27]. For example, it has been observed that workers with higher EI can cope better with the situations that arise in their jobs and, therefore, achieve higher rates of job satisfaction, unlike those who fail to develop such capacity [27]. In addition, the relevance of self-appraisal in the service industry, where there is a high level of interaction between employees and customers, was observed [28]. Similarly, Giardini and Frese [29] noted the importance of employees generating positive emotions as a central component to customer service. Hence, emotional intelligent people are able to confront negative job events while simultaneously experiencing more psychological well-being due to their socioemotional abilities [30,31].

1.3. Burnout as a Mediator

It seems that several personal resources like EI are related to better performance at work, but there are also different threatening factors that could reduce the productivity [32]. Currently, a high percentage of professionals suffer from work overload, time pressure, and stressful face-to-face interactions with clients—aspects which often lead to intense chronic distress that could progress into what is known as Burnout Syndrome [33]. Burnout is defined as a prolonged response to chronic emotional and interpersonal stressors related to work. It is divided into three dimensions: Exhaustion, cynicism, and reduced professional efficacy [34]. Exhaustion refers to the feeling of not being able to give more of oneself on an emotional level. Cynicism is defined as indifference or a distant attitude toward one's work in general. Meanwhile, professional efficacy refers to the employee's expectations of continued effectiveness at work. The main signs and symptoms of burnout include tiredness, difficulties concentrating, poor organization, a greater number of errors, decreased quality of work, a lack of energy, anxiety, and frustration [35]. One of the most frequently cited negative consequences of burnout is a decline in job performance [36]. For example, a growing body of studies suggests that there is a strong relationship between burnout and counterproductive behaviors [37,38]. A decrease in job performance, job commitment, physical health, mental health, and an increase in job task error are examples of the consequences of work overload [39]. In conclusion, experiencing all these

consequences changes how workers perceive work challenges—instead perceiving them as threats and encountering more difficulties than usual. This affects the professionals' capacity for adaptation and can distort their performance [40].

Until a few years ago, burnout research in the workplace focused on analyzing the syndrome's risk factors and its negative repercussions [41]. Recently, burnout has been defined as a public health problem, and new theoretical approaches argue for the study of variables, which insofar are related to burnout and can take a protective role against events that might trigger the syndrome [25]. A wide range of described factors include as social and emotional skills, communication, empathy, resilience, coping strategies, stress tolerance, a proactive personality, and self-esteem [25]. Among all these variables, EI emerges as an important and useful feature to group these skills and understand how the effects of burnout can be reduced on individual outcomes at work [42]. Several researchers have found that EI can help reduce the negative effects of the workload, exhaustion, job dissatisfaction, and stress of workers [43–45], contributing to improved social relations, performance, teamwork, effective leadership, etc., which have a noteworthy impact on work outcomes [45,46].

1.4. The Present Study

In conclusion, research has underlined a robust link between EI and work performance, between EI and burnout, and between burnout and performance. Nevertheless, the mediator role of job burnout between EI and work performance remains relatively unexplored. Therefore, this work may help deepen the knowledge of psychosocial factors that help improve individual performance through a mediated model in which EI indirectly influences the performance through burnout (see Figure 1).

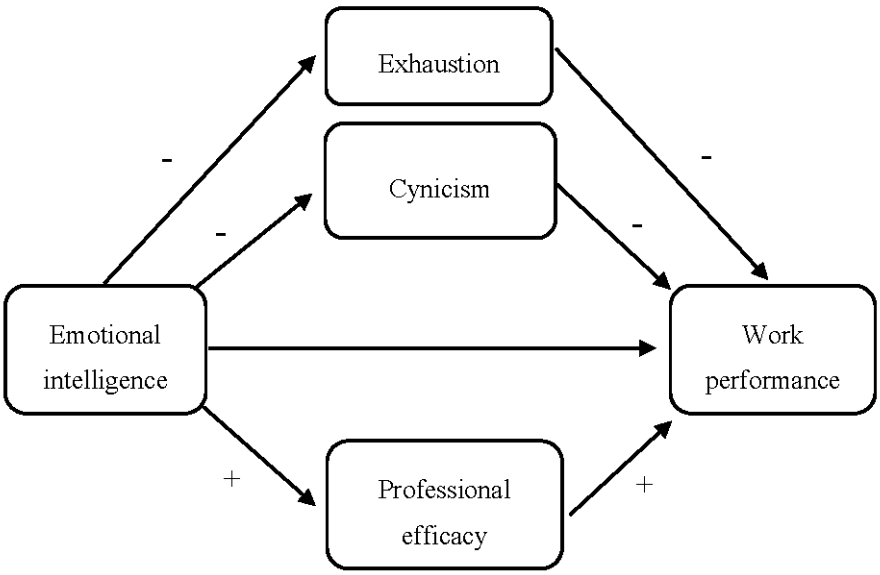

Figure 1. Proposed mediation model to empirically test the associations between emotional intelligence, the three burnout dimensions, and work performance.

The main aim of this study was to examine the mediator role of burnout in the relationship between EI and work performance. Based on previous findings [42,45,46], it was expected that employees' exhaustion, cynicism, and professional efficacy would mediate the relationship between EI and work performance. This hypothesis is shown in Figure 1.

2. Materials and Methods

2.1. Sample

Following a cross-sectional design, a final sample of 1197 subjects (58.6% of whom were women) was recruited. Participants belonged to different occupational sectors, such as education (29.3%), healthcare (23.5%), industry (17.1%), hospitality and tourism (15.2%), commerce (7.8%), and other sectors (7.1%).

The mean age was 37 years (M = 38.1, SD = 10.3, range = 18–64 years). The average work experience was 12 years, average organizational seniority was 8 years, and seniority in the job position was 6 years. Of the participants, 50.6% had a job at private companies, 29.3% worked in public enterprises, 11.6% were self-employed, and 8.5% were unemployed. As for the marital status of the participants, 37.9% were married, 33.7% single, 20.3% in a relationship, 5.1% separated/divorced, and 1.6% widowed. Table 1 shows the individual characteristics of the participants in terms of various significant variables.

Table 1. Individual characteristics of the study population.

Characteristics	
Age (Mean, SD)	38.1, 10.3
Gender	(%)
Men	41.4
Women	58.6
Marital status	(%)
Married	37.9
Single	33.7
In a relationship	20.3
Separated/divorced	5.1
Widowed	1.6
Occupational sector	(%)
Education	29.3
Healthcare	23.5
Industry	17.1
Hospitality and tourism	15.2
Commerce	7.8
Other sectors	7.1
Kind of employment	(%)
Private	50.6
Public	29.3
Self-employed	11.6
Unemployed	8.5
Work experience (Mean, SD)	11.89, 2.13
Organizational seniority (Mean, SD)	7.92, 1.94
Seniority in the job position (Mean, SD)	6.11, 1.74

Note: N = 1197.

2.2. Instruments

Emotional Intelligence. The Spanish version of the Wong and Law Emotional Intelligence Scale (WLEIS) [47] was used to evaluate the perceived EI. This adaptation of the scale has shown satisfactory psychometric properties [48]. This scale is a self-report measure made up of 16 items with a 5-point Likert-type scale. Studies on its factorial structure have found four factors with four items each: Evaluation of one's own emotions (SEA; "I have a good sense of why I have certain feelings most of the time"), evaluation of the emotions of others (OEA; "I always know my friends' emotions from

their behavior"), use of emotions or assimilation (UOE; "I always set goals for myself and then try my best to achieve them"), and regulation of emotions (ROE; "I have good control of my own emotions"). The internal consistency of each of these branches was good: SEA (0.90), OEA (0.93), UOE (0.89), ROE (0.88). Moreover, the WLEIS offered a global score with a reliability of 0.91.

Burnout. This variable was measured using the Maslach Burnout Inventory (MBI-GS) [49] in its Spanish adaptation [50]. The MBI-GS Questionnaire examines the three dimensions described as parts of the burnout syndrome: exhaustion (five items; e.g., "I feel used up at the end of the workday"), cynicism (five items; e.g., "I have become less enthusiastic about my work", and professional efficacy (six items; e.g., "In my opinion, I am good at my job"). All items were answered on a seven-point Likert scale ranging from 0 (never) to 6 (every day). The indicators of internal consistency revealed substantial internal consistency: Exhaustion (0.90), cynicism (0.86), and professional efficacy (0.79).

Work Performance. The Individual Work Performance Questionnaire (IWPQ) [51] was used to assess the individual work performance. A Spanish translation was developed ad hoc for this research. This 18-item scale was developed to measure the three main dimensions of job performance: Task performance ("My planning was optimal"), contextual performance ("I took on extra responsibilities"), and counterproductive work behavior ("I complained about unimportant matters at work"). All items were answered following a five-point Likert scale (0 = seldom to 4 = always for task and contextual performance; and 0 = never to 4 = often for counterproductive work behavior). Taking a previous work [52] as reference, a global score called 'work performance' (WP) was created to simplify the analyses. This global score is the result of calculating an average of the three variables after reversing the negative sense of the counterproductive work behavior dimension. The internal consistency was good: Task performance (0.80), contextual performance (0.85), counterproductive work behavior (0.81), and 0.88 regarding to the global score (WP).

Control Variables. In addition to the main study variables, more questions were introduced to obtain sociodemographic data (i.e., age, gender, marital status, labor sector, and work experience).

2.3. Procedure

The participants were recruited among psychology and labor relations students who had been previously trained to administer questionnaires. This procedure was performed pursuant to recommendations to apply this sampling technique [53]. Students contacted several educational centers to find professionals to participate in a cross-sectional survey. The participants received an explanation regarding the voluntary and confidential nature of their collaboration. All of them gave their consent to participate in the research. The complete process was conducted in accordance with the Declaration of Helsinki and the protocol was approved by the Ethics Committee of Jaume I University (UJI-A2018-10). The process was carried out during 2019.

2.4. Data Analysis

The data was analyzed using the SPSS software in its version 25.0 (SPSS Inc., Chicago, IL, USA). The first analysis consisted of descriptive statistics, including mean, standard deviation, and reliability of the study's variables. After calculating the Pearson's correlations among EI, burnout, and work performance, multiple mediation analyses were conducted, resulting in the proposed hypothesis (e.g., burnout has a moderation role between EI and work performance) in Figure 1. This procedure enabled the discovery of every EI dimension's effects (predictor) through five different pathways for each EI branch and the total EI. An indirect path was statistically significant if the associated 95% confidence interval (CI; bias corrected) did not include zero. For this purpose, the macro PROCESS 3.3 [54] was applied. Following a bootstrap method with 10,000 samples of data, which generated 95% bias-corrected confidence intervals, it was possible to examine conditional models to predict direct and indirect effects between variables. To determine the relative magnitude of the specific indirect effects, contrasts were calculated using bias-corrected and accelerated bootstrap intervals. The effect of age, gender, and work experience was controlled to avoid a possible interference between EI and WP.

3. Results

3.1. Descriptive Analysis

The first analyses were designed to describe correlations, means, standard deviations, and reliabilities concerning the study variables (Table 2).

Table 2. Descriptive Statistics and Correlations between Study Variables.

Variables	1	2	3	4	5	6	7	8
1. Emotional intelligence	-							
2. Exhaustion	−0.22 *	-						
3. Cynicism	−0.29 *	0.69 *	-					
4. Professional efficacy	0.41 *	−0.24 *	−0.34 *	-				
5. Task performance	0.45 *	−0.25 *	−0.27 *	0.54 *	-			
6. Contextual performance	0.37 *	−0.15 *	−0.20 *	0.58 *	0.41 *	-		
7. CWB	−0.35 *	0.50 *	0.49 *	−0.23 *	−0.20 *	−0.12 *	-	
8. Work performance	0.39 *	−0.28 *	−0.27 *	0.51 *	0.59 *	0.42 *	−0.35 *	-
Mean	5.55	2.44	1.80	4.76	3.12	3.03	1.61	3.10
Standard Deviation	0.84	1.50	1.53	0.80	0.60	0.68	0.90	0.72
α	0.91	0.90	0.86	0.79	0.80	0.85	0.81	0.88

Note: $N = 1197$. * $p < 0.01$. CWB = Counterproductive work behavior. α = Cronbach's alpha.

As shown in Table 2, EI correlated significantly with all burnout variables (emotional exhaustion: r = −0.22; cynicism: r = −0.29; professional efficacy: r = 0.41). In the same way, EI correlated with all work performance variables (task performance: r = 0.45; contextual performance: r = 0.37; counterproductive work behavior: r = −0.35), as well as with the global score called work performance (r = 0.39). As expected, exhaustion and cynicism correlated negatively with task and contextual performance, but positively with counterproductive work. Finally, professional efficacy correlated positively with task and contextual performance, but negatively to CWB, as expected. The findings showed good reliability of the study variables (between 0.79 and 0.91).

3.2. Multiple Mediation Analyses

A mediation analysis was performed to define the role of all three burnout dimensions. The confidence intervals (CIs) were established using a multiple mediator model. Table 3 shows the results of indirect effects as well as their 95% CIs. It is important to note that any covariable (age, gender, labor sector, work experience) had a significant effect. As seen in Figure 2, the bootstrap estimation showed the significant direct effect of EI on work performance (c = 0.31; $p < 0.001$). Once indirect effects (Table 3) were computed, exhaustion and professional efficacy showed a significant indirect effect (exhaustion indirect effect = 0.068; 95% CI = 0.01, 0.05; professional efficacy indirect effect = 0.181; 95% CI = 0.08, 0.17). However, cynicism did not show this significant effect (cynicism indirect effect = 0.038; 95% CI = −0.02, 0.06). Having examined the differences between the indirect effect of exhaustion and professional efficacy, it was found that professional efficacy had a stronger effect, which indicates that this dimension has greater importance as a mediator of the link between EI and work performance. In conclusion, once the effects of different covariables were controlled, professional efficacy and exhaustion completely mediated the relationship between EI and WP. The three burnout variables and covariables explained 39.1% of the variance in work performance (R^2 adj = 0.39; $p < 0.001$). Post-hoc analyses were performed to discover the same moderation model for each EI branch. The results showed a similar pattern to the one reported earlier. Thus, each EI branch and its link to performance is fully mediated by professional efficacy and exhaustion, but not by cynicism.

Table 3. Multiple mediating analyses of burnout dimensions.

Model Pathways	Point Estimate	SE	Normal Theory Tests			95% Cias-Corrected CI	
			Effect	Z	*p*	Lower	Upper
Total effect	0.287	0.03				0.26	0.37
EI → E → WP	0.068	0.01	0.06	2.98	<0.01	0.01	0.05
EI → C → WP	0.038	0.01	0.03	2.54	0.09	−0.02	0.06
EI → PE → WP	0.181	0.02	0.18	−4.23	<0.01	0.08	0.17
Model 1: $p < 0.01$; $R^2 = 0.45$; R^2 adj = 0.39							
Total effect	0.199	0.03				0.23	0.36
SEA → E → WP	0.016	0.01	0.01	1.76	<0.01	0.01	0.04
SEA → C → WP	0.026	0.01	0.02	3.80	0.11	0.01	0.05
SEA → PE → WP	0.157	0.03	0.15	4.05	<0.01	0.11	0.22
Model 2: $p < 0.01$; $R^2 = 0.37$; R^2 adj = 0.24							
Total effect	0.275	0.04				0.45	0.29
OEA → E → WP	0.103	0.02	0.10	2.90	<0.01	0.15	0.26
OEA → C → WP	0.105	0.02	0.12	3.51	<0.05	0.17	0.29
OEA → PE → WP	0.067	0.02	0.06	1.92	<0.01	0.11	0.33
Model 3: $p < 0.01$; $R^2 = 0.36$; R^2 adj = 0.23							
Total effect	0.179	0.03				0.23	0.36
UOE → E → WP	0.016	0.01	0.01	1.26	<0.01	0.01	0.04
UOE → C → WP	0.026	0.02	0.02	3.71	0.07	−0.01	0.05
UOE → PE → WP	0.137	0.03	0.13	3.05	<0.01	0.06	0.12
Model 4: $p < 0.01$; $R^2 = 0.34$; R^2 adj = 0.25							
Total effect	0.195	0.04				0.45	0.29
ROE → E → WP	0.073	0.02	0.07	2.80	<0.01	0.15	0.36
ROE → C → WP	0.055	0.03	0.05	1.51	0.14	0.07	0.09
ROE→ PE → WP	0.067	0.01	0.06	1.02	<0.01	0.01	0.13
Model 5: $p < 0.01$; $R^2 = 0.26$; R^2 adj = 0.20							

Note: $N = 1197$. SE = Standard error. CI = Confidence interval. EI = Emotional intelligence. SEA = Self-emotion appraisal. OEA = Other-emotional appraisal. UOE = Use of emotions. ROE = Regulation of emotions. E = Exhaustion. C = Cynicism. PE = Professional efficacy. WP = Work performance.

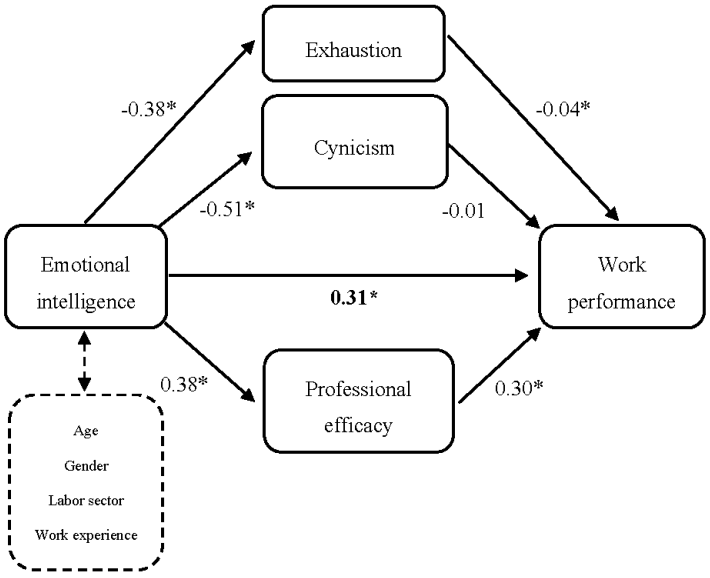

Figure 2. Mediation model of the burnout dimensions explaining the relationship between emotional intelligence and work performance. * $p < 0.01$.

4. Discussion

This research aimed to determine the mediator role of burnout in the relationship between EI and performance. In prior studies [19–26], EI has been independently tested, and results demonstrated that EI predicts a better performance. However, the current work offers a new perspective in understanding the role of burnout in this relationship.

Taking into account previous studies, it could be said that the ability to perceive, understand, use, and manage emotions is related to a better performance [27,31]. Our results support that EI could be a key personal resource to understand work performance, along with several variables, such as personality, intelligence, social support, etc. [2,6,55]. Through different mechanisms, EI allows people to face demanding situations and to better adapt to changing environments like modern workplaces [56]. Furthermore, our results indicate that all EI branches share the same relation with burnout and the WP dimensions, suggesting the all branches are of the same importance to explain the moderation mechanism. Therefore, EI performs a critical role in understanding workers' outcomes.

It was also discovered that employees with high EI reported a lower level of exhaustion and cynicism, and a higher level of professional efficacy. These data are linked to previous findings which suggest that EI is negatively related to burnout in the workplace [42,43]. Workers with higher EI seem to be less affected by the negative consequences associated with burnout (i.e., cynicism, demotivation, distress, intention to quit, etc.), as well as by factors related to their negative attitudes in the workplace, thus experiencing an increase in their performance levels.

According to the data obtained for the purpose of exploring the mediator role of burnout in the relationship between EI and work performance, significant connections among EI, burnout, and WP were observed. The multiple mediation analyses showed that EI had an indirect effect on performance through professional efficacy and exhaustion—variables which fully mediated the link between EI and WP. These findings match with previous works that show the mediator effect of burnout between personal resources and work outcomes [42,45,46,57]. In this way, high EI levels help workers reduce their fatigue and improve their professional efficacy. Therefore, EI acts as a protective factor against the negative consequences of burnout and, in the process, increases workers' performance. The mediator effect was significantly higher for professional efficacy. The positive effects associated with a good professional efficacy allow the worker to be more self-confident, proactive, and creative [58,59]. In conclusion, employees with a higher EI also scored higher in professional efficacy, which is related to a higher individual performance. Notwithstanding this, our data do not provide enough evidence to consider the dimension of cynicism as a mediator in the link to EI performance. Numerous studies have explored this relation. However, their results are inconclusive, hence the need for more research to understand this issue [60].

4.1. Limitations and Future Research

Several limitations suggest future lines of research for this work. First, it is important to underline that the cross-sectional data made it difficult to establish the direction of relationships between variables. The data was based on some extensive and robust scientific findings. Nevertheless, replicating these results with longitudinal methods might provide more information about EI's contribution to individual job performance.

Second, some weakness is related to not having controlled the influence of factors like IQ or personality. It would have been advisable to take into account the different dimensions of personality, since it has been shown in previous studies that these have an influence on the results obtained in the workplace [61]. Specifically, taking into account the dimensions of Neuroticism and Responsibility would have been relevant, as their influence on professional success was observed [62].

Third, there is a limitation directly connected to how EI is measured, since the WLEIS is a self-report instrument. In addition, it is recommended to use both self-reports and performance tests to measure EI [12]. Therefore, in line with prior research examining predictive and incremental validity [63], an ability EI test such as MSCEIT [64] or MEIT [16] should be used. Yet, WLEIS is still one

of the most used instruments to measure EI [65], and it has been designed specifically to assess the branches proposed by Mayer and Salovey's model [16]. Furthermore, self-report questionnaires have some advantages, for instance, they can be administered and completed in less time [66].

Lastly, the sampling used may be problematic, since it was collected by means of a nonrandom technique—workers were selected through psychology students. Although this way to obtain data has demonstrated validity and reliability, as well as great utility in field studies within organizational psychology [52], this method may be biased toward more cooperative participants, thus limiting the generalization of the results.

4.2. Practical Implications

Despite these limitations, this work provides evidence of the important role EI and burnout play in explaining work performance. By developing their work and abilities, employees are the companies' main assets to maintain and improve their competitiveness [21]. In fact, workplace health promotion programs have demonstrated a positive return on investment [67]. In the current global situation, every little bit can make a big difference, so a useful solution to reduce burnout impact is developing emotional skills [68,69]. For this reason, training programs should aim not only to develop the emotional abilities of professionals to prevent the problems of burnout, but also to promote individual outcomes. This approach could help to enhance emotion management, reducing the high impact that negative organizational and personal consequences—such as sick leaves or constant rotations—have on the company's competitiveness [70,71].

5. Conclusions

In conclusion, these results underline the interactive role of EI and burnout as predictors of individual performance in a multioccupational sample of Spanish workers. Professionals with high EI have appropriate resources to deal with the demands of work and therefore minimize exhaustion. Moreover, EI also contributes to a higher professional efficacy, which helps maintain the perception of continued effectiveness at work and promote a better work performance. These findings demonstrate the importance of burnout in understanding work performance and emphasize the role of EI as a protective variable. This work supports previous research and reaffirms the advantage of developing these variables in companies. Therefore, it is necessary to develop and implement intervention programs in order to promote EI and create healthy workplaces which can prevent the development or chronic progression of burnout in employees while helping workers reach their best performance possible.

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Study 3. Could Emotional Intelligence Ability Predict Salary? A Cross-sectional Study in a Multi-Occupational Sample

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Could Emotional Intelligence Ability Predict Salary? A Cross-Sectional Study in a Multioccupational Sample

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Abstract: The study of emotional intelligence (EI) in work environments is a trending topic. However, few studies have examined the relationship between EI and salary. Therefore, the presented research aims to analyze the influence of EI on salary using a multioccupational sample. The participants were 785 subjects aged between 18 and 58 years (M = 39.41; SD = 10.95). EI ability was measured using the Mobile Emotional Intelligence Test (MEIT), while the salary was collected together with other sociodemographic variables in a questionnaire created ad hoc. After controlling for the age, gender, social class, educational level, and work experience variables, the results of correlation and regression analysis showed that participants with higher EI and emotional-repair capacity generally have higher salary. These findings provide preliminary evidence that EI is a relevant variable in achieving career success. The ability to channel and manage emotions could help employees develop stronger interpersonal relationships, leading to higher positions and greater financial compensation.

Keywords: emotional intelligence; salary; job success; performance; salary; workplace

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1. Introduction

1.1. Emotional Intelligence at the Workplace

Since the term emotional intelligence (EI) was introduced three decades ago [1], many studies have been carried out in this field. Mayer and Salovey [2] defined EI as a mental ability, suggesting that emotionally intelligent people perceive emotions more accurately. This enables them to use emotions to facilitate thinking, to understand them and their meanings, and to manage their own emotions as well as someone else's in a more optimal way. In a nutshell, EI can be defined as the meta-ability to perceive and understand emotions, as well as to manage them appropriately and adaptively [3].

Research has shown that there are significant differences between individuals in terms of their emotional abilities—especially when using affective information and integrating it into their behavior—which has important consequences at different levels [4]. For example, at an individual level it has been related to well-being [5] and mental health [6]; at a social level, it has been related to group acceptance [7] and psychosocial adjustment [8]; and at a professional level, to leadership [9], active job searches [10], satisfaction [11], intention to quit [12], psychological distress [13], and professional success [14,15], among others.

Taking into account the relevance of emotional skills in the workplace, creating interpersonal connections at work has become increasingly important in today's global environment, where jobs are dynamic and require easy access to information and strong social and managerial support [14,16]. Various studies suggest that the regulatory processes associated with EI can benefit people's social relationships since the correct use of emotion and being aware of one's own emotions can lead to better stress regulation and higher performance [17,18]. McFarland et al. [19] found out that employees with high EI had a better job performance, a longer-term perspective, and lower levels of burnout under conditions of high-role stress. For their part, Armstrong et al. [20] consider EI an

important predictor of professional success, partly due to its role in building interpersonal relationships and developing effective coping strategies. Nguyen et al. observed that both self-emotion appraisal and others' emotion appraisal precede emotion regulation, leading to a positive effect on job performance [17]. In this sense, Rode et al. [21] argue that EI is essential for acquiring the social support necessary to achieve a successful career.

1.2. Emotional Intelligence and Salary

Recent research studies have focused on the relationship between EI and job success, taking salary as an objective measure. The study carried out by Momm et al. [14] indicates, on the one hand, that the ability to recognize emotions is linked to annual salary and, on the other, that this relationship is mediated by two variables: political ability and interpersonal facilitation. In the same way, Côté et al. [22] found that people who better regulate their emotional reaction have higher salary and socioeconomic status. Rode et al. [21], after controlling gender and age variables, also point out that interpersonal and leadership skills help to achieve greater financial compensation. In addition, they found that the effects of EI on salary are more extensive at the highest organizational levels. However, this significant relationship between salary and EI has also been observed at the beginning of the working career [23]. Haro et al. [24] suggested that salary was indirectly predicted by personality traits, such as neuroticism (both positively and negatively), extraversion (positively), and openness (positively) via the EI dimensions, following the causal chain: perception, understanding, and emotional regulation. Despite all this research, scientific literature has not reached a consensus on this particular matter, since several authors have questioned the relationship between EI and salary. Antonakis et al. [25], as well as Joseph and Newman [26] observed that EI was not able to explain the variability in job performance or job success. In the same vein, Rode et al. [27] did not find a significant relationship between EI and salary when studying this relationship in subjects with two years of work experience. Therefore, it seems that the findings are still confusing, which highlights the necessity to further research this topic.

1.3. Covariables

Following similar previous studies [14,21,28], personal, economic and demographic factors that could represent alternative explanations for the observed effects were included.

On the one hand, gender and age has shown a strong relationship with EI and salary. Regarding gender, the results suggest that it affects the ability EI score, with the EI being greater in women than men [29]. However, women earn less money than men on average, although this could be explained through other variables as academic rank [30]. According to Rode [21], gender has shown a suppression effect on the relationship between EI and salary. Regarding age, EI followed an inverted-U curve: younger and older adults scored lower on ability EI than middle-aged adults [29]. In addition to this, previous research [21,23,28] found proof of the influence of age and years of experience on salary, that is older workers with more experience are those with a higher salary.

On the other hand, several socioeconomic variables have been linked to EI and salary. Among them, we highlight educational level and social class. These variables reflect job autonomy and wider social capital, which provide more economic opportunities [31]. For example, the positive influence of the educational level on salary can be observed in reports made by the Spanish National Institute of Statistics [32]. Moreover, we cannot dismiss the possibility that participants who belong to a higher social class have higher emotional intelligence and, in turn, earn more money. Hence, it is important to assess all these variables to find out if EI predicts salary above other variables that could theoretically predict it. Without controlling the effect of these variables, it is difficult to know the unique contribution that EI makes to the variance of salary.

1.4. The Present Study

Emotional intelligence should help employees in the development of their professional career, leading to a higher financial compensation. Thus, the present study aims to analyze whether EI predicts the salary. To test this relationship, it was examined whether an ability-based measure of emotional intelligence in a multioccupational sample predicts the salaries of the samples, when controlled by age, gender, social class, educational level, and professional experience. We hypothesize that there is a positive relationship between EI and salary. Furthermore, we expected to find a significant relationship between salary and age, gender, social class, educational level, and professional experience, based on previous findings.

2. Materials and Methods

2.1. Sample

The present research follows a cross-sectional design. The participants in this study were 785 subjects (39.1% men and 60.9% women) between 18 and 58 years of age (M = 39.41, SD = 10.95).

The educational level of the sample was divided into higher studies (i.e., university degree, master, and PhD) (58.2%), intermediate studies (i.e., upper secondary education and vocational training) (29.7%), and basic studies (i.e., school graduate and secondary education) (12.1%). On the other hand, participants declared themselves as belonging to different social classes such as lower (14.3%), middle (80.2%), and upper (5.5%). The most representative sectors were administration (24.6%), education (23.5%) and healthcare (18.3%), while almost half of the sample (47.6%) were employed in the private sector. For detailed information about individual characteristics of the participants, see Table 1.

Table 1. Individual characteristics of the sample.

Characteristics	
Age (Mean, SD)	39.4, 10.9
Gender	(%)
Male	39.1
Female	60.9
Educational level	(%)
Basic	12.1
Intermediate	29.7
High	58.2
Social class	(%)
Lower	14.3
Middle	80.2
Upper	5.5
Occupational sector	(%)
Administration	24.6
Education	23.5
Healthcare	18.3
Commerce	12.1
Industry	11.8
Other sectors	10.1
Kind of employment	(%)
Private	47.6
Public	31.1
Self-employed	12.5
Unemployed	8.8

2.2. Instruments

2.2.1. Emotional Intelligence

To assess EI, the MEIT [33] was used. This questionnaire is based on the ability model of Salovey and Mayer [2] and follows the model of skill tests with correct and incorrect answers, similar to the intelligence quotient (IQ) tests. According to Landy [34], the ability-based model of EI provides well-validated assessment instruments that limit the bias and other pitfalls commonly associated with self-report personality or trait-based measures of EI. The MEIT collects information about three branches of EI (perception, understanding and management) through 42 items and seven different tasks (i.e., perception and understanding branches are measured via two tasks each, while management is evaluated by a single task). The perception tasks assess the adequate perception of the own and others' emotions through images and facial expressions; the understanding branch evaluates how emotions can coexist in particular situations, and how emotions can change in intensity over time; finally, the management tasks assess how participants react to achieve a desired outcome in an emotional situation. To obtain the total score, each branch contributes in the same way. The global reliability of the questionnaire using Cronbach's alpha was 0.89, while the dimensions ranged between 0.85 and 0.91.

2.2.2. Control Variables

Regarding sociodemographic data, we controlled age, gender, social status, educational level, job sector, type of working day, weekly working hours, years of work experience, and net monthly salary measured in euros, just as previous studies did [21,22,28]. Data about age, weekly hours of work, years of work experience, and earnings were collected through short-answer questions. The data about the type of working day (i.e., full-time or part-time), the labor sector (i.e., administration, education, etc.), educational level (i.e., school graduate, secondary school, university degree, etc.), and the social status (i.e., lower, middle, upper) was measured through multiple-choice questions. In order to perform the analyses, gender, educational level, and social class were coded.

2.3. Procedure

In line with previous studies, the professionals were recruited with the assistance of final-year psychology students who had previously been trained in the administration of questionnaires. The procedure was performed according to the guidelines provided by Wheeler et al. [35] to apply this sampling technique. The students contacted various associations of former university students, as well as companies from different sectors. The only exclusion criterion was part-time workers. The questionnaire was administered online using the Google Forms platform during 2020. The participants were informed of the voluntary and confidential nature of their collaboration. Once the questionnaires were answered, the information was stored in a database controlled by the research staff for subsequent statistical processing. This study adhered to the ethical guidelines mentioned in the Declaration of Helsinki and was approved by the Ethics Committee of the authors' university (Universitat Jaume I, code: UJI-A2018-10).

2.4. Data Analysis

The data analyses were conducted using version 25.0 of the SPSS statistical package (SPSS Inc., Chicago, IL, USA). Cronbach's alpha coefficient was used to determine internal consistency; bivariate correlations were obtained using Pearson's r; lastly, a hierarchical linear regression analysis was performed to find out what percentage of the variance could be explained with each variable involved. The personal variables (i.e., age and gender) were included in the first step, whereas the socioeconomic ones were added in the second one. In the third step, the EI was added. These variables were added in that sequence in order to determine the extent to which EI and socioeconomic variables contributed to the prediction of salary beyond personal characteristics.

3. Results

3.1. Descriptive Statistics

Table 2 shows in detail which socioeconomic characteristics define the sample. Regarding the salary received, after grouping the results, we observed that the highest percentage is found in the range between EUR 1500 and 1800 (27.4%). The mean number of hours worked was 37.1 h (SD = 4.5), while the average years of work experience was 14.5 (SD = 3.7).

Table 2. Socioeconomic characteristics of the participants.

Characteristics	
Net salary (Mean, SD)	(1823, 199.1)
Net salary	(%)
• EUR 900 or less	6.6
• EUR 900–1199	17.9
• EUR 1200–1499	22.1
• EUR 1500–1799	27.4
• EUR 1800–2099	13.9
• EUR 2100 or more	12.1
Weekly working hours (Mean, SD)	(37.1, 4.5)
Years of work experience (Mean, SD)	(14.5, 3.7)

Note: $n = 785$.

3.2. Intercorrelations among Variables and Regression Analysis

Table 3 shows the means, standard deviations, and correlations of the variables included in the study. Regarding the correlation coefficients between salary and EI, two significant correlations have been found. On the one hand, EI total (0.26) and on the other, EI management (0.27). In relation to the socioeconomic variables, a significant correlation is observed between salary and gender (0.26), between salary and level of studies (0.44), between salary and years of experience (0.16), as well as between level of studies and years of experience (−0.15).

Table 3. Mean, standard deviation and correlations between the study variables.

	1	2	3	4	5	6	7	8	9	10
1. Salary										
2. EI total	0.26 **									
3. EI Perception	0.11	0.76 **								
4. EI Understanding	0.05	0.79 **	0.59 *							
5. EI Management	0.27 **	0.82 **	0.66 *	0.60 *						
6. Gender	0.25 *	0.12	0.06	0.13	0.12					
7. Age	0.19 *	0.05	0.09	0.08	0.08	−0.02				
8. Educational level	0.42 *	0.18	0.11	0.02	0.03	0.11	−0.05			
9. Social class	0.45 **	0.12 *	0.10 *	0.14 *	0.17 *	0.03	0.07	0.26 **		
10. Years of experience	0.16 *	−0.07	−0.03	0.09	−0.08	0.05	0.28 *	−0.15 *	0.12	
Mean	1823	102.1	101.4	102	102.4	0.61	39.4	2.46	1.94	14.5
Standard deviation	199.1	14.6	15.3	14.6	15.7	0.41	10.9	0.76	0.19	3.7

Note: $n = 785$. Gender: 0 = male, 1 = female. Educational level: 1 = basic, 2 = intermediate, 3 = high. Social class: 1 = lower, 2 = middle, 3 = upper. * $p < 0.05$; ** $p < 0.01$.

After establishing the significant relationship between variables, a hierarchical multiple-regression analysis was carried out to determine if EI could predict salary once the possible effect of individual and socioeconomic variables had been controlled. In the first step, gender and age were incorporated. In the next step, social class, educational levels, and years of experience were added in order to estimate the variance explained by the socioeconomic factors. Finally, the EI total and EI management were incorporated. Salary was introduced as the dependent variable. All predictors were mean centered prior to the analyses [36].

Table 4 shows the regression analysis in relation to the salary dimension. In the first step, the results indicate that both personal variables significantly contributed to the prediction of salary ($R^2 = 0.11$; $p < 0.01$), as can be seen. Thus, being a man and an older adult was associated with higher salary than being a woman and younger. In the second step, the association between age and gender remained similar after including the socioeconomic variables. With regard to social class, education, and experience, the results showed a significantly positive association with salary ($R^2 = 0.23$; $p < 0.01$). Thereby, belonging to a higher social class, reaching a high educational level, and having more years of work experience were associated with a higher salary. On the contrary, belonging to the lowest social class, having a lower level of education, and having few years of experience is associated with a lower salary. The second step increased the explained variance to 23% ($\Delta R^2 = 0.12$; $p < 0.01$). Finally, EI was added in the third step. The previous associations continued to be the same. Regarding EI association with salary, the results showed a significant positive association ($R^2 = 0.33$; $p < 0.01$) and a significant rise compared to the previous step ($\Delta R^2 = 0.10$; $p < 0.01$). Therefore, having high EI and a good capacity for emotional regulation seems to be associated with receiving a higher salary, as had been hypothesized.

Table 4. Multiple linear regression analysis for the salary variable.

	Employees' Salary		
Predictors [a]	**Step 1 [b]**	**Step 2 [b]**	**Step 3 [b]**
Age	0.17 *	0.16 *	0.11 *
Gender	−0.09 *	−0.07 *	−0.05 *
Lower social class		−0.30 **	−0.21 **
Middle social class		0.08 *	0.06 *
Upper social class		0.34 **	0.30 **
Basic educational level		−0.24 **	−0.20 **
Intermediate educational level		0.09 **	0.06 *
High educational level		0.20 **	0.17 **
Years of experience		0.16 **	0.11 *
EI total			0.23 **
EI management			0.17 *
R^2	0.11 **	0.23 **	0.33 **
ΔR^2		0.12 **	0.10 **

Note: $n = 785$. [a] Gender: 0 = male, 1= female. Social classes were coded = 1, other social class = 0. Educational levels were coded = 1, other educational level = 0. [b] Standardized betas and probabilities: * $p < 0.05$; ** $p < 0.01$.

4. Discussion

Until now, scientific literature has pointed out the existence of important individual differences when using affective information, which has important consequences in the work environment [4,14]. In line with this, the present research analyzes the predictive capacity of EI on salary in a sample of multioccupational workers. Specifically, an attempt was made to determine whether EI and its dimensions contribute to the prediction of salary received by workers beyond the other variables already demonstrated.

The results of this study provide evidence about the importance of EI in predicting professional success, in this case evaluated as salary. Specifically, the participants who showed higher scores in the variables EI total and EI management also reported higher salaries. These data are in line with those found by prior research [14,22,23], which seems to indicate that people with higher emotional capacities obtain a higher salary. This phenomenon could be due to the role of EI in the construction of interpersonal relationships and the development of effective coping strategies, as proposed by Armstrong et al. [20]. EI helps us to use communication effectively and to develop cognitive processing of emotional information. Therefore, individuals with high EI should have stronger relationship-building skills, allowing them to become more deeply embedded in social networks. Such structural

social capital provides access to resources and assistance from colleagues, leading to increased performance and higher compensation [21]. Regarding the emotional management dimension, other studies in which different measures of EI have been used, such as the MSCEIT [37], also found significant correlations between the ability to manage emotions and salary level [22,38]. Within the EI model of Salovey and Mayer, the management branch is mainly related to the effective management of one's own and others' emotions to achieve a desired result. In this sense, it is probable that those subjects with more ability to manage their emotional reactions modify their behavior more easily and quickly, which would help them better adapt to social situations within the work environment. This would help to explain the positive relationship found in this study. Regarding the branches of perception and understanding, although individually they do not show a significant relationship with salary, their influence when constructing the total IE variable indicates that they add value when they are taken into account together.

The data also indicate the predictive capacity of the variables gender, age, years of experience, educational level, and social class. The effect of gender continues the line of previous works [20,21] and the data provided by the Spanish National Institute of Statistics [32]. This could be attributed to several decisions related to the professional field as the greater tendency of women to leave work during the years of raising their children [39]. The influence of age and years of experience is also in line with the results of several previous investigations [21,23,28], which could be related to the usual development produced over the years [40]. Those employees with more experience achieve promotions and accomplish more important jobs, which are also better paid. As for the educational level, a positive relationship is also observed in reports by the Spanish National Institute of Statistics where salary increases as the educational level of citizens does [32]. It is expected that those subjects with a higher level of education will apply for higher positions, which leads to higher salary. The same phenomenon occurs when we observe the social class. There is a positive relationship between pertaining to the middle as well as upper social class and salary, however, this relationship is inverse for people of the lower social class. Social class, defined as one's overall societal status and measured by indices of income, educational attainment, and occupational status, is remarkably stable across time and generations [41]. Therefore, it is logical to think that belonging to a higher social class facilitates having more job opportunities, partly due to the possibility to study for longer, at more prestigious institutions and having contacts in positions of power, which can positively affect the career development.

4.1. Limitations

The present work has several limitations that suggest future lines of research. First, the cross-sectional nature of the data makes it more difficult to establish the direction of the relationships between variables. Although the data is based on broad theory, replication of these findings through longitudinal studies would provide more information about the contribution of EI to salary. The second weakness is related to not having controlled the influence of factors such as IQ, as was done in previous studies [23]. Moreover, it would have been advisable to take into account the different personality dimensions since prior research shows that these have an influence on the results obtained in the work environment [24,26]. Specifically, it would have been relevant to take into account the dimensions of neuroticism and responsibility, because their influence on professional success has been observed [25]. Finally, there is a limitation regarding the sample, since the workers were selected for convenience through psychology students, which is a nonrandom technique with possibly limiting factors. Although this technique has demonstrated validity and reliability, as well as great utility in field studies within organizational psychology [35], this sampling method may be biased towards more cooperative participants, thus limiting the generalization of the results.

4.2. Practical Implications

This research, with its strengths and weaknesses, provides new evidence to understand the influence that EI has on work environments, specifically on salary, which is considered a key component in the development of individuals and companies [42]. Salary is not the only indicator of success, but it is a clear external sign of value within an organization and industry compared to other workers. Furthermore, salary is not subject to the perceptual biases of self-reported indicators of career success which can be influenced by various contextual factors and individual differences. Therefore, our findings have significant implications for curricula, employee selection, and development programs. In this regard, several authors affirm that EI could be improved through adequate training using scientifically based programs [43–45]. Therefore, it seems appropriate to implement this type of training to help people achieve greater socioemotional skills, which will contribute to professional success, achieving higher levels of well-being and better performance.

Concerning the novelty of this study and its contribution, while many claims have been made about the importance of EI for career success [14,15], our study establishes an empirical relationship between an ability-based measure of EI and an objective indicator of career success. In addition, our sample was composed by workers of all ages, unlike most research so far, which evaluated this relationship in recent graduates and younger workers. Finally, we also want to highlight that this study is the first to analyze the relationship between EI and salary, taking into account the social class and the educational level of the sample, which have proved to be fundamental variables to understand this connection.

5. Conclusions

In summary, this research underlines the importance of EI as predictor of individual salary in a multioccupational sample of Spanish workers. Those professionals with high EI have more resources to face the demands of their job, thus maximizing the outcomes. These results demonstrate the importance of EI in understanding individuals at work, and emphasize the necessity of developing socioemotional skills at early stages. Therefore, it is necessary to design and implement intervention programs in order to promote EI and develop healthy workers, which can prevent the development of mental diseases while helping them to reach their best possible performance.

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Discussion

General discussion

The emotional dimension of the human being has inspired interest and study throughout history. Hundreds of authors have tried to understand emotions from different points of view, which has meant great progress in the knowledge on the subject. However, beginning in 1990, when Salovey and Mayer coined the EI concept, research on this topic began to increase substantially (Roselló & Revert, 2014). Since then, the development of the concept has reached almost unimaginable heights, although there are still challenges to be achieved and several issues to be resolved (Extremera et al., 2020). For this reason, this doctoral thesis, developed over five years, has tried to amplify the knowledge about EI, especially regarding its evaluation and influence on work contexts.

Considering the assessment, the present thesis offers a broad portrait of the evolution, the present moment, and the future challenges of measuring EI. Following the large number of studies reviewed, study 1 showed how EI evaluation methodologies are still undergoing a wide range of improvements. The main obstacle that EI evaluation has experienced throughout these years of research stems from the confusion between the EI ability and EI trait constructs and the indistinct use of different types of instruments to evaluate both constructs (Siegling et al., 2015). However, it seems clear that ability tests provide a host of advantages over self-report questionnaires when evaluating a competence such as EI. In study 1, we presented the MEIT, which has been developed taking into account the ability model proposed by Mayer and Salovey. It avoids the main problems associated with EI self-report measures, such as social desirability and lack of ecological validity, because it is not based on self-perception and cannot be apparently falsified. Moreover, the MEIT is the first digital test to assess EI from the ability-test model, which supposes an important step toward a new dimension in the field of psychosocial assessment: evaluation through mobile devices. We highlighted how new technologies in evaluation offer important advantages over the use of paper instruments (e.g., ease of use, storage of large databases, improvement in ecological validity, and immediate generation of reports). Finally, it can be confirmed that the MEIT reaches the requirements to be considered a reliable and valid test useful for both scientific research and individual assessment of EI, especially in the workplace (study 1). It has also been used in several subsequent studies that have demonstrated its usefulness (study 3). So, the first aim of the present thesis was accomplished, strengths and

weakness about EI assessment have been examined, and a new way to measure EI is now available.

EI at work seems to be an important variable to understand employees' behavior and their outcomes. As underlined by previous research, there is a relationship between EI and work performance: Workers with higher EI report higher levels of performance. Our results (study 2) support that EI could be a key personal resource to understand work performance, along with several variables, such as personality, intelligence, and social support, among others. Through different mechanisms, EI allows people to have the appropriate resources to face demanding situations and to better adapt to changing environments like modern workplaces, which has a direct effect on performance. Moreover, EI plays a key role as a protective variable to prevent the development or chronic progression of burnout (study 2). According to our findings, high emotional abilities help workers to reduce their fatigue and improve their professional efficacy. These data are linked to previous discoveries suggesting that workers with higher EI seem to be less affected by the negative consequences associated with burnout (i.e., cynicism, demotivation, distress, intention to quit, etc.) as well as by factors related to their negative attitudes in the workplace. So, the buffering effect of EI against these occupational hazards has been confirmed. Finally, the mediator role of burnout in the relationship between EI and work performance has been confirmed; exhaustion and professional efficacy seem to act as mediators in this relationship (study 2). These findings are consistent with previous work that has shown the mediator effect of burnout between personal resources and work outcomes.

Last, but certainly not least, we have shown that EI is a relevant variable in achieving career success, in this case evaluated as salary (study 3). The ability to channel and manage emotions helps employees to build stronger interpersonal relationships, to use communication effectively, and to develop cognitive processing of emotional information. Therefore, individuals with high EI should have stronger relationship-building skills, allowing them to become more deeply embedded in social networks, leading them to higher positions and greater financial compensation. Furthermore, the management ability was the more important EI branch to explain this result. It is fundamental to remember that in the EI model of Salovey and Mayer, the management branch is mainly related to the effective handling of one's own and others' emotions to achieve a desired result. Our findings are based on controlling for the age, gender, social class,

educational level, and work experience variables. So, we have achieved the second aim of this thesis: EI plays an important role in workplaces, both regarding its buffer effect against risks as for boosting the productivity.

Future Perspectives

Beyond the specific limitations detailed in the manuscripts, we would like to highlight some aspects to consider in upcoming research, as well as future challenges in this field of research. Below are some future lines of basic and applied work regarding the possible directions that national and international research teams working on the EI construct could address.

New challenges regarding emotional intelligence assessment: The importance of execution time and time pressure

The time we need to respond to a problem is a determining factor that reflects our ability to perform a specific skill (Cabrera et al., 2010; Cladellas & Castelló, 2011). Despite the fact that the time taken to respond to a problem has been shown to be an important indicator, in the evaluation of EI no instrument has taken this factor into consideration (Bresó et al., 2013; Sanchez-Gomez & Breso, 2019). An example of how other instruments consider the time variable in their analysis is the Wechsler Adult Intelligence Scale (WAIS), which measures intelligence based on the premise that there is a limited time to offer a solution to a problem and that it can be considered correct (Crawford et al., 1998). In this way, we can generalize that, if there is a limit to offer a solution to a cognitive problem, there must also be a limit for an emotional problem, considering those individuals who give appropriate and quick responses as more intelligent (Dodonova & Dodonov, 2012).

In this sense, it will be important to determine whether time pressure is an important factor that can affect the execution of the EI questionnaires. On the one hand, it has been observed that the relationship between time pressure and performance follows a linear relationship, which allows better results to be obtained when time pressure is lower (Karau & Kelly, 1992; Kelly & McGrath, 1985). However, other studies have shown that the relationship between time pressure and performance is curvilinear: The results are better when time pressure is moderate, while performance drops when time pressure is at a very

high or very low extreme (Karau & Kelly, 1992). Considering the execution time as a variable when evaluating emotional competencies may be the next step to achieve better measurement instruments, because it would add predictive power to the tests and increase their ecological validity. As seen before (study 1), we defend the advantages of using digital methodologies for the evaluation of EI, because they are a new model to obtain data in a faster, easier, and more accessible way than those that have been used (Sanchez-Gomez & Breso, 2019). Moreover, the use of digital applications can help to simplify the time measurement, because these tools could record the time spent on each item. So, promoting the use of these types of measures will help to advance and evaluate the real emotional capacity of people, allowing researchers to discern between individuals who simply give a correct answer and those who are really competent. The results suggest that, in general, individuals with higher EI are also more efficient in the processing of emotional information when time is taken into account (Dodonova & Dodonov, 2012).

Emotional intelligence at work: Developing and applying scientific proved interventions in a new era

Concerning EI research in the workplace, upcoming publications about workers' EI should focus attention on the longitudinal role of emotional competencies. Understanding intrapersonal and interpersonal processes for extended periods of time will allow researchers to achieve more detailed knowledge about EI in the work environment. This information would help to know to a greater extent what strategies allow emotionally intelligent workers to promote and maintain their well-being according to certain demanding situations. One example it to examine the role of EI in relation to macro variables related to conflict in the company and interpersonal relationships with colleagues and clients. In this sense, it would be advisable to go deeper into the relation between leaders' EI and its impact over their dependents.

Future studies should also address the emotional demands related to the new realities that arise at work. It will be necessary to respond to the needs of workers to face vital crisis situations such as the global COVID-19 pandemic that has been experienced since the beginning of 2020. COVID-19 has generated the greatest health crisis in the 21st century, which makes it even more necessary to analyze the emotional skills of employees and their effective coping to face the

pandemic and its impact on indicators of physical health and psychosocial well-being.

Lastly, human resource practitioners place value on selecting and training a more emotionally intelligent workforce. However, research has yet to systematically investigate whether EI can in fact be trained. A recent meta-analysis that analyzed 58 published studies reported a moderate and positive effect of training on EI, allowing us to infer that EI is trainable (Mattingly & Kraiger, 2019). Moreover, the effectiveness of training for EI depends on whether the construct is conceptualized (and trained) as more ability based or mixed mode (Mattingly & Kraiger, 2019). In the same vein, a recent systematic review about EI interventions provides some support for the efficacy of EI programs. For instance, investing in EI development from the early stages of professional training could have a positive impact on better salaries. However, the researchers emphasized important limitations in most of the studies, which restricts the generalizability of their results (Kotsou et al., 2019). Therefore, future lines of research should be directed toward the consolidation of intervention programs in the organizational context with the aim of developing optimal emotional capacities. For that, rigorous and evidence-based interventions should be developed, which allow them to incorporate tools and strategies to manage adequately the new problems and realities associated with the work context. Appropriate skills to manage emotions will allow workers to cope with the difficulties arising from changes, promote well-being, and alleviate the psychological maladjustment associated with labor demands. Instead, EI deficits are associated with problems such as conflicts, intention to quit, or difficulties overcoming stressful events. So, it is fundamental to provide programs to develop emotional abilities to human resources professionals, and organizations are called to take an active part in the emotional development of their workforce.

The positive impact of emotional intelligence during the lifespan

Beyond the work environment, in adult life, future EI research should serve to provide resources for coping with the main stressful situations that arise at this stage (e.g., chronic diseases, unemployment, divorce, and death). Likewise, it remains to be analyzed whether children and adolescents who have received training in EI develop into adults with greater psychosocial adjustment and with more positive indicators of health, employability, and interpersonal relationships (Extremera et al., 2020). In fact, there is an interesting question

previously raised about the economic impact of fostering EI. In the United States, it has been found that each investment of $1 represents a benefit of $11 for society, reducing the levels of juvenile crime and reducing health and social costs (Belfield et al., 2015). In Belgium, it has been found that each training investment dedicated to improving EI by 1% corresponds to a 1% decrease in health care costs. This return on investment varies depending on the educational level of the people, with the highest return in those with lower educational levels (Mikolajczak & Van Bellegem, 2017). Unfortunately, we still do not have data about this issue in Spain. For this reason, it would be interesting for public health policies to clarify the medium- and long-term impact of improving EI and, especially, to investigate the social circumstances in which this investment could result in greater benefits for our society.

Practical implications and novelty

The three manuscripts included in this doctoral thesis address topics of great relevance and interest and illustrate the development of the EI construct throughout three decades of research. We are aware that this doctoral thesis does not represent the complete breadth of theories and forms of evaluation developed to date in such a fertile area of research. However, we are sure that this work represents an important contribution to the field of social and organizational psychology in general, and to the subject of EI specifically. We expect that this thesis, as well as the compendium of published papers, will lay the groundwork for a new way of evaluating this ability, as well as to strengthen and expand the knowledge about the consequences of having EI in today's organizations. We hope that researchers who read this work will reflect, ask new questions about the importance of being emotionally intelligent in this society, and make future applications in their areas of interest. We also hope that this work will lead less specialized readers to want to continue expanding their knowledge on the subject, to collaborate in research in this field, to contact the authors of these works, and, ultimately, to improve their emotional abilities. In short, we believe that this thesis contributes to highlighting the applied importance of the EI construct and raises new paths and future challenges that could help to develop this field of study further.

Although EI has come a long way since its appearance, the years to come will be full of challenges, and we hope to help in this exciting challenge. EI has

come to stay and we should contribute in several fields, be them educational, clinical, or organizational. Our research will be focused on providing new cross-cultural evidence, new measurement tools, taking advantage of technological advances, and designing training programs supported by scientific evidence. To conclude, we hope that this doctoral thesis marks the beginning of a long and fruitful career that helps to improve everyone's lives.

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Sanchez-Gomez, M., & Breso, E. (2019). The Mobile Emotional Intelligence Test (MEIT): An Ability Test to Assess Emotional Intelligence at Work. *Sustainability, 11*(3), Article 827. https://doi.org/10.3390/su11030827

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Conclusions [Conclusiones]

Conclusions

The main conclusions of the present PhD Thesis are:

Section 1. EI assessment

- It is preferable to use ability tests over self-report questionnaires when evaluating a competence such as EI.
- New technologies in evaluation offer important advantages over the use of paper instruments (e.g., ease of use, improvement in ecological validity, and automatic control of the time spent or the immediate generation of reports).
- The MEIT is a reliable and valid test and is useful for both scientific research and individual assessment of EI.

Section 2. EI at work: Understanding its role over work outcomes

- There is a relationship between EI and work performance, namely being workers with higher EI report higher levels of performance.
- EI plays a key role as a protective variable to prevent the development or chronic progression of workers' burnout.
- Exhaustion and professional efficacy (i.e., dimensions of burnout) act as mediators in the relationship between EI and work performance.
- After controlling for the age, gender, social class, educational level, and work experience variables, participants with higher EI and emotional-repair capacity have a higher salary.
- EI is a relevant variable in achieving career success. The ability to channel and manage emotions could help employees develop stronger interpersonal relationships, leading to higher positions and greater financial compensation.

Overall, the present PhD thesis proposes a new tool to measure EI as well as evidence about the role of EI in understanding burnout, performance, and salary, all of which are key variables in the organizational environment.

Conclusiones

Las principales conclusiones de la presente Tesis Doctoral son:

Sección 1. Evaluación de la inteligencia emocional

- Al evaluar una competencia como la IE, es preferible utilizar pruebas de habilidad en lugar de autoinformes.
- Las nuevas tecnologías en evaluación ofrecen importantes ventajas sobre el uso de instrumentos en papel (por ejemplo, facilidad de uso, mejora de la validez ecológica, control automático del tiempo empleado o generación inmediata de informes).
- MEIT es una prueba fiable y válida, útil tanto para la investigación científica como para la evaluación individual de la IE.

Sección 2. La IE en el trabajo: comprender su papel sobre los resultados del trabajo

- Existe una relación significativa entre la IE y el desempeño laboral, siendo los trabajadores con mayor IE los que reportan mayores niveles de rendimiento.
- La IE juega un papel clave como variable protectora para prevenir el desarrollo y la progresión crónica del burnout de los trabajadores.
- El agotamiento y la eficacia profesional (dimensiones del burnout) actúan como mediadoras en la relación entre la IE y el rendimiento laboral.
- Después de controlar las variables edad, género, clase social, nivel educativo y experiencia laboral, los participantes con mayor IE y capacidad de gestión emocional señalan tener mayor salario.
- La IE es una variable relevante para lograr el éxito profesional. La capacidad de canalizar y gestionar las emociones podría ayudar a los empleados a desarrollar relaciones interpersonales más sólidas, lo que los llevará a puestos más altos y una mayor compensación financiera.

En conclusión, la presente Tesis Doctoral propone una nueva herramienta para medir la IE, así como evidencia sobre el papel de la IE en la comprensión del burnout, el desempeño y el salario, variables clave en el entorno organizacional.

Annexes

Curriculum vitae

1. Personal information

Name: Martín Sánchez Gómez

Date of birth: July 6th, 1993

Place of birth: Vila-real (Spain)

Nationality: Spanish

Email: sanchgom@uji.es

2. University education

2016/21	**PhD student – Doctoral Program in Psychology** [Tesis Doctoral - Programa de Doctorado en Psicología], Universitat Jaume I.
2015/16	**Master in Family Intervention and Mediation**, [Master en Intervención y Mediación familiar], Universitat Jaume I.
2011/15	**Bachelor's degree in Psychology** [Grado en Psicología], Universitat Jaume I. Title obtained in ARA group (high academic performance).

3. Scientific publications

- **Sánchez-Gómez, M.**, Giorgi, G., Finstad, G.L., Alessio, F., Ariza-Montes, A., Arcangeli, G., & Mucci, N. (2021). Economic stress at work: its impact over absenteeism and innovation. *International Journal of Environmental Research and Public Health*, ahead of print.
- **Sánchez-Gómez, M.**, Cerisuelo, M., Adelantado-Renau, M., & Breso, E. (2021). Inteligencia emocional en estudiantes universitarios de Psicología: diferencias entre el primer y el último curso. *Academia y Virtualidad*, ahead of print.
- Barrué, P., & **Sanchez-Gomez, M.** (2021). The emotional experience of nurses in the Home Hospitalization Unit in palliative care: A qualitative exploratory study. *Enfermería Clínica*, [ahead of print], https://doi.org/10.1016/j.enfcli.2020.11.006
- **Sánchez Gómez, M.**, Roures, A., Flor Arasil, P., & Bresó, E. (2021). Propuesta de intervención para el desarrollo de la inteligencia emocional en menores en situación de riesgo y vulnerabilidad social. *Apuntes Universitarios*, *11*(2). https://doi.org/10.17162/au.v11i2.648
- **Sanchez-Gomez, M.**, Breso, E. & Giorgi. G. (2021). Could Emotional Intelligence Ability Predict Salary? A Cross-Sectional Study in a Multioccupational Sample. *International Journal of Environmental Research and Public Health*, *18*(3), 1322. https://doi.org/10.3390/ijerph18031322

- **Sánchez-Gómez, M.** (2021). La Inteligencia Emocional como recurso para mejorar la adaptación en la adolescencia: Pautas para implementar un programa formativo. En Pérez-Fuentes, et al. (Eds.), Conductas de riesgo en adolescentes desde una perspectiva multidisciplinar (pp. 201-205). Madrid, España: Asunivep.
- **Sánchez-Gómez, M**., Beltran-Valls, M. R. y Adelantado-Renau, M. (2021). ¿Es posible desarrollar las habilidades emocionales en el aula mediante recursos digitales? En J. Ruiz-Palmero, E. Sánchez-Rivas, E. Colomo-Magaña y J. Sánchez-Rodríguez (Eds.), *Innovación e investigación con tecnología educativa* (pp. 189-197). Málaga, España: Editorial Octaedro.
- Villarreal-Mata, J.L., **Sánchez-Gómez, M.**, Navarro-Oliva, E.I.P., Bresó, E. & Pérez, E. (2020). *Inteligencia emocional y espiritualidad en el apego al tratamiento de adultos con adicciones al alcohol y drogas*. *Know and Share Psychology, 1*(4), 103-111. *http://dx.doi.org/10.25115/kasp.v1i4.4345*
- Murillo, A. L., **Sánchez-Gómez, M**. & Bresó, E. (2020). Inteligencia emocional en familia: un programa formativo para padres e hijos de 3 a 6 años. *Know and Share Psychology, 1*(4), 61-75. http://dx.doi.org/10.25115/kasp.v1i4.4339
- **Sánchez-Gómez, M.**, Cebrián, B., Ferré, P., Navarro, M. & Plazuelo, N. (2020). Tecnoestrés y edad: un estudio transversal en trabajadores públicos. *Cuadernos de Neuropsicología/Panamerican Journal of Neuropsychology, 14*(2), 25-33. http://dx.doi.org/10.7714/CNPS/14.2.203
- **Sánchez-Gómez, M.** (2020). Inteligencia emocional y rendimiento en docentes: el agotamiento emocional como moderador. En J.J. Gázquez, M. M. Molero, A. Martos, A. B. Barragán, M. M. Simón, M. Sisto, R. M. del Pino y B. M. Tortosa (Eds.), Variables Psicológicas y Educativas para la Intervención en el ámbito escolar. Nuevas realidades de análisis (pp. 415-424). Madrid, España: Editorial Dykinson.
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- Villarreal-Mata, J.L., **Sánchez-Gómez, M.**, Navarro-Oliva, E.I.P., Esteve, E.B. & Hernández, L.H.S. (2020). Inteligencia emocional y estrés en adultos con y sin tratamiento contra la adicción al alcohol y drogas. *Journal Health NPEPS, 5*(2), 379-392. http://dx.doi.org/10.30681/252610104825
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atención plena. *Academia Y Virtualidad, 13*(2), 133-144. https://doi.org/10.18359/ravi.4726

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- **Sanchez-Gomez, M**., Oliver, A., Adelantado-Renau, M. & Breso, E. (2020). Inteligencia emocional y ansiedad en adolescentes: una propuesta práctica en el aula. *Quaderns digitals: Revista de Nuevas Tecnologías y Sociedad,* (91), 74-89.
- Mérida-López, S. , **Sánchez-Gómez, M.**, & Extremera, N. (2020). Leaving the Teaching Profession: Examining the Role of Social Support, Engagement and Emotional Intelligence in Teachers' Intentions to Quit. *Psychosocial Intervention, 29*(3), 141-151. https://doi.org/10.5093/pi2020a10
- **Sanchez-Gomez, M**., Belloch, I., Ortiz, M., González, P. & Bresó, E. (2020). Jubilación. ¿Existen actividades que faciliten la transición? *Àgora de Salut*, (7), 167-174. http://dx.doi.org/10.6035/AgoraSalut.2020.7.17
- **Sanchez-Gomez, M.** & Bresó Esteve, E. (2019). Inteligencia emocional y calidad de vida profesional en el sector industrial. *Àgora de salut, (6*), 247-253. http://dx.doi.org/10.6035/AgoraSalut.2019.6.26
- Gould Gavidia, A. P., **Sanchez-Gomez, M.**, & Bresó Esteve, E. (2019). Inteligencia emocional y altas capacidades cognitivas. Un estudio empírico. *Àgora de salut, (6*), 159-167. http://dx.doi.org/10.6035/AgoraSalut.2019.6.17
- Extremera Pacheco, N., Mérida López, S., & **Sánchez Gómez, M.** (2019). La importancia de la inteligencia emocional del profesorado en la misión educativa: impacto en el aula y recomendaciones de buenas prácticas para su entrenamiento. *Voces De La Educación,* 74-97. Recuperado a partir de https://www.revista.vocesdelaeducacion.com.mx/index.php/voces/article/view/213
- Bresó Esteve, E., & **Sánchez Gómez, M.** (2019). *Organizaciones emocionalmente inteligentes: experiencias en evaluación e intervención.* Castellón: Publicacions de la Universitat Jaume I. doi:10.6035/Psique.2019.24
- **Sánchez-Gómez, M.** y Adelantado-Renau, M. (2019). El termómetro emocional: una herramienta educativa para facilitar la comprensión de emociones. *Publicaciones didácticas*, *105*, 301-305.
- Renau, M. A., Soldevila, M. G., & **Gómez, M. S**. (2019). Promoción de la salud en educación infantil: Una aplicación práctica para el fomento de la actividad física y la alimentación saludable. *Quaderns digitals: Revista de Nuevas Tecnologías y Sociedad, 6* (89), 113-160.
- **Sanchez-Gomez, M.** & Breso, E. (2019). The Mobile Emotional Intelligence Test (MEIT): An Ability Test to Assess Emotional Intelligence at Work. *Sustainability, 11*(3), 827. doi:10.3390/su11030827

- Balaguer, N., **Sanchez-Gomez, M.** & García-Palacios, A. (2018). Relación entre la regulación emocional y la autoestima. *Àgora de salut, (5)*, 373-380. doi: http://dx.doi.org/10.6035/AgoraSalut.2018.5.41
- **Sanchez-Gomez, M.** & Breso-Esteve, E. (2018). Inteligencia emocional para frenar el rechazo en las aulas. Àgora de salut, (5), 275-282. doi: http://dx.doi.org/10.6035/agorasalut.2018.5.30
- **Sanchez-Gomez, M**., Ruiz-Palomino, E. & Ballester-Arnal, R. (2017). Sexualidad y autoestima en persones con dolor crónico. *Àgora de salut*, (4), 355-364. http://dx.doi.org/10.6035/AgoraSalut.2017.4.37
- **Sánchez-Gómez, M.** & Breso, E. (2016). Efecto de la inteligencia emocional y las tecnologías de la información y la comunicación en la satisfacción sentimental. *Àgora de salut, (3)*, 371-379. http://dx.doi.org/10.6035/AgoraSalut.2016.3.39

4. Works submitted to conferences

2020

I Congreso Internacional sobre Violencia y Consumo en Adolescentes (DROVI)

- Violence and mental health in adolescents: the moderator role of emotional intelligence

VI Congreso Internacional en Contextos Psicológicos, Educativos y de la Salud

- Éxito laboral: la importancia de los objetivos profesionales
- Amenazas y precursores del rendimiento laboral: el papel de la inteligencia emocional y el agotamiento emocional
- Emotional intelligence: does it work? testing its moderator role between workplace bullying and mental Health

XXIII *Congreso Internacional EDUTEC*

- Aplicación de la inteligencia emocional mediante recursos digitales en el aula de educación primaria y secundaria: percepción docente
- Relevancia de los atributos docentes en profesorado universitario: competencia digital e innovación educativa
- ¿Cuál es la percepción del alumnado universitario sobre la influencia de las metodologías activas en el proceso de enseñanza-aprendizaje?

XXV Jornades de Foment de la Investigació en Ciències Humanes i Socials

- Efectos de un programa de mindfulness sobre el rendimiento académico y la capacidad de atención en educación infantil
- Desarrollo de la inteligencia emocional en niñas y ninos de educación primaria
- Inteligencia emocional en el docente. ¿Moda o necesidad?

2019

5th International Congress on Education Sciences and Learning Technology (ICESLT)

- Inpulse, an app to develop emotional intelligence in educational contexts
- Measuring emotional intelligence in adolescence with the MEIT-YV: psychometric properties

I Congreso Internacional de Sexualidad: Expresando la Diversidad

- El papel de la sexualidad en la autoestima de mujeres con dolor crónico

I Congrés Internacional de Música i Cultura per a la Inclusió i la Innovació (CIMCII)

- Música y emociones': un recurso didáctico para la alfabetización emocional

XXIV Jornades de Foment de la Investigació en Ciències Humanes i Socials

- Alimentación saludable en niñas y niños de Educación Primaria en la provincia de Castellón: Un análisis descriptivo.
- ¿Es la inteligencia emocional en niños y adolescentes una cuestión de sexo?
- Inteligencia emocional en estudiantes universitarios. Diferencias entre el primer y el último curso

V Jornades Ágora de Salut

- Jubilación. ¿Existen actividades que faciliten la transición?

2018

II Congreso Internacional de Evaluación e Intervención en Inteligencia Emocional

- Inteligencia emocional en entornos educativos
- Inteligencia emocional y altas capacidades cognitivas: un estudio empírico. Parte II
- ¿Es posible mejorar el clima laboral mediante el entrenamiento en inteligencia emocional?
- MEITPRO, una nueva forma de evaluar inteligencia emocional en profesionales
- Taller "Música y emociones"

IV Jornades Ágora de Salut

- Entrenamiento en inteligencia emocional para evitar conductas de riesgo en adolescentes
- Competencias emocionales en niños y niñas ¿Existen diferencias?
- Inteligencia emocional y altas capacidades cognitivas: un estudio empírico
- Inteligencia emocional y calidad de vida profesional en el sector industrial

II Congreso Internacional de Psicología del Trabajo y Recursos Humanos

- MEITPRO, un nuevo método para evaluar inteligencia emocional en procesos de selección
- InPulse. Una solución digital para mejorar la salud en las organizaciones mediante la inteligencia emocional

2017

6th International Congress on Emotional Intelligence

- MEITPRO. A new ability test to assess emotional intelligence. Some empirical results

III Jornades Ágora de Salut

- Inteligencia emocional para frenar el rechazo en las aulas
- Relación entre la regulación emocional y la autoestima

2016

I Congreso Internacional de Evaluación e Intervención en Inteligencia Emocional

- La importancia del tiempo de respuesta en la evaluación de la inteligencia emocional
- Validación de MEIT, una medida interactiva de la inteligencia emocional
- Evalúa tu inteligencia emocional en 15 minutos

EDULEARN

- Meitpro a new tool to evaluate emotional intelligence in the classroom

I Congreso Internacional de Psicología del Trabajo y Recursos Humanos

- Evaluación de la inteligencia emocional en organizaciones del siglo XXI
- Nuevas tendencias en procesos de selección, un cambio transversal
- Nuevas metodologías para la evaluación de competencias en organizaciones

2015

5th International Congress on Emotional Intelligence

- What role does emotional intelligence play in the teacher's quality of life?
- Emotional intelligence and sports performance
- Evaluación de la Competencia Emocional de niños con TEA usando dispositivos móviles
- Inteligencia Emocional y tecnologías de la información y la comunicación en el mantenimiento de la relación sentimental

5. Research projects

2014/21	**Competitive research project: Grupo GIE**. Inclusion of emotional intelligence in university teaching through mobile devices
2018/21	**Grant for new scientific research projects (UJI-A2018-10).** Convocatòria de projectes d'investigació científica i desenvolupament tecnològic. Pla de promoció de la investigació de la Universitat Jaume I 2018, Programa de foment de projectes d'investigació.

6. Research stays

01/2021-05/2021	**European University of Rome** (Rome, Italy)
	Research group: Business@health laboratory (M-PSI06).
07/2020-12/2020	**European University of Rome** (Rome, Italy)
	Research group: Business@health laboratory (M-PSI06).
05/2019-07/2019:	**University of Málaga** (Málaga, Spain)
	Research group: Grupo de Recursos Personales Positivos, Bienestar y Salud en Contextos Aplicados.

7. Reviewer

- Journal of Environmental Research and Public Health
- Journal of Intelligence
- Behavioral Sciences
- Applied Sciences
- RIFOP (Revista Interuniversitaria de Formación del Profesorado)
- PSYE (Psicología, Sociedad y Educación)

8. Courses attended

2019/20

- Introducción a la Metodología y Elaboración de la Tesis Doctoral (3h)
- Uso del Aula Virtual. MÓDULO 6: Introducción a los cuestionarios (3h)
- Metodologia didáctica para la enseñanza universitaria (8h)
- Herramientas y estrategias para la evaluación de competencias transversales (8h)
- Diseño, realización y revisión de cursos en línea para grado y máster (10h)

2018/19

- Programa UJI Empren-OnSocial (42h)
- Cómo leer y cómo escribir un artículo científico para una revista de impacto (30h)
- Cómo orientar tu carrera más allá del mundo académico. Estrategias y Recomendaciones (8h)
- Planificación de la docencia universitaria (8h)
- Nociones básicas para la introducción del inglés como lengua de instrucción al aula (8h)
- Seminario ApS. Justificación, diseño y evaluación de programas de aprendizaje-servicio: una apuesta para la investigación-acción universitaria (4h)

2017/18

- Dar clase con la boca cerrada: estrategias de enseñanza centradas en el estudiante (20h)
- Comunicació, difusió i divulgació de la investigación (25h)
- Carrera investigadora (12h)
- Iniciación a la creación de Startups innovadoras (40h)

2016/17

- Ètica i Deontologia en la Investigació (20h)
- Bootcamp Launchpad StartUJI 2017 - Apoyo a iniciativas emprendedoras promovidas por alumnus (13h)

9. University teaching

2020-2021. Universitat Jaume I

- Grado de Relaciones Laborales (Conflicto y estructura de la negociación)
- Máster propio en Inteligencia emocional y Coaching (Introducción a la inteligencia emocional. Principios básicos)
- Máster propio en Inteligencia emocional y Coaching (Dirección de TFMs)

2019-2020. Universitat Jaume I

- Máster propio en Inteligencia emocional y Coaching. (Introducción a la inteligencia emocional. Principios básicos)
- Máster propio en Inteligencia emocional y Coaching (Dirección de TFMs)
- Grado de Psicologia (Psicología Comunitaria)
- Grado de Relaciones Laborales (Conflicto y estructura de la negociación)
- Grado de Comunicación (Psicología de la Comunicación)
- Grado de Publicidad y Relaciones Públicas (Psicología de la Publicidad)

2018-2019. Universitat Jaume I

- Máster propio en Inteligencia emocional y Coaching (Introducción a la inteligencia emocional. Principios básicos)
- Máster propio en Inteligencia emocional y Coaching (Dirección de TFMs)
- Grado de Psicologia (Asesoramiento vocacional y desarrollo de Carrera)
- Grado de Psicologia (Psicologia del Trabajo y las organizaciones)
- Grado de Relaciones Laborales (Conflicto y estructura de la negociación)

2017-2018. Universitat Jaume I

- Máster propio en Inteligencia emocional y Coaching (Introducción a la inteligencia emocional. Principios básicos)
- Máster propio en Inteligencia emocional y Coaching (Dirección de TFMs)

10. Work experience

10/2014 – 07/2015 Universitat Jaume I - **Fellow collaboration**

09/2015 – 01/2018 Emotional Apps S.L. - **Chief scientific officer (CSO)**

02/2018 – 05/2021 Universitat Jaume I - **Predoctoral researcher**

11. Languages

Spanish: native speaker

Catalan: C1

English: B2

Italian: A2

12. Other achievements

Awards:

- Young Researcher Award at Feria Destaca (2016)
- 5UCV StartUp Junior Contest Award: MEIT-Organizational health (2017)
- YUZZ Banco Santander UJI: Disruptive Technology Innovation Award (2017)
- YUZZ Banco Santander UJI: Third place award (2017)
- Finalist in the company category in the V Young Talent Award, organized by Bankia and Levante-EMV (2018)

International invitations:

- Conference as guest speaker at the Universidad Autónoma de Coahuila (México). Title: Emprendimiento en Momentos Difíciles: La Inteligencia Emocional como Ventaja Competitiva
- Conference as guest speaker at the Università Europea di Roma. Title: Rivoluzione inclusiva: multiple diversities e intersezionalità come evoluzione post covid
- Conference as guest speaker at the Università Europea di Roma. Title: Intelligenza emotiva ai tempi del remote working e del covid-19

Co-authors acceptance

UNIVERSITAT JAUME I
Escola de Doctorat · ED

Valencia,

February 8th,

2021.

I, Edgar Bresó Esteve, hereby authorise Martín Sánchez Gómez to include the publications listed below in his doctoral thesis. In addition, I waive the right to use those articles as part of any other doctoral thesis.

List of articles:

· *The Mobile Emotional Intelligence Test (MEIT): An Ability Test to Assess Emotional Intelligence at Work*

· *In Pursuit of Work Performance: Testing the Contribution of Emotional Intelligence and Burnout*

· *Could Emotional Intelligence Ability Predict Salary? A Cross-Sectional Study in a Multioccupational Sample*

Edgar Bresó

In accordance with article 23 of the Regulation of Doctoral Studies, regulated by RD 99/2011, at the Universitat Jaume I (Approved by the Governing Council No. 19 of January 26, 2012, modified by the Governing Council no. 29 of November 27, 2012 and subsequent amendment by the Governing Council No. 37 of July 25, 2013):"(...) "Those doctoral theses that opt for the incorporation of articles (compendium of publications) must include the acceptance of the co-authors of the publications that have waived the right to present them as a part of another PhD thesis"

UNIVERSITAT JAUME I
Escola de Doctorat · ED

Rome,

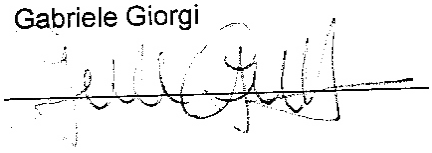
February 8th,

2021.

I, Gabriele Giorgi, hereby authorise Martín Sánchez Gómez to include the publications listed below in his doctoral thesis. In addition, I waive the right to use those articles as part of any other doctoral thesis.

List of articles:

· *Could Emotional Intelligence Ability Predict Salary? A Cross-Sectional Study in a Multioccupational Sample*



Gabriele Giorgi

In accordance with article 23 of the Regulation of Doctoral Studies, regulated by RD 99/2011, at the Universitat Jaume I (Approved by the Governing Council No. 19 of January 26, 2012, modified by the Governing Council no. 29 of November 27, 2012 and subsequent amendment by the Governing Council No. 37 of July 25, 2013):"(...) "Those doctoral theses that opt for the incorporation of articles (compendium of publications) must include the acceptance of the co-authors of the publications that have waived the right to present them as a part of another PhD thesis"

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"Lo que alcances en esta vida solo importará si no dejas de ser una buena persona."

- Montserrat Gómez Tortosa -


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