

**Emotional Intelligence in Teacher Education: An inter-  
vention study in Greece**

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Master's Thesis in Education  
Spring Term 2020  
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## ABSTRACT

**Kyriazopoulou, Myrto. 2020. Emotional Intelligence in Teacher education: An intervention study in Greece. Master's Thesis in Education. University of Jyväskylä. Faculty of Education and Psychology.**

Emotional Intelligence (EI) of teachers has been associated with positive assets both personal and professional (Corcoran & Tormey, 2013; Vesely, Saklofske & Leschied, 2013), which should be developed in teacher education (Dacre-Pool & Qualter, 2012). Despite its commonly accepted importance, only a few studies have focused on EI in the context of teacher education (Gilar-Corbi, Pozo-Rico, Pertegal-Felices & Sanchez, 2018), few of which have had mixed method designs (Hen & Sharabi-Nov, 2014), while none have been conducted in Greece.

The purpose of this study was to examine the effectiveness of an intervention regarding the development of EI and to get insights into student teachers' experiences, emotions and perceptions. The study followed a quasi-experimental mixed-method convergent design using the Trait Emotional Intelligence Questionnaire (TEIQue SF, Greek version) and emotion diaries. Participants were students from the University of Crete ( $N=42$ , 21 in intervention, 21 in control), studying the bachelor's program of Primary education and teaching.

The intervention was 2 weeks long (4 hours total) and focused on the four-branch model (Salovey & Mayer, 1997). Only the intervention participants wrote emotion diaries ( $N=19$ ). The analysis of EI using TEIQue SF (pre and post-tests) indicated no significant change in EI in intervention or control group. The themes that emerged from the thematic analysis of emotion diaries were emotion regulation and identification, self-awareness and intervention talk. From the integrative findings, it could be implied that longer intervention could have more impact, while both ability and trait instruments should be utilized in measuring EI.

Keywords: emotional intelligence, teacher education, Greece, intervention, mixed method

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# 1 INTRODUCTION

The importance of emotions or more specifically, emotional intelligence (EI) of teachers has been highlighted by various researchers both for teaching outcomes (Corcoran & Tormey, 2013) and for the wellbeing of teachers (Vesely et al., 2013). Also, the level of the teacher's emotional intelligence has been positively associated with teaching satisfaction (Yin, Lee, Zhang, & Jin, 2013), self-efficacy and negatively associated with burnout (Manju, 2017). According to researchers, emotional intelligence can be developed through proper training programs (Dolev & Leshem, 2017) and should be a part of the basic teacher preparation (Dacre-Pool & Qualter, 2012). However, there is a lack of research on the emotional intelligence of pre-service teachers (Corcoran & Tormey, 2012; Hen & Sharabi-Nov, 2014; Gilar-Corbi et al., 2018) and on the implementations of programs that could take EI into consideration. In Greece, there has not been any experimental research about student teachers' emotional intelligence even though teachers in Primary schools are experiencing stress and burnout (Danii-lidou, 2018).

This study was based on a short intervention (2 weeks) at the University of Crete in the Department of Primary Education. The research design was based on mixed methods, so the quantitative data were collected with an EI questionnaire, the TEIQue SF, before and after the intervention, while the qualitative data were collected by emotion diaries during the intervention. The aim of this study was to examine the effectiveness of the intervention, which was developed and carried out by the researcher, and to get insights from student teachers' emotions and experiences of a bachelor's program in teacher education in Greece. Chapter 2 presents the theoretical framework of EI, a review of literature about EI in education, trainings and interventions of EI and teacher education in Greece in relation to EI practices, while chapter 3 presents the research problem and questions of this study. In the following chapter (4), the research design and all the methodological aspects regarding the implementation of this study are presented and analyzed. Thereupon, chapter 5 presents the TEIQue SF results, the emotion

diary findings and the integrative insights of the study. Finally, chapter 6 presents the discussion of the findings in relation to existing literature and previous studies, including the study's limitations, further implications suggestions and conclusion.

## 2 EMOTIONAL INTELLIGENCE

This chapter examines emotion, intelligence and emotional intelligence as a concept through different theoretical lenses. Subsequently, it focuses on the theoretical framework of the study providing a definition of emotional intelligence as it is used in the study. Thereafter, there is a literature review of previous studies on emotional intelligence in education, related trainings and interventions in tertiary education and their methodological preferences and the context of teacher education in relation to emotional intelligence in Greece.

### 2.1 Emotion and intelligence

In this section, various approaches that attempt to define the concepts of emotion and intelligence will be presented. In social studies, emotion is a social construct that is associated with culture (Griffiths, 2013). Human emotion is considered fundamentally adaptive and the way we construct reality is highly emotionally based. Emotions are “fluid and complex” (Siry & Brendel, 2016) but they are vital sources of information as they tell us what is personally important. Also, they help us to survive by providing an efficient, automatic way of responding rapidly to important situations and prepare us for action (Gleaves & Walker, 2010). On the other side, intelligence has been studied as a set of intellectual capacities for abstract thinking, analysis and problem solving, from which we learn how to adapt to the environment (Zeidner, Matthews & Roberts, 2009; Mayer, Salovey & Caruso, 2004).

Since ancient Greece, there has been a division between emotion and reason, which has continued for a very long time in the fields of philosophy and psychology with many controversies (Mayer, Salovey & Caruso, 2004). Nowadays, in the fields of psychology and neuroscience, there is evidence that implies



the interconnection of these two concepts. Through the connection of those, emotional intelligence has emerged and it combines both emotion and reason (intelligence) as one feature of humans (Humphrey, Curran, Morris, Farrell & Woods, 2007).

Moreover, educating the emotions has been discussed from the time of Aristotle and the ancient Greek philosophers and continues to be of great importance (Dixon, 2012). In his overview of the history of emotions in education, Dixon (2012) focuses mostly on the eighteenth and nineteenth centuries, which he considers as the melting point. Throughout the centuries there have been opposers regarding the usefulness or need for emotions in education and invented practices with pure logic excluding all feelings. However, there were many supporters of emotions in education and nowadays emotions are in the “heart” of education (Sutton & Wheatley, 2003; Hawkey, 2006). Emotions are conceptualized as sources of information that prepare us for action and include the element of bodily feelings (Burkitt, 2019).

## **2.2 Multiple theories**

The concept of emotional intelligence has been studied as social and emotional learning, emotional literacy, emotional resilience, emotional competencies, trait emotional intelligence (Dixon, 2012) but all those concepts have many common features. By using the term “emotional intelligence” the researcher of this study refers to the abilities, traits, and competencies that fall in the category of emotions.

Throughout the literature on emotional intelligence, there have been many different approaches (Gardner, 1983; Salovey & Mayer, 1990; Goleman, 1995; Baron, 2005, Schutte et al., 1998; Petrides & Furnham, 2006; Nelis, Quoidbach, Mikolajczak & Hansenne, 2009). The breakthrough, that there is not a single form of intelligence, came from Gardner’s (1983) book introducing the multiple intelligences model, in which interpersonal and intrapersonal intelligence were a part of it. The concept of emotional intelligence became widely known through

Goleman (1995), who wanted to merge the reasoning and emotions as something that co-exist and are of the same importance. In his theory, someone who can achieve a balanced emotional-cognitive behavior has a high level of emotional intelligence and he supports that it can be developed. That was the concept of the popularized version of EI, but the roots of it reach back to the American psychologists Salovey and Mayer (1990). They have criticized Goleman's book of "Emotional Intelligence", for including in the theory all aspects of personality into the realm of emotions. They argued that emotional intelligence is clearly linked to cognitive abilities (Salovey & Mayer, 1990), although in recent years more theories have emerged (Petrides & Mavroveli, 2018; Nelis et al, 2011). Another important researcher at that time was Bar-On, who defined emotional intelligence as a group of noncognitive adaptive competencies (Bar-On, 2005). Emotional Intelligence has been a controversial topic and it seems that there is a difference between the U.S. and the European research traditions, e.g., between Mayer and Salovey in the USA and Petrides and Mavroveli in Europe. In what follows, the main features of three major approaches to emotional intelligence will be presented: Ability EI, Trait EI and Mixed theory.

### **2.2.1 Ability**

Ability emotional intelligence theory (AEI) refers to a cognitive process in which an individual is able to (Mayer & Salovey, 1997, p.10): "perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others". Emotional intelligence is perceived as a set of good skills that could be improved through will, effort, and guidance. This model of EI considers emotions as cognitive abilities that can be measured with maximum performance tests. Salovey and Mayer (1997) have developed the four-branch model of EI based on their ability theory: 1) Understanding emotions, 2) Identifying emotions, 3) Expressing and using emotions and 4) Managing emo-

tions. From understanding to managing emotions, all steps (branches) are according to personality psychological domains regarding the process of emotional functioning (Mayer, Salovey & Caruso, 2004).

The first branch refers to the “capacity to analyze emotions”, understand their roots and being able to label them. The second branch is about the perception of one’s own emotions through feelings and bodily sensations that help with thinking and problem-solving. The third branch is about recognition of others’ emotions through facial expressions or body language. The fourth branch refers to the individual’s way of managing emotions according to the personality and the social environment. The instrument that is widely used to measure emotional intelligence as an ability is the MSCEIT, which includes eight tasks, two for each branch of the model and provides the total score of the individual’s performance. (Mayer, Salovey & Caruso, 2002a) This theoretical model of the four branches has been widely used for developing interventions and trainings in teacher education or in professional development programs (Nelis et al,2009; Nelis et al., 2011). There have been many studies that consider emotional intelligence as an ability in various fields (Palomera, Fernandez-Berrocal & Brackett, 2008; Gilar-Corbi et al., 2018). However, there have been critics of this definition and the type of measurement that is being used, because it resembles the IQ testing, even though emotions are considered to be subjective (Petrides, Pita & Kokkinaki, 2007).

### **2.2.2 Trait**

Trait emotional intelligence (TEI) is connected to people’s perceptions of their emotions. Petrides and Mavroveli (2018) have noted that the term emotional intelligence itself has been wrongly defined as an ability. They have defined trait EI “as a constellation of self-perceptions located at the lower levels of personality hierarchies” that are related to personality psychology, thus traits (Petrides, Pita & Kokkinaki, 2007). According to Petrides (2011), emotional intelligence is about intuition, which comes automatically without thinking and it depends on the

context if it is going to be helpful or not. Every individual has different characteristics of EI in his personality, so it is almost impossible to generalize and say which characteristics are the best for all. It mostly depends on the person, the occupation, the environment and other features about which aspects of emotions will enhance the outcomes or the wellbeing of the individual.

Moreover, trait emotional intelligence is about people's beliefs about their emotions. Alternatively, it can be associated with Bandura's theory of self-efficacy and could be named as trait emotional self-efficacy (Petrides & Mavroveli, 2018). This concept of emotional intelligence can be measured by self-reports because it concerns the emotional self-perceptions. Measuring emotions with self-reports leads to more accurate results because of their subjective nature (Petrides, 2010). The instrument that is widely used for the trait model is the TEIQue full form or the TEIQue SF (short form). They are self-report instruments and the full-form includes 153 items, 15 facets and 4 factors (i.e., wellbeing, self-control, emotionality and sociability), while the short-form has 30 items. The short form provides scores on the 4 factors but not in the 15 facets as it has only two of each.

The factor of wellbeing refers to the facets of trait happiness and optimism, which connect to the ability to be positive and cheerful and the characteristic of self-esteem. The factor of self-control includes the facets of stress management, impulse control and emotion regulation, which concern the ability of an individual to handle emotions. The factor of emotionality has four facets: trait empathy, emotion perception, emotion expression and relationships. Those facets are referring to the ability to take someone else's position, understanding and using emotions and the ability to keep important relationships accordingly. Finally, the factor of sociability refers to the emotion management in relation to other's emotions, assertiveness and social awareness. The facets of self-motivation and adaptability do not belong in any factor but are essential traits of emotional intelligence. Trait EI has been found to predict positive and negative emotions, empathy, optimism and other personality dimensions (Stamatopoulou, Galanis & Prezerakos, 2016).

### **2.2.3 Mixed theory**

A unified theoretical model of emotional intelligence approaches has led to emotional competency theory (EC), which consists of knowledge, abilities, and traits (Nelis et al, 2011). The abilities and traits refer to the definitions mentioned above. The ability presupposes the use of emotion knowledge wisely in each context with the proper strategy and the trait refers to the tendency of the individual to behave according to the current emotions that arise. The knowledge “refers to what people know about emotions” (Nelis et al, 2011, p.354). The theory of Nelis et al. (2011) combines both the trait and ability research and suggests that they should be studied together since their findings are not contradictory but complementary.

In addition, McCrae in Bar-On and Parker (2000) support the idea of the co-existence of these two main theories since there is a small line between abilities and personality traits. Moreover, emotional intelligence has been analyzed as a broad range of abilities, traits and skills with either self-report measures or other evaluation models (Bar-On, 2005; Goleman, 1995). In prior studies (Nelis et al., 2009; Nelis et al., 2011) researchers have used the theory of abilities from Mayer and Salovey to develop the content of the intervention while they use the Trait Emotional Intelligence Questionnaire to measure the self-perceived emotional intelligence of their participants, together with other instruments. Furthermore, researchers have been using the terms emotional competence and emotional intelligence interchangeably throughout the studies. In this study, the term “emotional intelligence” is conceptualized as the abilities, traits, and competencies that fall into the category of emotions.

## **2.3 Emotional intelligence in education**

Teacher’s emotional manifestations have an impact in the classroom and the students. Developing a tolerance of ambiguity is needed and all teachers nowadays are expected to be adaptive, flexible and innovative. Emotions play a vital role in

the learning process and teachers can influence students' emotions with engagement and enthusiasm (Bar-On & Parker, 2000). It is of high importance to build a culture of trust in the classroom and in order to be able to control emotions and behaviors first it is essential to be able to identify and understand them. This is called awareness of emotions or mindfulness, the cognitive understanding of someone's behavior. Suppressing or repressing emotions does not lead to managing the emotions, because we are not true to ourselves (Bar-On & Parker, 2000). Acceptance, understanding and then managing are more effective ways to handle emotions in a meaningful way.

In Yin et al. (2013) study on Chinese schoolteachers ( $N=1.281$ ), some findings indicate that teacher's emotional intelligence is related to their teaching satisfaction. In addition, they argue that pre-service teachers have shown low scores on EI in previous studies. Also, the findings of Vesely et al. (2013) support the notion that characteristics of a successful teacher combine both knowledge competencies and emotional abilities. The authors explore the connection between emotional intelligence, teacher effectiveness in professional life and psychological health in personal life. The purpose of the study was to understand how the emotional intelligence of teachers affects their teaching competence and the interaction and achievement of their students in the classroom.

The importance of teachers' emotional intelligence has been highlighted by various researchers for both teaching outcomes (Corcoran & Tormey, 2013) and teachers' wellbeing (Vesely et al., 2013). In addition, the level of the teacher's emotional intelligence has been associated with teaching satisfaction (Yin et al., 2013), self-efficacy and burnout (Platsidou, 2010). It has been found that there is a negative correlation between trait emotional intelligence and burnout (Mikolajczak, 2007), but a positive connection of trait emotional intelligence with creativity (Sánchez-Ruiz, 2011). According to Geher's study (2017, p.19), "there is an important link between the ability to know others' feelings and the ability to create products that others find amusing". This study was focused on the connection between emotional intelligence and creativity. Some previous research on crea-

tivity found that few facets of emotional intelligence may predict markers of creativity (Parke, Seo, & Sherf, 2015) as cited by Geher (2017). In addition, in Sánchez-Ruiz's (2011) study on the relationship of trait emotional intelligence and creativity the results were also similar to Geher's. This study is focused on two domains of creativity, divergent thinking and creative personality which were predicted successfully by the trait emotional intelligence. One of the key results was that emotionally unstable individuals tend to be more creative.

Regarding teacher-students' education programs, Hawkey (2006) conducted a review on emotional intelligence and mentoring. In his study, he provided examples of different negative emotional experiences of teachers in the classroom that lead to negative associations with their students. One of those examples was that stress causes problems with working memory and makes teachers more vulnerable, and they found it harder to cope with challenges in class. In the study, Hawkey (2006) was supporting the idea that positive emotions can generate more ideas, which is a crucial part of the creative process. In conclusion, he argues that the concept of EI is still "young" and needs to be researched in the light of pre-service teacher education.

Palomera et al. (2008), argue that in order to teach and promote competencies to students, the teachers need to have acquired specific knowledge and enhanced their own well-being so that they can support their students. With their study, they recommend including emotional intelligence in the teacher training programs of teacher education departments. They support that identification, understanding and regulation of both negative and positive emotions of teachers are the keys to a good teaching experience for both teachers and students. Moreover, they identify the need for explicit inclusion of training in emotional competencies throughout teacher education. In addition, Dolev (2016) proposes that emotional intelligence can be developed through teacher training programs and it has a great impact on effective teaching, self-awareness, and relationships in the classrooms.

## 2.4 Emotional Intelligence trainings and interventions

Nelis et al. (2009) conducted a controlled experimental design study in order to examine if it is possible to increase university students' EI. The theoretical framework of the study was based on their theory of emotional competence which includes abilities, traits and knowledge as different parts of the same concept. Their intervention was 4 weeks long (N=37), was developed by the theory of ability model and consisted of lectures, role-playing activities, discussions, readings and an emotion diary. They used 6 measures to assess different branches of emotional intelligence with both ability and trait measures. For the trait model, they utilized the TEIQue to measure the global trait score. Regardless of the short period of the intervention, students showed a significant increase in trait EI, emotion identification and emotion management, which remained significant for 6 months after. In their article, they provided the outline of the intervention design for each session with few details.

Nelis et al. (2011) conducted two additional follow up studies. These studies were aimed at exploring whether the changes of EI remain long-term and if they affect other factors such as personality, wellbeing, health, social relationships and work success. In the first study (N=58) they did three 6-hour sessions, based on the same framework as their previous study, with a control group, which showed significant results in changing personality traits. One of their key findings was that "The more participants learned to understand and manage their emotions, the more sociable and emotionally stable they became." (p.358). Their second study (N=92) was a replicate of the first intervention, three 6-hour sessions, with the addition of another active control group that was participating in drama improvisation. Nine measurements were used to explore the trait EI, emotion regulation, somatic complaints, mental disorders, happiness, life satisfaction, social functioning and employability. Their results showed significant development of EC of the trainees and no difference in either of the control groups. They included in their article the outline of the interventions which was akin to the previous study of Nelis et al. (2009).



Further, in Dacre-Pool's and Qualter's (2012) study the aim was to improve university students' EI and self-efficacy with an intervention design. The framework of their intervention was based on Nelis et al. (2009) tripartite model that includes traits, abilities and knowledge. The study's intervention consisted of eleven sessions of 2 hours each (N=134) and the outline was inspired by Nelis design. Their results showed a significant increase in understanding and managing emotions and self-efficacy for the intervention group and a smaller increase for the control group. No significant results were found for the perceiving and using emotions which they addressed as a problematic area in the concept of ability model. Commenting on the non-significant findings for emotion understanding on Nelis et al. (2009) study, they noted that longer interventions are needed to show a positive change in this sphere. Concluding the study, they mentioned that although personality traits have been found to be stable across time, they might be "malleable" to change from such targeted interventions.

The aim of Hen's and Sharabi-Nov's (2014) study was to examine the prediction of empathy through EI and explore primary teachers' experiences (N=186), through their reflective writing. The study followed a mixed-method, pre-post, quasi-experimental design, accompanied by a reflective journal, to evaluate a 56-hour training based on the four-branch model of ability EI. They used two measures regarding the EI and the interpersonal reactivity in addition to reflective questionnaires. The findings showed an increase in EI and more specifically self-introspection, self-awareness, emotional awareness, emotional regulation, understanding others. They also included an outline of their intervention with the topics, strategies and activities which consisted of lectures, readings, discussions, reflective diary, case studies and role-playing activities. Regarding the diaries, their findings indicated that reflective practices may enhance teachers' emotional intelligence and self-awareness.

Moreover, in their study, Dolev and Leshem (2017), explored teachers' experiences and attitudes of a 2-year EI training as part of the school's program of professional development. The training structure was based on the Bar-On model and was carried out by EQ-i experts. The study followed a qualitative design with

in-depth interviews of secondary school teachers (N=21). Through the method of thematic content analysis, the main findings showed increased self-awareness, EI development and awareness of the concept of emotional intelligence. In conclusion, they added that the main aim of the intervention which was enhancing teachers' wellbeing and effectiveness was visible and the outcome of the study indicates the positive impact of such trainings for the teaching profession.

In addition, Gilar-Corbi et al. (2018) performed a quasi-experimental study with a pre/post-test design, which included an eight-session intervention of 192 participants of primary school teaching master's degree. The intervention included theories of intrapersonal EI and self-perception, interpersonal EI, adaptability and decision-making, general mood and self-expression, stress management, emotional understanding and emotion management, through the lenses of the ability theory. Their results showed a significant development of students' EI after the training. They concluded that university is an ideal environment for such interventions that can be carried out "within the curriculum" and with benefits for students' general academic performance.

In a recent study, Kotsou, Mikolajczak, Heeren, Grégoire, and Leys (2019), reviewed emotional intelligence interventions in various fields with both ability and trait frameworks. Most interventions or trainings that they examined, used trait measurements and had a significant increase in their results except four studies. One of their findings was that interventions with EI-based content are more effective over short periods of time. Regarding the participants' development, they noted that low-scorers are benefited more than the high-scorers of EI and show greater and more significant changes in their post scores. (know many)

All things considered, many researchers argue that emotional intelligence can be developed through proper training programs and is an important skill for the teaching profession (Nelis et al. 2009; Nelis et al. 2011; Dacre-Pool & Qualter, 2012; Hen & Sharabi-Nov, 2014; Dolev & Leshem, 2017; Gilar-Corbi et al. 2018; Kotsou et al., 2019). However, there is a lack of research on the emotional intelli-

gence of pre-service teachers (Corcoran & Tormey, 2012) and on the implementations of programs that could take emotional intelligence into consideration in the level of primary teacher education.

## **2.5 Teacher education and emotional intelligence in Greece**

In the Greek context, there has not been any research on university students' emotional intelligence accompanied by an intervention. Arguing that the teaching profession is connected to high levels of stress and burnout among Greek primary teachers (Daniilidou, 2018), this study contends that emotionally intelligent teachers can alter their emotional responses to difficult situations and regulate their own as well as others' emotions through intensive training. According to a study made by Alexopoulou (2018), the concept of emotional intelligence is mentioned in all the primary education bachelor's degree study plans in Greece. However, in these eight universities across Greece, it was found that emotional intelligence was unequally present in the curriculum. Moreover, even in the courses that included emotional intelligence, it was not explicit in the study that the concept was actually taught.

An extended study by Hatzichristou and Lianos (2016) on the social and emotional learning interventions across Greece shows promising results of the projects that had been conducted. However, the focus in all of the programs, trainings and interventions is on students rather than student-teachers. It is highlighted in all the mentioned projects and studies that the main target population is students, and, in some instances, teachers are included in the focus just as the means to support the students' wellbeing and socio-emotional skills. Even though it is argued in most studies that teachers play an important role in this process they do not acknowledge the fact that teachers might have the same needs in terms of emotional support. As it has been studied in other contexts teacher's emotional intelligence can have a great impact on their wellbeing and their teaching profession so the need to support and promotion of it is evident.

In addition, Zervas (2016) argues that all candidates of teacher education departments across Greece go through the same process of studies since they follow the same national curriculum. However, this is not actually happening in practice given that each university offers different courses or levels of teaching practice and has a very different curriculum. Especially in the latest years, because of the economic crisis there are far fewer courses and school practices offered by the universities. Moreover, according to Zervas (2016), the national curriculum of teaching has as a first guideline of its humanistic approach the goal of developing the intellectuality, emotionality and morality of students. As has been stated in other articles as well (Palomera et al., 2008), for teachers to impart these skills to their students they need first to acquire them in their teaching education.

### 3 RESEARCH PROBLEM AND QUESTION

Although emotional intelligence is included in the curriculum of teacher education programs across universities in Greece, there is limited information on how the emotional intelligence of prospective teachers and whether it can be supported by a focused intervention. In this quasi-experimental study, the researcher is attempting to implement an intervention with explicit content of emotional intelligence to students of a primary teacher education bachelor's program at the University of Crete. This study investigates an emotional intelligence training intervention and explores the following research questions concerning university student teachers of primary education:

1. Does an intervention with a focus on EI development affect student-teachers' trait emotional intelligence (focus on quantitative questionnaire)?
2. How do student-teachers describe and analyze their daily emotions during the intervention (focus on qualitative emotion diaries)?
3. To what extent do the TEIQue SF results agree with the student-teachers' emotion diaries findings?

## 4 IMPLEMENTATION OF THE STUDY

This chapter focuses on the methodological aspect of the research by providing detailed information on how the research was planned and carried out. First, the research design with the rationale is presented followed by the participants' information and the intervention design. Meanwhile, the processes of data collection and data analysis are presented and finally, the quality of the study is explained through the lenses of reliability, validity and ethical considerations.

### 4.1 Research Design

This study follows a quasi-experimental (pre/post-test) mixed-method research design. More specifically, regarding the analysis of the mixed method findings, the convergent design is employed. As Creswell and Plano Clark (2018) note, the true value of mixed-method research designs stands on the integration analysis phase. Likewise, according to Schutz, DeCuir-Gunby and Williams-Johnson (2016), using multiple research methods provides a holistic understanding of the phenomena with various perspectives. We can thus examine a phenomenon in a complete and holistic way with the integration of both methodologies (Leavy, 2017). Johnson, Onwuegbuzie and Turner (2007, p. 119) define mixed method as:

An approach to investigating the social world that ideally involves more than one methodological tradition and thus more than one way of knowing, along with more than one kind of technique for gathering, analyzing, and representing human phenomena, all for the purpose of better understanding.

In connection to the above definition of mixed methods research, Leech and Onwuegbuzie (2009) have grouped similar designs as fully or partially mixed-method.

This study follows a fully mixed method design in which both quantitative and qualitative worldviews, inquiries, data collection methods and analyses are used and integrated for the final findings of the study. The quantitative data illustrate the statistical significance regarding the effectiveness of the intervention

and the qualitative data are used to complement the quantitative data by giving the context and more insights on their experiences. The rationale of convergent designs is to combine the statistical results with the personal experiences from the qualitative findings. This method is used to bridge the gap between the worldviews of objectivity and subjectivity and between epistemology and ontology. For this reason, the theory of critical realism is applied in the study in order to integrate realist ontology and constructivist epistemology. Critical realism moves beyond the division of neo-liberal societies regarding the research worldviews and attempts to terminate the dichotomies and provide a holistic educational research approach (Creswell & Creswell, 2018; Ercikan & Roth, 2008). According to this theoretical approach, the quantitative results and the qualitative findings will be connected to provide further insights into the intervention and student-teachers' emotional intelligence related to the mixed theory of emotional intelligence.

## **4.2 The Participants**

At the beginning of the study, the participants were expected to be sixty ( $N=60$ ) in total, with half in each group (intervention, control). From the intervention group, some participants did not come to the sessions at all or they came for one of the two ( $N=9$ ). From the control group, some participants did not answer both or any questionnaires so they could not be included for the analysis ( $N=9$ ). The participants who fully participated in the study were forty-two ( $N=42$ ) university students who were studying their bachelor's degree in Primary Teaching Education at the University of Crete. Half of the participants ( $N=21$ ) were in the intervention group while the other half ( $N=21$ ) was the control group. In the intervention group all the participants were female, and in the control group were 16 females and 5 males. The average age of the intervention group was 21.4 years and the control 21.6 years. The students were already grouped naturally in each of the seminars, which were part of their curriculum. However, due to time limita-

tions, it was a nonrandom selection of the students in each group. The participants of the control group were not given any material or instruction concerning emotional intelligence. They were only asked to fill the questionnaire on EI (i.e. TEIQue SF) on the same timeline (before and after the study) as their peers. The participants of the intervention group completed the same questionnaire and, in the meantime, went through the intervention described in the following chapter. The demographics of all participants are shown in Table 1 below.

Table 1. Participant Demographics

Characteristics	Experimental	Control
N (pre-test)	21	21
N (post-test)	21	21
Gender (female-male)	21-0	16-5
Age (years)	21.43	21.62
Teaching experience	2.05*	1.24*
Other degree	2.00**	2.00**

Note. N = Number of participants.

\*teaching experience: 0=none, 1=1-5 months, 2=6-10 months, 3=11 or more

\*\*other degrees: 1=yes, 2=no

### 4.3 The Intervention Design

The intervention consisted of two sessions of two hours each, over a period of two weeks. These sessions were integrated into a regular seminar that was included in the curriculum. The researcher, who followed the general guidelines of two previous studies by Nelis et al. (2009) and Nelis et al. (2011), designed the intervention plan for this study. The material that was added by the researcher was taken from related university courses and workshops in psychology that the researcher had taken part and other intervention designs from many scientific articles (Mulle, 2016; Pool, 2012; Broderick, 2013; Gregersen, MacIntyre, Finegan, Talbot & Claman, 2014; Dolev & Leshem, 2017 and more). All the materials, including the videos, were translated in the participants' and the researcher's



mother tongue, in Greek. The pedagogical principles of the intervention were increasing motivation and self-efficacy, fostering the belief of change, self-confidence, experiential learning, self-awareness, introspection, self-reflection, positive feedback and having humor during the intervention to create a friendly and accepting environment.

The intervention plan consisted of four main thematic areas: 1) Understanding emotions, 2) Identifying emotions, 3) Expressing and using emotions and 4) Managing emotions. The four areas represent the four-branch model of emotional intelligence ability theory that was developed by Mayer and Salovey (1997) and has been used as the basic model in various interventions (Nelis et al., 2009; Nelis at al., 2011). The outline of the intervention program is in the Appendices (number 2) and the design of the intervention is shown in Table 2 below.

Table 2. Research design

Group A	O	X	O
Group B	O		O

x = intervention, o = testing. Adapted from Creswell & Creswell, 2018, p.168

The first session focused on the first and second areas of emotional intelligence, which is identifying and understanding emotions. At the beginning of the intervention consent forms and privacy notices were provided and explained to the participants. There was a short introduction to assure a friendly environment so that the participants would feel welcome and safe to share or express any uprising emotion or thought. This session included PowerPoint presentations and group discussions of the theories of ability, trait and mixed EI, a video about emotions (Alfred and the Shadow), and game-based, experiential activities using the Mahti emotion cards in groups of 2, 3 and 4 persons. The Mahti emotion cards, which are available online for free (<https://www.tukiliitto.fi/tukiliitto-jahdistykset/kehittamistoiminta/paattyneet-hankkeet/mahti-projekti/mahti-tunnekortit/>), were used to support the identification, labeling and expression of

emotions. At the end of the first session, the participants were asked to keep an emotional experience diary with at least four entries, until the end of the intervention, where they would analyze the main emotions of their day, in the light of the theories presented. Moreover, as homework, they were asked to watch the film *Inside Out*, which is an award-winning animation movie about emotions that provides well-presented insights of how emotions work and ways of managing and regulating them.

The second session aimed at the third and fourth branches of emotional intelligence, expressing, using and managing emotions. More specifically, it contained material and theories of emotion expression and empathy by using an explanatory video and group discussion. In the same phase, there was information on how to use emotions according to situations and about empathic and active listening which was explained through video and was discussed further in class with examples. Moreover, in the last section, about managing emotions, we examined methods and strategies of emotion regulation according to the study by Thayer, Newman, & McClain (1994) such as emotional acceptance, distancing, cognitive reappraisal and examples of promoting positive thoughts with connection to the positive psychology theories and practical experiential exercises through mindfulness (Broderick, 2013). One of the activities about positive psychology was to write in a paper three good things that happened today. That has been used in positive psychology interventions as a way to re-focus on the positive aspects of life (Gregersen, MacIntyre, Finegan, Talbot & Claman, 2014). We watched a video about how and why to use mindfulness for emotion regulation and then we practiced one exercise of mindfulness through meditation, which was focused on breath and thinking flow that was inspired by Broderick's (2013) exercise: "Body scan". According to Jon Kabat-Zinn (2005) in Zembylas and Schutz (2016), "mindfulness means paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (p. 4). Practicing mindfulness, improves the awareness and regulations of ones' own emotions. After the exercise, there was a wrap-up of the whole intervention and the participants had

the time to ask questions and initiate discussion on any topic they found interesting.

## 4.4 Data Collection

### 4.4.1 Trait Emotional Intelligence Questionnaire-Short Form

To examine the effectiveness of the intervention, the quantitative data were collected with Trait Emotional Intelligence Questionnaire-Short Form (TEIQue SF, Greek version), which was developed by Petrides and Furnham (2006). This shorter version (30 items) is taken from the full TEIQue (153 items) that was made for usage in cases of research with time limitations. The questionnaire has a Likert style scale from 1 (Completely Disagree) to 7 (Completely Agree) and it is a self-report instrument (see Appendix 3). It provides scores on four factors (wellbeing, self-control, emotionality and sociability) and on global trait EI, the total score of an individual's trait emotional intelligence. The factors of wellbeing, self-control and sociability have 6 items each, the factor of emotionality has 8, and there are 2 items that are independent but yield scores for the global TEI. The short form questionnaire includes 2 items of each of the 15 facets that are included in the full form, but the short version does not provide scores for these. An example of an item from the wellbeing factor is: *"I generally believe that things will work out fine in my life. [Πιστεύω ότι γενικά τα πράγματα θα εξελιχθούν καλά στη ζωή μου.]* (number 27) and for the self-control: *I'm usually able to find ways to control my emotions when I want to. [Συνήθως μπορώ να βρω τρόπους να ελέγξω τα συναισθήματά μου όταν το θέλω.]* (number 19). Trait emotional intelligence questionnaire findings have shown positive correlations with life satisfaction and happiness, which is an important factor for student teachers' wellbeing (Vesely et al., 2013). According to Pekrun (2016), self-report is the preeminent method when assessing human emotions. Self-reports align with the idea of the subjective emotional experiences of humans, in which only the person experiencing an emotion can provide insights for it.

#### **4.4.2 Emotion Diaries**

To explore the participants' emotional intelligence throughout the intervention, participants were asked to keep emotion diaries. The emotion diaries were used as both a learning and development tool for the intervention and as a data collection method. The use of diaries was to promote introspection, identification and understanding of one's own emotions and as a reflective practice to increase self-awareness and consciousness of feelings (Dolev & Leshem, 2017). Furthermore, the diaries were used to complement the use of the self-report, concerning the exploration and understanding of their experiences and emotions from a reflective perspective. The students were asked to write at least four entries, each for a different day, in which they would analyze their daily emotional experiences from their point of view in approximately 200 words each. The researcher was not planning to provide further information on the content of the emotional diaries in order not to affect their inputs. The only example that was given about the emotion analysis was about how it makes you feel when you are feeling it, both in body sensations and thoughts. From the intervention group ( $N=21$ ), most of the participants wrote emotion diaries ( $N=19$ ). Thus, the emotion diaries were used in this study both as a part of the intervention, to increase participants' emotional intelligence, and as a data collection method to complement self-report data.

### **4.5 Data Analysis**

#### **4.5.1 Trait Emotional Intelligence Questionnaire-Short Form**

The quantitative statistical analysis was performed using IBM SPSS 24 and statistical data analysis experts were consulted. Five independent samples t-tests were conducted to examine the differences of trait EI between the pre-tests and the post-tests of the intervention and the control group in global trait EI and the four factors. Altogether five repeated measures analyses of variance (ANOVAs) were conducted with global trait EI and four factors as dependent variables, with

group (intervention, control) as the between-subject factor and time (pre-test, post-test) as the within-subject factor. At the beginning of the analysis, the internal consistency of the global TEI pre-test and post-test scores of the TEIQue-SF (Greek version) were examined with Cronbach alphas and they were satisfactory (.77) and (.85) respectively. Moreover, the Cronbach alphas of the four factors were examined for the pre-tests and post-tests, and they were good or marginally satisfactory, except for the pre-test of emotionality, which was very low (.48; see Table 3).

Table 3. The Cronbach alphas of the 4 TEI factors

Factor	Time	Cronbach alphas
Wellbeing	Pre-test	.79
	Post-test	.83
Self-control	Pre-test	.69
	Post-test	.74
Emotionality	Pre-test	.48
	Post-test	.70
Sociability	Pre-test	.65
	Post-test	.63

#### 4.5.2 Emotion diaries

The emotion diaries were analyzed through the lenses of qualitative thematic analysis with an abductive approach. Thematic analysis shares many similarities with content analysis and they both follow the “process of coding, examination of meaning, interpretation and theme development” (Vaismoradi, Jones, Turunen & Snelgrove, 2015). According to Braun and Clarke (2006) thematic analysis is a flexible approach to qualitative analysis in psychology, and it is also widely used in the field of education. Moreover, Creswell and Creswell (2018)

propose the use of this analysis in mixed-method studies with experimental designs, because of the flexibility in relation to the chosen worldviews. In this study, thematic analysis is suitable for analyzing the qualitative data through the lenses of critical realism, by positioning the researcher “between the two poles” of realist ontology and constructivist epistemology (Braun & Clarke, 2016; Creswell & Creswell, 2018). Furthermore, with the abductive approach, the researcher focuses interchangeably between the data and the existing theories, while contrasting and interpreting in order to identify patterns and form the “best possible explanation” (Flick, 2018).

The steps of thematic analysis that the researcher followed were: 1) Familiarizing with data, 2) Code generation, 3) Theme searching, 4) Theme reviewing, 5) Theme defining and naming and 6) Reporting the findings (Braun & Clarke, 2006). For familiarization, the researcher first transcribed the data in separate Word documents (Book Antiqua, 12, 125 – 743 total words each participant). Moreover, each diary was read multiple times while taking notes. The students’ diaries were explored and analyzed with an abductive approach in relation to the concept of emotional intelligence understood in the study as ability, trait and knowledge. During the code generation, data excerpts were underlined and commented upon, while a researcher diary was maintained to monitor and guide the process. At the same time, the researcher revisited the related theories in each step to increase the understanding of the data and the way they could be organized while being open to include the emerging themes. In the process of theme searching, the codes were gathered and grouped in separate files using Excel 2016, according to their relevance. The codes were in English; Greek as the researcher’s native language helped with identifying direct and latent meanings in the data and with choosing the most representative codes in English. Next, the researcher reviewed and examined the codes in relation to the excerpts and the themes as well as the theories. For the final organization of the themes, the researcher used different online tools (e.g. word cloud and thematic maps) for a clearer visual representation of the overall analysis (see Appendix 5). Each theme with the codes and the data extracts was organized in separate Excel files. After

the final categorization of themes, the researcher reflected on the process and the theories interchangeably. At the end of the analysis process, the most representative extracts were selected to be included in the findings.

### **4.5.3 Integration procedures**

Following the convergent mixed method integrative procedures as suggested by Creswell and Plano Clark (2018), the researcher merged the data results using the method of typology development. In this method, the categories from one data set results are utilized as a framework to examine the connections to the other data set findings. In this study, the structure of the TEIQue SF was used as a framework and the categories were the questionnaire's factors: wellbeing, self-control, emotionality and sociability. In order to examine the agreement of the qualitative data towards the quantitative findings, common concepts from these categories were analyzed in the light of the TEIQue SF's framework. The comparison of the joint results was carried out to confirm or expand the understanding of each data findings. The findings from the integration analysis were displayed in a narrative format, which is the most common approach for merged results representation (Creswell & Plano Clark, 2018).

## **4.6 Reliability, Validity and Trustworthiness**

Various studies have examined the TEIQue SF's reliability and validity in different cultural contexts including Greece. For instance, Cooper and Petrides (2010) reported findings in relation on psychometric properties of the questionnaire. In both of their studies, the instrument had good measurement precision, according to the results of the IRT analysis and satisfactory Cronbach alphas' ( $R=.87-.89$ ). The means of men and women of these studies ranged from 4.94 (.67) to 5.18 (.68) (in the scale of 1-7). In the context of Greece, a study performed by Stamatopoulou et al. (2016) regarding the psychometric properties of the TEIQue SF (Greek version) with Greek samples, found an excellent internal consistency on the total

score and satisfactory consistency for the factors' scores. The results of this study showed that the Greek version of TEIQue-SF is valid and reliable with Greek samples. In this study, the means for the total score of TEIQue SF (Greek version) was 4.83 (.79), for the wellbeing factor 5.06 (1.08), for the self-control factor 4.35 (.98), for the emotionality factor 5.02 (.86) and for the sociability factor 4.56 (1.06). In addition, in a study for the validity of the full TEIQue form, Andrei, Siegling, Aloe, Baldaro and Petrides (2016) argue that the short form is mostly used to measure the total score of TEI and the factors scores have the minimum reliability. For the present study, although most of the Cronbach alphas were good or marginally satisfactory, the one for the pre-test emotionality factor was low (.48). However, the exclusion of one item from this factor would not have any significant effect on the factor's Cronbach alpha (from .48 to .52), so the original items included in the scale.

To ensure the trustworthiness of the study regarding the qualitative part, the concepts of credibility, dependability and transferability were considered (Graneheim & Lundman, 2004; Nowell, Norris, White & Moules, 2017). Starting from the point of credibility, reflective emotion diaries have been considered as essential methodological tools for the representation of participants' inner emotional experiences and worldviews and have been used to evaluate similar programs (Hen & Sharabi-Nov, 2014; Shek, 2010). Especially in the cases of intervention studies, reflective diaries provide researchers the depth of information and the insights that could not be found in a quantitative measure if it would be used alone (Nelis et al., 2011). Moreover, the amount of data that was gathered with the emotion diaries was very satisfactory and many meaning units were identified. Although through the process of condensation or abstraction there is a risk of losing some meanings, the researcher was careful to ensure the best possible inclusion of the related meaning units into the themes (Graneheim & Lundman, 2004). The researcher had a prolonged engagement with the data in the data analysis phase. The method of researcher triangulation was also employed to ensure the credibility of the thematic analysis findings throughout the process. As Guba and Lincoln (1989) suggest there are multiple methods to achieve credibility and



researcher triangulation is one of them. The researcher was actively and systematically meeting other researchers related to the field of education and emotions, to get further feedback for the process and receive an external check in each step of the thematic analysis.

Furthermore, to achieve dependability the researcher documented each step of the analysis process in a word document (Nowell et al., 2017). This journal helped the researcher to remember the analysis process and to reflect repeatedly. Reflexivity helped the researcher to maintain the self-critical focus while moving forward in each step of the analysis. In addition, to fulfill the notion of transferability, the researcher provided detailed descriptions of the intervention design, the data collection and analysis process, the participants' demographics and the general context of teacher education regarding emotional intelligence (Graneheim & Lundman, 2004).

Based on the description above the analysis process seems to be linear, but according to Nowell et al. (2017), it is in fact “iterative and reflective” and it is developing in a multidimensional way across time and space. The way that the researcher has chosen to provide meaning in the themes through the thematic analysis process, may have the potential to be biased by the values and beliefs of the researcher because of the subjective reality of interpretation (Creswell & Plano Clark, 2018). For this reason, the researcher acknowledges the inherent subjectivity of human understanding regarding emotions and their nature which also applies to herself.

#### **4.7 Ethical Considerations**

Regarding the research ethics of this study, the researcher followed all legal procedures towards the data collection and possession as Creswell and Plano Clark (2018) propose. The permission to conduct the study in the University of Crete was given by one university professor that the researcher was in contact with. A consent form was given to the participants prior to the intervention, which was signed by both the participants and the researcher, while a copy was provided to

each for any further use (see Appendix 1). A privacy notice was also given to all participants, with detailed information about the subject of the study, the purpose, the duration, the procedures, the possible advantages, the voluntary aspect, the confidentiality, their rights as subjects of research and their information storing/archiving process. Both the consent form and the privacy notice were built based on the templates and the guidelines of the University of Jyväskylä. The translation of these documents in Greek was carried out by the researcher, in collaboration with other Greek bilingual (Greek-English) individuals. The personal information of the participants was kept only for the purpose of matching the questionnaires with their emotion diaries and were archived after this action for possible future research with code identifications. In the questionnaires and the emotion diaries, the names of the participants were deleted; identification numbers were randomly assigned from 1001 to 1021 for each group (intervention, control). There was no potential physical, emotional or psychological harm for the participants throughout the process of the study.

## 5 RESULTS

In this section, the experimental results from the questionnaire, the qualitative findings from the emotion diaries and the convergent findings are presented and examined in detail. Each of the sections below (5.1, 5.2. and 5.3) answer the research question 1, 2 and 3 accordingly. For the quantitative part of the study, the theory of trait emotional intelligence was elaborated and the data were analyzed with statistics using IBM SPSS 24. For the qualitative part, the researcher utilized the mixed theory of emotional intelligence (Nelis et al, 2011) that includes traits, abilities and knowledge and analyzed the emotion diaries with an abductive thematic analysis approach. For the last subchapter, the mixed method findings were connected and examined according to their commonalities as Creswell and Plano Clark (2018) have suggested for convergent mixed-method designs.

### 5.1 Trait Emotional Intelligence Questionnaire-Short Form

In order to assess the effectiveness of the emotional intelligence intervention in this study, 5 independent samples t-tests and 5 repeated measures ANOVA were conducted. Using a scale from 1 to 7, the levels of trait emotional intelligence of student-teachers' in average, according to the TEIQue SF, appeared to be relatively high for the intervention group ( $M = 4.89$ ,  $SD = .55$ ) and the control group ( $M = 4.99$ ,  $SD = .54$ ).

#### Pre-Test and Post-Test Group Comparisons

Five independent samples t-test were conducted to determine if there was a difference in the mean of pre-tests and post-tests scores on global TEI and the four factors (i.e., wellbeing, self-control, emotionality and sociability) between the intervention ( $N = 21$ ) and the control group ( $N = 21$ ). The total pre-test scores of the

intervention group were not significantly different than the control's group total pre-test scores ( $t(40) = -.56, p = .57$ ). Similarly, the total post-test scores of the intervention group were not significantly different than the control's group total post-test scores ( $t(40) = -.75, p = .46$ ). Likewise, the pre-test scores of the intervention and the control group regarding the factors of wellbeing, self-control, emotionality and sociability were not significantly different from the post-test scores. The effect size was small (.18) for this study, according to Cohen's criteria,  $p \leq .2$ . The 95% confidence interval for the difference between the means of the pre-tests was -.43 to .24 and for the post-tests -.50 to 0.23. The means, standard deviations and the t-test results of each group are reported in Table 4.

Table 4. Sample descriptives using t-test for equality of means

	Time	Intervention M (SD)	Control M (SD)	t-test
Wellbeing	Pre-test	5.21 (.94)	5.54 (.81)	$t(40^*) = -1.22$
	Post-test	5.15 (.99)	5.56 (.79)	$t(40^*) = -1.48$
Self-control	Pre-test	4.19 (.79)	4.25 (.78)	$t(40^*) = -.26$
	Post-test	4.08 (.64)	4.11 (.95)	$t(40^*) = -.12$
Emotionality	Pre-test	5.13 (.77)	4.97 (.73)	$t(40^*) = .71$
	Post-test	5.08 (.96)	4.98 (.62)	$t(40^*) = .42$
Sociability	Pre-test	4.65 (.65)	4.72 (1.00)	$t(34.52^*) = -.27$
	Post-test	4.49 (.71)	4.76 (.68)	$t(40^*) = -1.24$
Total TEI score	Pre-test	4.89 (.55)	4.99 (.54)	$t(40^*) = -.56$
	Post-test	4.80 (.66)	4.94 (.51)	$t(40^*) = -.75$

Note. M = Mean. SD = Standard Deviation  
\*degrees of freedom

### Repeated measures ANOVA for global TEI and the 4 factors

A repeated-measures ANOVA was conducted to evaluate if there is any difference between the pre-test and the post-test scores on global TEI of the intervention and the control group (see Figure 1). Results of the ANOVA showed no significant within time effect (pre-tests, post-tests), ( $F(1, 40) = 1.79, p = .18$ ), multivariate partial eta squared = .04, and no level difference between the groups, ( $F(1, 40) = .47, p = .49$ ). There was also no interaction effect among time\*group ( $F(1, 40) = .17, p = .68$ ), multivariate partial eta squared = .004.

Furthermore, four additional tests of repeated measures ANOVA were conducted to examine if there is any significant effect between the pre- and post-test scores of the intervention and the control group, on the TEI factors of well-being, self-control, emotionality and sociability. The descriptive statistics with the means and standard deviations of each group are reported in the Table 4 above. For the well-being factor, results showed no significant effect within time ( $F(1, 40) = .72, p = .79$ ), multivariate partial eta squared = .002, and no level difference between groups ( $F(1, 40) = 2.04, p = .16$ ). Moreover, there was no interaction effect between time\*group ( $F(1, 40) = .20, p = .66$ ), multivariate partial eta squared = .005. For the self-control factor, results showed no significant difference within time ( $F(1, 40) = 1.19, p = .28$ ), multivariate partial eta squared = .029, and no level difference between groups ( $F(1, 40) = .46, p = .83$ ). Moreover, there was no interaction effect between time\*group ( $F(1, 40) = .02, p = .88$ ), multivariate partial eta squared = .001.

In addition, for the emotionality factor, results showed no significant difference within time ( $F(1, 40) = .03, p = .86$ ), multivariate partial eta squared = .001, and no level difference between groups ( $F(1, 40) = .39, p = .53$ ). Moreover, there was no interaction effect between time\*group ( $F(1, 40) = .08, p = .77$ ), multivariate partial eta squared = .002. For the sociability factor, results also showed no significant difference within time ( $F(1, 40) = .44, p = .50$ ), multivariate partial eta squared = .011, and no level difference between groups ( $F(1, 40) = .58, p = .44$ ). Moreover, there was no interaction effect between time\*group ( $F(1, 40) = 1.23, p = .27$ ), multivariate partial eta squared = .030.

Concluding from the t-tests and the repeated measures ANOVA analysis, the intervention appeared not to affect significantly the level of global TEI or its four factors for either of the groups (intervention and control, see Figure 1).

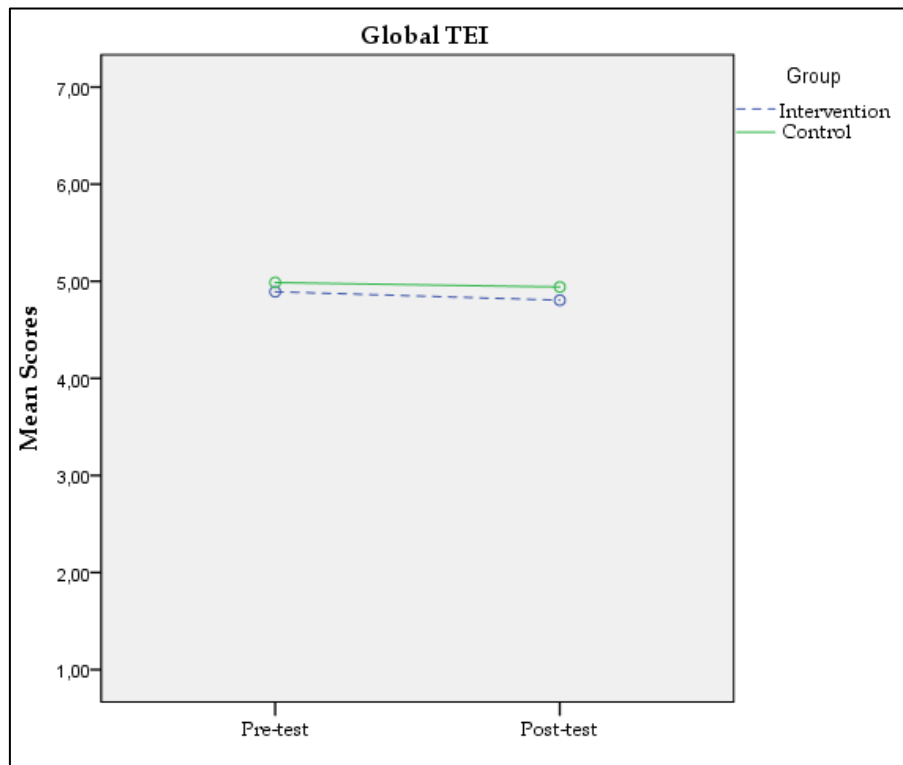


Figure 1. Group comparisons on the Global TEI from Pre-test to Post-test

## 5.2 Themes from emotion diaries

Four major themes emerged from the thematic analysis of student-teachers' emotion diaries. The themes presented in this chapter are emotion regulation, emotion identification, self-awareness and intervention talk.

### 5.2.1 Emotion regulation

When asked to analyse daily emotions in the emotion diaries, one of the main themes that was derived from the data was emotion regulation. Most of the participants wrote about their emotion regulation strategies in either a direct or an indirect manner. Emotion management and regulation were apparent in all the participants' diaries. The grouping of the subthemes regarding the effectiveness of each strategy was decided from both the participants' point of view and the theories of such strategies that were included in the intervention (see Table 5).

Table 5. Theme 1: Emotion regulation

Theme	Subtheme	Code
Emotion regulation	More effective strategies	Hobbies (Cooking, Exercising, Painting, Dancing, Music, Traveling) Distanciation Cognitive reappraisal Social interactions (family, friends) Discussion for problem resolution
	Less effective strategies	Avoidance Alcohol Rumination Passive sleep Spending time alone Self-blame

The students that included *hobbies* in their weekly routine said to be more satisfied by their choice and able to handle their mood swings in a productive way. All the participants that referred to a hobby, connected it with positive emotions. For example, student 1017 chose to start *exercising* (physical exercising) as

a way to feel better and it worked out that way: “Σήμερα ξεκίνησα τη μέρα μου κάνοντας γυμναστική για 30 λεπτά, μου ήταν δύσκολο αλλά έχω βάλει έναν στόχο και εντέλει ένιωσα καλά” [Today I started my day by doing exercises for 30 minutes, it was hard but I have put a goal and in the end I felt good.]. Participant 1013 mentioned *dancing* in her diary as a hobby that was changing her emotions and made her feel joy in the end of the day: “Ξαφνικά όπου πήγα εκεί άλλαξαν τα συναισθήματά μου γιατί έμαθα νέες φιγούρες και γνώρισα 2 νέα άτομα που μπήκαν στην ομάδα μας.” [Suddenly that I went there [dance class] all of my emotions changes because I learned new figures and I met 2 new people that joined our team.]. She was describing her day full of anxiety and other negative emotions but after the dancing class she reported positive emotions, like joy: “Στο τέλος της ημέρας κατάλαβα ότι είχαν περάσει πολλά διαφορετικά συναισθήματα από μέσα μου, όπως θυμός, άγχος, λύπη και στο τέλος η δικαίωση δηλαδή η χαρά!!” [At the end of the day I understood that many different emotions have come and go inside me, such as anger, anxiety, sadness and in the end vindication, namely the joy!!]. In addition, the code of *distanciation* was given to the cognitive action of retaining some distance from problems, which was referred by participant 1013 in a clear and direct way:

“Ο λόγος που είχα τόσα συναισθήματα χαράς και ευτυχίας ήταν επειδή άφησα πίσω μου κάθε συναίσθημα κούρασης, άγχους και θυμού που κυριαρχούν μέσα μου σχεδόν κάθε μέρα λόγω φόρτου εργασίας” [The reason why I had so many feelings/emotions of joy and happiness was because I left behind me every feeling/emotion of tiredness, anxiety and anger that dominate me almost every day because of the workload]. (student 1013)

Similarly, another theme that emerged from the students’ writings appeared to indicate that they were rethinking their emotions. I have used the term *cognitive reappraisal* for this theme, a strategy that was coded according to the theory which includes a cognitive process to manipulate the meaning of an event in order to regulate it accordingly (Goldin, Jazaieri & Gross, 2014). It was one of the methods included in the intervention sessions, although it might be that some of the students had already acquired this skill. Through the written expression of her thoughts, she was able to regulate cognitively her response to this emotion



and through the self-talk, she noted that she would try to “remove” it from her daily life. This student wrote

“Το άγχος δε με βοηθάει σε τίποτα, αντιθέτως με αποπροσανατολίζει και αλλοιώνει τον κόσμο γύρω μου. Δεν ξέρω πως θα γίνει, αλλά έστω και τώρα στα 21 μου θα το βγάλω οριστικά από τη ζωή μου...”

[The anxiety does not help me on anything, on the contrary it disorients me and warps the word around me. I do not know how, but even now in my 21 I will remove it permanently from my life...] (student 1019).

In addition, one of the most widely discussed regulation strategies was *social interactions with family members and friends*. The students that were socializing through difficult situations seemed to be able to overcome their stress or negative feelings for the time spent with others or even after. Most of the participants highlighted their need for social and family support as very important and expressed positive emotions when they could meet with their loved ones. For example, student 1012 visited her family over the holidays and said: “Ημουν κάπως στεναχωρημένη που δεν είχα πάει για μήνες λόγω των υποχρεώσεών μου. Όταν έφτασα όμως και είδα τους γονείς μου χάρηκα πολύ!” [I was kind of sad that I haven’t been for months because of my obligations. When I arrived though and saw my parents I was very happy!]. Also, student 1017 wrote about the positive effect of discussing her problems with her relatives and how it made her feel good: “Και έτσι συνεχίζει η μέρα μου γεμάτη θετική ενέργεια και χαρά καθώς πήγα στη γιατρό, βγήκα με τις ξαδέρφες μου, μιλήσαμε για θέματα που τα κρατάω καιρό μέσα μου και ένιωσα πολύ καλά.” [So my day continues full of positive energy and joy as I went to the doctor, went out with my cousins, discussed about issues that I was holding for a long time inside me and I felt very good.].

It is worth mentioning that *discussion for problem resolution* was highlighted by one student (1002), who wrote explicitly about the way she could handle the situation when her emotions were overwhelming and chose to discuss the problem with the person involved in order to solve it. She said that she preferred to talk about it in advance before this situation would cause her more problems related to the teaching practice in which they had to work together:

Όμως όταν γύρισα σπίτι ήμουν πτώμα και είχα και νεύρα γιατί έτρεχα συνέχεια μέσα στην τάξη για να βοηθήσω τα παιδιά και την κοπέλα που δίδασκε και αντίστοιχα αυτή όταν είχα διδάξει εγώ καθόταν όλη την ώρα σε μια καρέκλα λες και ήταν τιμωρία και γι' αυτό της μίλησα το απόγευμα και της είπα κάποια πράγματα για να μπορέσουμε να συνεχίσουμε την πρακτική καλύτερα γιατί γενικά αν είναι να με νευριάζει συνέχεια θα εξαντληθεί και η υπομονή μου και αυτό θα έχει αντίκτυπο και στην διδασκαλία αλλά και στην ψυχολογία μου, οπότε προτίμησα να μιλήσουμε σήμερα για να βρούμε έναν καλύτερο δίαυλο επικοινωνίας που δεν θα ταραξεί το νευρικό σύστημα καμιάς μας. [However when I returned home I was exhausted and I had nerves because I was running all the time in the classroom to help the children and the girl who was teaching and accordingly when I was teaching she was sitting all the time on a chair like she was punished and for that I talked to her in the evening and I told her some things so that we can continue the [teaching] practice better because generally if she is on my nerves all the time my patience will be dissipated and this will have an impact on teaching and my psychology, so I preferred to talk today so that we can find a better communication route that will not get on each others nerves.] (student 1002)

Furthermore, few students that had less effective emotion regulation strategies, were also having mainly negative emotions across their emotion diaries. *Avoidance* was found in different forms in the emotion diaries, such as avoiding negative thoughts, avoiding people or avoiding facing daily problems. One of the students (1004) mentioned that she wanted to avoid some of her thoughts for which she did not have an answer and were making her upset: “Όσο μπορώ αποφεύγω τέτοιες σκέψεις, ώστε να μην στεναχωριέμαι για λόγους που είναι άνευ λόγου. Να τους συζητάς από τη στιγμή που κανείς δεν θα σου απαντήσει και κανείς δεν θα σου λύσει τις απορίες.” [As far as I can I avoid such thoughts, so that I will not be sad for reasons than are pointless. To discuss about them when no one will answer you and solve your questions].

The code for *passive sleep* was given in cases when the participants wanted to use sleep as a method of avoidance or escape from their daily problems and not because they wanted to rest, that is why it was labeled as passive. More specifically, student 1007 wrote: “θα ξεραθώ στον ύπνο, θα χαθώ για λίγο. Το έχω ανάγκη.” [I will “pass out” to sleep, I will get lost for a while. I need it.]. She was using sleep as a way to avoid some things that she probably could not manage but she did not give any further information on what it was or why. Another student

(1014) because of the difficulties she was facing she chose to be isolated from her loved ones even though this was making her experiencing even more negative feelings

“Το κυρίαρχο συναίσθημα της ημέρας μου είναι η στεναχώρια. Αισθάνομαι μόνη και κουρασμένη με όλους και με όλα. [...] Απορρίπτω τους φίλους μου και τους απωθώ, έχω νεύρα και απνίες εξαιτίας της κούρασης και απλά θέλω να κάτσω να ηρεμήσω για μια ώρα.” [The major emotion of my day is sadness. I feel alone and tired with everyone and everything. [...] I turn down my friends and I push them away, I have nerves and insomnia because of my tiredness and I just want to stay to relax for an hour.]. (student 1014)

This student (1014) that had sleeping difficulties and was *spending time alone*, experienced helplessness about her life problems and wrote that she would need help from a specialist, but she was not proactive about it. This student had patterns of self-blame in her emotion diaries, for example: “Καταστρέφω μόνη μου τις σχέσεις μου και τον εαυτό μου για να επιβεβαιώσω στον εαυτό μου ότι είμαι μια αποτυχημένη και δεν μου αξίζει τίποτα” [I ruin by myself my relationships and myself to assure to myself that I am a loser and I don’t deserve anything]. Surprisingly in the last entry, there was a slight positive change on wanting to face her problems and she wrote: “Δεν μπορώ απλά να περιμένω να έρθει μια καλή μέρα. Πρέπει να τη φτιάξω μόνη μου.” [I can’t just wait for a good day to come. I need to make it on my own.]. Likewise, the use of *alcohol* as a way to escape or for temporary fun was referred once across the data from student 1008 which said: “δεν ξαναπίνω, γλεντήσαμε χθες για τα καλά” [I am not drinking again, we had fun yesterday for good]. All her diaries were very short and there were not enough information in order to clarify her emotions or actions.

Regarding *rumination* of thoughts, which could be defined as a constant re-thinking of the same thought that does not lead in a possible solution, a student (1021) mentioned sleeping difficulties connected with anxiety about teaching practice preparation: “Είμαι να σκάσω! Πρέπει να βρω κάτι άμεσα! Το μυαλό μου έχει κολλήσει. Δεν σκέφτεται ούτε μου κατεβάζει καμία ιδέα. [...] Δεν κοιμήθηκα απόψε παρά μόνο 2 ώρες, και σ’αυτές ονειρευόμουν ότι δίδασκα Γλώσσα. Εφιάλτης μου γινε πια.” [I am about to explode! I need to find something soon! My mind has stuck. It

doesn't think or generates any idea. [...] I didn't sleep tonight more than 2 hours, and in these I was dreaming that I was teaching Language. It has become a nightmare.] She mentioned pushing herself in order to prepare for her teaching practice plan, but she was not able to find ideas, thus she experienced anxiety and sleeping difficulties.

In summary, the student-teachers described a range of emotion regulation strategies that were used to manage a variety of emotions. The majority of the participants used more effective strategies, such as having hobbies and having social interactions. However, some of the participants were using less effective strategies that were not helping them cope with their issues according to their writings.

## 5.2.2 Emotion identification

The second theme is emotion identification, which refers to the ability to recognize one's emotional state. Most of the participants were able to clearly identify their daily emotions and discuss them in their diaries. Some of the participants were able to articulate better the emotions that they had experienced during the day and how it would affect their behavior. However, a few participants could not identify their primary emotions and they would feel confused, or uncertain about them or about themselves. The emotions/feelings were coded separately and then grouped into positive and negative (see Table 6).

Table 6. Theme 2: Emotion identification

Theme	Subtheme	Code
Emotion identification	Positive emotions / feelings	Happy, excited, proud, creative, love, gratitude, relief, joy, self-compassion, satisfaction, mental joy, courage, great, fulfillment, calm, good, success, good day, self-confident
	Negative emotions / feelings	Anxious, stressed, tired, pressured, disappointment, insecure,

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sad, sorrow, angry, upset, fear, agony, panic, loneliness, despair, helplessness, jealousy, depressed, nervous, fed up, bored, annoyed, irritated, tension

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Regarding positive emotions/feelings, the most frequently reported emotion was *happiness*. This emotion was mainly associated with time with family or friends, being present in the moment and satisfaction from university-related activities, usually teaching practice. When the students were writing about their families, some would get emotional and most of them would express love towards them. For instance, student 1003 wrote: “Τα συναισθήματα μου για σήμερα είναι η αγάπη, η χαρά, η ευγνωμοσύνη και η ευτυχία λόγω του ότι βρίσκομαι με την οικογένειά μου, με άτομα που αγαπάω και με αγαπάνε.” [My emotions for today are love, joy, gratitude and happiness because I am here with my family, with people that I love and love me.]. Similarly, student 1009 was feeling happy because her mother surprised her with an unexpected visit: “έτσι η μαμά μου ήρθε σήμερα και μου έκανε έκπληξη... Κορίαρχο συναισθημα... ποιο άλλο θα μπορούσε να χαρακτηρίσει ακριβώς ότι νιώθω όταν την βλέπω, πέρα από την ΕΥΤΥΧΙΑ!!” [so my mom came today and she did a surprise to me... The major emotion... what else could describe exactly what I am feeling when I see her, than happiness!!]. Another participant (1010) mentioned the emotion of *excitement* while participating in a university activity that had content related to emotions:

“σήμερα η μέρα μου με μια λέξη ήταν ενθουσιώδης. Γιαυτό εοθύνεται το γεγονός ότι στα πλαίσια της ΣΠΑ, μια κορία μας μίλησε για τα συναισθήματα, για την ανθρώπινη επικοινωνία και για τη «Γλώσσα της Αγάπης»” [today my day is with one word exciting. This is because in the teaching practice, one lady talked to us about emotions, human communication and for the “language of love”]. (student 1010)

Some students expressed the need to spend more time with family or friends in order to get away from the obligations and feel relieved from their daily anxiety. Thus, contact with significant others seems to provide a clear sense of emotional prosperity for students, especially when they live away from their families.

In addition to happiness, love and excitement, the student teachers reported other positive frequently occurring emotions throughout their diaries such as *pride*, *fulfilment*, *gratitude* and *satisfaction*. For example, a participant (1021) wrote about the national holiday and connected it with feelings of emotionality and pride: “Κάθε χρόνο τέτοια μέρα ένα αίσθημα συγκίνησης και περηφάνιας με «γεμίζει»” [Every year this day [national holiday] the feeling of moved and pride feel me up]. Moreover, a few participants mentioned *fulfillment* or *gratitude*, as for example student 1004 who reported *satisfaction*, *fulfillment* and a sensation of success from her effort in the teaching practice that was rewarded positively from the class teacher:

“Έτσι ένιωθα χαρά και πληρότητα καθώς και το συναίσθημα της επιτυχίας ότι τα έχω καταφέρει και ότι θα έπρεπε να συνεχίσω να προσπαθώ ώστε να πετυχαίνω τους στόχους μου.” [So I was feeling joy and fulfillment as also the feeling of success that I have made it and that I will have to continue to try so that I will be achieving my goals.] (student 1004)

In her diaries, after the positive outcome of the teaching practice, she continued writing positive emotions such as excitement, courage and feeling wonderful.

*Anxiety* was the most common negative emotion across most of the participants' diaries. The main reasons that the students experienced anxiety were teaching practice, time-management issues, university workload and work. Concerning the anxiety, student 1010 wrote that she was feeling anxious because of her upcoming teaching practice the next day: “σήμερα ήταν η πρώτη μου διδασκαλία και ήμουν πολύ αγχωμένη μιας και δεν είχα ξαναδιδάξει μια ολόκληρη μέρα μόνη μου” [today was my first day of teaching and I was very anxious because I haven't taught before a whole day by myself]. Some of the participants wrote about psychosomatic effects due to anxiety, such as sleeping difficulties, tachycardia and nausea. For instance, this student 1014 wrote: “Εχθές το βράδυ είχα συνεχώς ταχυκαρδίες και δεν μπορούσα να ηρεμήσω. Δεν κοιμάμαι καλά, έχω συνεχώς ναυτίες και αυπνίες” [Last night I had all the time tachycardia and I couldn't relax. I don't sleep well, I have all the time nausea and insomnia]. It is noteworthy that the student that reported psychosomatic effects from their anxiety also mentioned more emotions that are negative across their diaries.

Other widely reported negative emotions were *sadness*, *pressure*, *nervousness* and *anger*. Most of these emotions were connected to university workload, teaching practice preparation and time-management issues. For instance, participant 1004 mentioned that she was *sad* and *nervous* because she woke up late for her university lecture: “Σήμερα ήμουν πολύ λυπημένη. Είχα το πρωί μάθημα στο πανεπιστήμιο και άργησα να ξυπνήσω [...] Είχα πάρα πολλά νεύρα που δεν ξύπνησα στην ώρα μου” [Today I was very sad. I had a lesson in the morning at the university and I woke up late [...] I had many nerves that I didn’t wake up on time]. In most of the participants’ diaries, these emotions would be part of the day, but they would fade away after a short period. However, some of the participants reported continuously negative emotions such as student 1014 who reported again negative emotions such as *pressure* because of some teaching practice issues:

“Η πρακτική με έχει πιέσει πολύ και αυτή την εβδομάδα ο δάσκαλος της τάξης μας άργησε να μου δώσει την ύλη και η προετοιμασία του μαθήματος με είχε πιέσει πολύ” [The teaching practice has cause me a lot of pressure and this week the class teacher was late on giving us the material and the preparation of the lesson has caused me a lot of pressure]. (student 1014)

Another student (1002) reported feeling annoyed and sad because she wanted to visit her family for the holidays, but she was not able because she had university-related work and preparation for the teaching practice. In her diary, she mentioned: “Εντωμεταξύ όλοι οι φοιτητές τέτοιες μέρες φεύγουν και πάνε στο πατρικό τους ή έρχονται οι γονείς τους εδώ και αυτό με εκνευρίζει και με στεναχωρεί ταυτόχρονα τη δεδομένη στιγμή” [In the meanwhile all [university] students leave these days to go to their homes or their parents come here and this annoys me and makes me sad at the same time]. Other students had similar thoughts about wanting to be with their families; the ones that were able reported positive emotions while the ones that could not reported negative, which sometimes would affect their general mood, as in the example described above.

Summarizing, student-teachers were able to clearly identify their emotions most of the time throughout the emotion diaries. The emotions that they experi-

enced varied from positive to negative, from which the positive were mostly connected to their significant others (family or friends) and the negative with problematic situations regarding the university.

### 5.2.3 Self-awareness

The development of self-awareness was present across most of the participants' emotion diaries. Self-awareness remained as a separate theme through the process of coding because of its importance. One of the reasons for the use of emotion diaries was to increase or promote self-awareness and introspection about student teachers' emotions and experiences. Some students appeared to develop consciousness of their feelings and behaviors, either with the form of understanding and identifying their emotions or reasoning about their own feelings. For instance, student 1013 appeared to be aware of herself and her emotions by writing:

*“Στο τέλος της ημέρας κατάλαβα ότι είχαν περάσει πολλά διαφορετικά συναισθήματα από μέσα μου, όπως θυμός, άγχος, λύπη και στο τέλος η δικαίωση δηλαδή η χαρά!!”* [At the end of the day I understood that many different emotions have come and go inside me, such as anger, anxiety, sadness and in the end vindication, namely the joy!!]. (student 1013)

The detailed analysis of emotion identification was presented in section 5.2.2, but it is also a vital part of their increase in their awareness regarding the self and the emotions.

One of the students seemed to have developed self-awareness over time and was more able to articulate her feelings in the last entry of the emotion diaries. Although she was worrying about her teaching practice that something could go wrong, in the end, she was aware that it was just some thoughts in her mind: *“Είναι οι ανασφάλειες μου που με κάνουν να νιώθω έτσι και δεν θα τους επιτρέψω να βγουν αληθινές.”* [It's my insecurities that make me feel this way and I will not let them come true] (1019). From the acceptance and identification of her feelings, she was able to rationalize her emotional responses and control herself. She also appeared to show self-compassion: *“Γιατί λοιπόν να είμαι τόσο σκληρή απέναντι στον εαυτό μου ενώ δεν θα ήμουν με κάποιον άλλο;!”* [Why then I am so hard on myself



when I wouldn't be with someone else?!] It seemed that when she could not manage to remain calm, she would have a self-talk and by being aware of her thoughts and emotions, she managed to be self-compassionate and present to her emotional state.

Similarly, participant 1012 was able to give explanations about her emotions, feelings and reactions in connection to the events that were happening and was able to manage her emotional response. After she had experienced a stressful event and started to feel overwhelmed, she said: *"Μάλλον δεν είμαι ιδιαίτερα ψύχραιμη τώρα"* [Maybe I am not so composed now]. She became aware that she was upset about the problems she was dealing with tried to self-regulate her emotions. Through most of the emotion diaries, she was able to have an inner dialogue and provide rational explanations to events that were happening during the day. While being self-aware of her thoughts, emotions and actions she was able to understand and express herself most of the time.

In addition, student 1017 mentioned that after the intervention's first session she became aware of her own emotions and how they were leading her thoughts: *"Κατά τη διάρκεια του σεμιναρίου που παρακολούθη έστιάσαμε στην συναισθηματική νοημοσύνη και συνειδητοποίησα το πως παρασύρθηκα αυτές τις μέρες από ένα αρνητικό συναίσθημα."* [During the seminar that I attended we focused on emotional intelligence and I realized that I was carried away these days by a negative emotion] During the intervention she seemed to develop self-awareness, which helped her recognize how a negative emotion was forming and guiding her responses in interactions with others. Afterward, she found a way to manage her emotions in an effective way by talking to her friend and sharing her thoughts.

In summary, some of the participants appeared to be self-aware regarding their emotions and their self, during the intervention. In a few cases, it was explicit that their self-awareness was increased from their participation in the intervention, which was a significant finding given the fact that this was one of the intervention's goals.

#### 5.2.4 Intervention talk

Although the emotion diary was not purposefully used for getting insights on student-teachers' perspectives of the intervention, there were a few cases where it was mentioned. Intervention talk was a first-level code that remained as a theme and referred to the participants' writings about the intervention of this study or the concept of emotional intelligence. Only two participants wrote about the emotional intelligence intervention in their diaries. One of them (1008) wrote that she felt satisfaction after the first session of the intervention because she had learned information about emotional intelligence and expressed a long-standing interest in it. She further mentioned that it made her consider her level of emotional intelligence and her emotional "readiness":

*"Ικανοποίηση μετά το πρώτο σεμινάριο, διότι έμαθα πράγματα για τη συναισθηματική νοημοσύνη που με ενδιέφερε από παλιά. Τροφή για σκέψη, ίσως αργότερα παρακολουθήσω κάποιο σχετικό σεμινάριο. Αυτοκριτική σχετικά με το επίπεδο της συναισθηματικής μου νοημοσύνης και της συναισθηματικής ετοιμότητάς μου."* [Satisfaction after the first seminar because I learned things about emotional intelligence that I was interested in since a long time ago. Food for thought, maybe later I will attend some related seminar. Self-reflecting about the level of my emotional intelligence and my emotional readiness.] (student 1008)

Student 1008 was able to articulate the emotions of the day with clear explanations and reasoning about why they would appear and how they would make her feel. From her diaries, it was visible that she was able to identify and express emotions in an effective way. The same student wrote: *"Χαρούμενη διότι έχω τελειώσει με τις εργασίες μου και όσο αφορά την προσωπική ζωή πολύ ευτυχισμένη, γιατί μου φέρεται τέλεια. [...] Δημιουργική, γιατί έκανα πράγματα που μου αρέσουν."* [Happy because I am done with the assignments and as for my personal life very happy, because [someone] treats me perfectly. [...] Creative, because I did things that I like.]

The other student that talked about the intervention said that she was able to understand her emotions and their roots clearer after the first session of the intervention. She also mentioned that after discussing her feelings with one of

her friends she felt much better and realized that she was not the only one experiencing this situation. Student-teacher 1017's instance was the most explicit found in the emotion diaries:

*“Κατά τη διάρκεια του σεμιναρίου που παρακολουθώ εστίασαμε στην συναισθηματική νοημοσύνη και συνειδητοποίησα το πως παρασύρθηκα αυτές τις μέρες από ένα αρνητικό συναίσθημα. [...] Αργότερα πήγα με τη ... σε μια ομιλία του συγγραφέα βιβλίων αυτοβελτίωσης, ... και εστίασαμε στο πόσο σημαντική είναι η αυτοβελτίωση για την εξέλιξή μας. Μετά από το σεμινάριο και την ομιλία ένιωσα πολύ όμορφα και το πιο σημαντικό ήταν το γεγονός ότι και η ... ένιωθε κάπως περίεργα τον τελευταίο καιρό και καθώς συζητήσαμε κατάλαβα πως δεν ήμουν μόνη.”* [During the seminar that I attended we focused on emotional intelligence and I realized that I was carried away these days by a negative emotion [...] Later I went with [...] in a speech of a book writer of self-improvement, [...] and we focused on how important is self-improvement for our development. After the seminar and the speech I felt very well and the most important was the fact that [...] was feeling kind of weird lately and as we discussed I realized that I wasn't alone.] (student 1017)

From her words, it was inferred that she was able to utilize some methods that had been discussed in the intervention in order to understand and manage her emotions, such as verbal communication for expressing and sharing emotions and externalize worries to others. As it was mentioned before, she also developed self-awareness regarding her emotions and thoughts which seemed to have helped her feel better. Later on in her diary, it was found that she used the method of physical exercise as an effective emotion regulation strategy as it was proposed in the intervention sessions. The example of this method was given in the subchapter 5.2.1.

In conclusion, regardless of the fact that only these two students (1008, 1017) wrote about the impact that the intervention had on them, it was evident from their diaries that they were able to take advantage of it in a positive way.

### 5.3 TEIQue SF vs Emotion diaries

In order to answer the third research question, this chapter will focus on the convergence of the quantitative results and the qualitative findings, regarding which aspects the TEIQue SF results agree with the themes that emerged from the emotion diaries. The combination of these approaches aims at providing a holistic understanding of the intervention context and its' effectiveness. The examination of the results presented below are organized in four units according to the factors, which are self-control, emotionality, sociability, and wellbeing and their facets (see Figure 2).

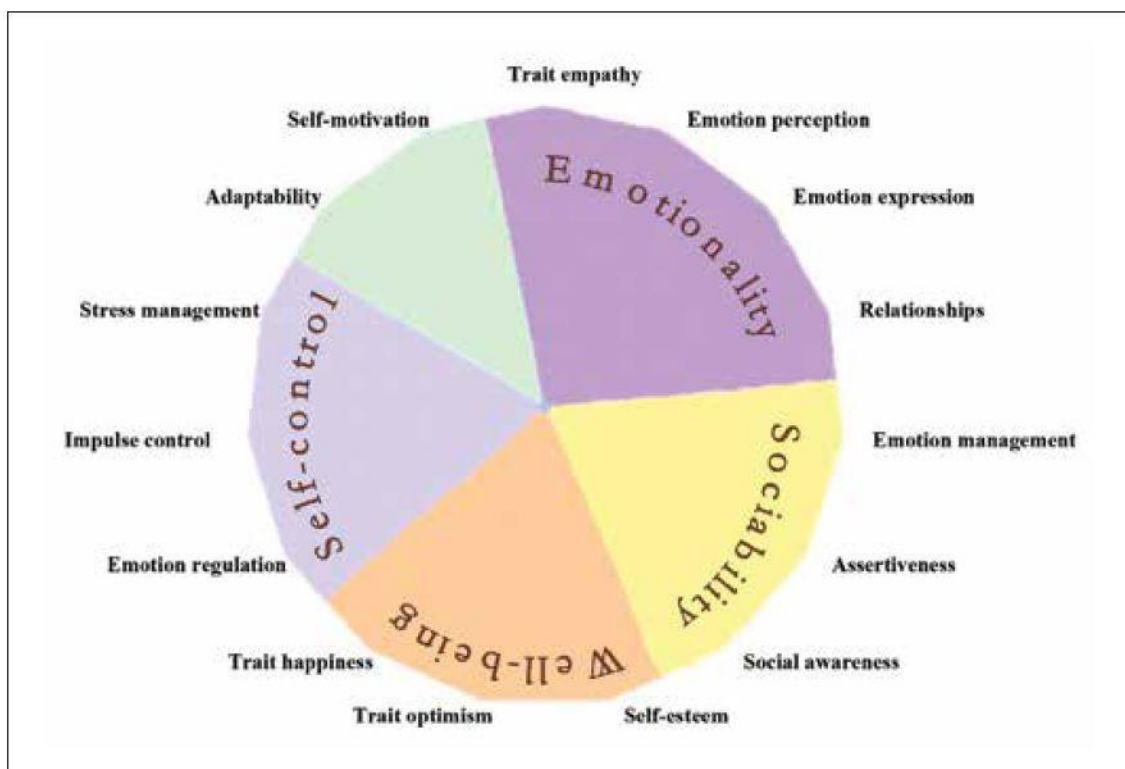


Figure 2. TEIQue SF factors and facets (Petrides & Mavroveli, 2018)

#### *Self-control*

Self-control facets of the TEIQue SF (stress management and emotion regulation), were associated with similar themes that were found in the emotion diaries, which were grouped as the first theme of the thematic analysis. One of the

themes, the emotion regulation theme, included more and less effective regulation strategies, where stress management was a part of them as well. For instance, the participant 1014 used less effective regulation strategies and had difficulties with stress management. Moreover, she was reporting negative emotions across all her entries in the diaries and had the lowest scores in the TEIQue SF, before and after the intervention (pre-test 4.13 and post-test 3.90). The emotion regulation strategies that this student used were less effective such as passive sleep, spending time alone and self-blame. She reported stress management problems that were causing psychosomatic effects such as nausea and insomnia. Student 1014 appears to acknowledge the need to change her negative responses and stress management in order to improve her wellbeing although in the questionnaire's results it was not evident.

In addition, the participant 1017 appeared to have a major increase in her self-control scores from pre to post-test (pre-test 2.50 and post-test 3.83). After she mentioned the intervention role in her increase in self-awareness, she used more effective emotion regulation strategies such as exercising. However, the total score of this participant remained relatively stable from pre to post-test (see Appendix 4). Likewise, participant 1011 had an increase in the scores of self-control and emotionality regarding the pre and post-tests but there was no reference to any of the facets from the self-control factor (see Appendix 4). However, she mentioned spending great amounts of time with family and friends, which as she stated made her happy. This could be connected to the relationships facet of the emotionality factor.

### *Emotionality*

Emotionality as represented in the TEIQue SF included the facets of relationships and emotion perception, which were connected with some of the diary findings. The emotionality scores of some participants, were connected to the formation of significant relationships with others. The students that had a higher score on emotionality factor were writing in their emotion diaries about their family and friends in a more affective and detailed way and in some cases, students that

actually spent time with their significant others had higher scores on their emotionality factor (1003, 1009, 1011, 1013, 1017 and 1019). It is noteworthy that the students who did not have many interactions with their family or friends because of obligations had lower scores on emotionality than their peers (1002, 1006).

It is interesting to mention that a student that followed the strategy of *cognitive reappraisal* had a small increase in the wellbeing and emotionality scores. This student (1019) used this method for emotion regulation multiple times and had an increase in the post scores of wellbeing and emotionality. The scores went from 3.67 and 4.63, to 4.67 and 5.88 respectively.

### ***Sociability***

The sociability scores were generally low among the participants. The participants with total low or high scores of global TEI also had similarly low or high scores on the sociability factor (1004, 1009, 1013, and 1014). The facets of this factor, emotional management (of others' emotions), assertiveness and social awareness, were not evident in the emotion diaries of the participants so no assumptions will be presented. It might seem that theme of emotion regulation could be associated with the emotional management facet but in fact, this facet refers to the emotional management of other's emotions, which was not referred in any of the diaries.

### ***Wellbeing***

Wellbeing factor and the facets of self-esteem and trait optimism were associated with some of the diary findings. The factor of wellbeing was connected to student-teachers' self-esteem in a direct way, as student-teachers with low self-esteem reported negative emotions and had a negative self-image. The low self-esteem was inferred by the expressions that the students 1001 and 1014 used when they were describing themselves. On the other hand, their peers with high self-esteem were more confident and successful in their daily life. Here also the individuals with high self-esteem were identified from the way they referred to

themselves and their actions. The latter also seemed to have increased self-motivation and were driven to put more effort when situations were difficult. For example, student-teacher 1004, who had the highest total score before and after the intervention (pre-test 6.17 and post-test 6.10), had reported feeling satisfaction and fulfillment from her effort in the teaching practice. She was also the only participant who had social sensitivity related thoughts and was self-motivated. From the way she was describing her emotions, it appeared that she has high trait optimism and self-esteem. The trait optimism, according to the questionnaire's description, refers to the students that kept a positive overview of life, which was visible across all entries of her diaries.

Surprisingly, few students who had a higher score on wellbeing in TEIQue SF than their peers were using more effective emotion regulation strategies that belong in the factor of self-control. For example, a participant (1013) that referred to *dancing* and *distanciation* as her strategies of emotion regulation had a score of 6.17 on the wellbeing factor, before and after the intervention, while the average score of all participants is 5.21 for the pre-test and 5.15 for the post-test.

Summarizing this subchapter, self-control and emotionality associations between the questionnaire's factors and facets and the diary findings were more evident. Similarly, the wellbeing factor and facets could be associated with some evidence from the emerged themes in the diaries, while the sociability factor was not identified in the qualitative findings as it is described in the questionnaire's guidelines provided by Petrides and Mavroveli (2018). Although the factors are clearly separated in the questionnaire, the findings of the emotion diaries showed that the theme of emotion regulation could be connected to the other factors, such as wellbeing and sociability. In addition, some findings from the thematic analysis were not captured from the TEIQue SF, such as self-awareness, even though theoretically it belongs to the concept of emotional intelligence but mostly referred to in the ability models.

## 6 DISCUSSION

This study examined the effectiveness of a short-term emotional intelligence intervention at the University of Crete in Greece, on student-teachers of primary education bachelor's program. The current study explored the emotional intelligence skills of 42 student-teachers and their development through a quasi-experimental, mixed-method design. The students were half in the emotional intelligence intervention group and half in the control group that followed their program's curriculum in a university seminar. Each of the groups answered the TEIQue SF at the same timeline, before and after the intervention. During the intervention, the experimental group was writing a reflective journal in the form of emotion diaries analyzing their emotional experiences throughout this period.

The results of the t-tests showed no significant differences between the pre and post-tests of the intervention group or the control group for the total score and each of the four factors scores. In addition, the results of the repeated measures ANOVAs similarly showed no significant effects from the within or between subjects' variables. Consequently, the emotional intelligence intervention was not effective in altering emotional intelligence personality traits in regard to the participants' self-perceptions in the present study. There might be many reasons for these outcomes such as intervention duration, small sample size, intervention content and intervention implementation. While previous research has found significant increases in participants' EI after a short intervention, these results demonstrate that the short duration might have a negative impact on the effectiveness. One possibility is that the intervention's duration was too short to have an impact on student-teachers trait emotional intelligence. It has been found that traits are located in the lower level of personality hierarchies (Petrides, Pita & Kokkinaki, 2007) so their alteration might require longer periods of interventions or trainings. The intervention design from which this study's design was inspired was 4 weeks long and had 18 total hours of interactions (Nelis et al., 2009; Nelis et al., 2011). With a longer timeline, the participants are likely



to have more time to self-reflect, use different regulation strategies and experiment with others or internalize the ideas of emotional intelligence.

In addition, the researcher acknowledges the difficulty of carrying out a successful intervention. It requires full presence and communication with attention while being an inclusive and empathic listener. One of the skills needed for interventions or similar trainings, is the ability to facilitate groups which is still under development. The researcher made efforts to assure a friendly and open environment for the students to feel comfortable and accepted but also be able to share their experiences with confidentiality. Also, it was acknowledged that in order to deliver a successful intervention the familiarization of the context is of high importance. The researcher has studied in this university in the past and was aware of the context and the objectives of this teacher education program. More limitations for the outcome of the research will be presented in the next subchapter.

Regarding the qualitative part, the thematic analysis of the emotion diaries shed light on student-teachers' inner experiences of daily emotions and the teacher education program in the context of Greece. The first theme that was analyzed in the thematic analysis was about emotion regulation strategies. These strategies were found across most of the participants' diaries and provided insights on the way they internalize the stimulus of the environment and on how they handle the uprising daily emotions in relation to their self. According to Thayer et al. (1994) emotion regulation strategies are either more effective or less effective regarding the individual's perception. Most of the students mentioned emotion regulation strategies that were effective according to their perceptions. Many of them would use these strategies consciously and some seemed to use them unconsciously as a habit. The fact that the participants who were using more effective emotion regulation strategies reported more positive emotions across their diaries was an interesting finding that has been found in previous studies as well. Similarly, the students who used less effective emotion regulation strategies reported mainly negative emotions in their emotion diaries. Some of these students seemed to have the will to change these habitual strategies that

were causing them troubles into more effective. Few mentioned explicitly that they would try to change them in order to feel better which was a hopeful finding. With these findings, it could be noted that the effective emotion regulation practices could be promoted or reinforced in similar interventions.

Furthermore, the theme of emotion identification was apparent in all emotion diaries of participants with direct or indirect references. Hen and Sharabi-Nov (2014), also found in the participants' reflective diaries reports for emotion identification. The participants were able to identify their emotions and name them. Some of them were able to connect their emotions with their stimulus from their environment. The findings about emotion identification also agree on what, Yin et al. (2013) have found in their study, in which teacher's emotional intelligence is related to their teaching satisfaction. In the current study, it was noticed that student-teachers who reported feeling satisfied by their teaching efforts had higher scores of TEI. Moreover, other positive emotions were associated with good teaching experiences such as fulfillment, excitement, feeling great and successful. However, it could not be clearly inferred if these positive emotions were reflecting the teaching practice in all cases or the individuals' positive attitudes towards life. Likewise, regarding the teaching practice, many negative emotions were reported such as anxiety, stress, pressure and disappointment. It was an interesting finding that multiple emotions were mentioned in relation to the preparation and the designing phase of teaching practice. From the student-teachers' diaries, it could be highlighted that some were more able to cope with stressful situations while others needed more support in the process. As it was mentioned before, the negative emotions towards the teaching practice might be caused because of difficulties or problematic situations in teaching practice or from the individuals' attitudes towards such situations.

Moreover, the findings about self-awareness agree with previous evidence of Dolev and Leshem (2017), who also found increased self-awareness after an intervention on emotional intelligence in Israel, including awareness of thoughts, emotions and the self. In the present study, this was evident clearly from some

participants' writings and for this reason, the researcher considered self-awareness a significant finding that should be a separate major theme. Especially, one participant wrote that she noticed an increase of self-awareness after the intervention which helped her to understand better herself and her emotions. Most probably, more participants would have such experience if there was a possibility to have a longer intervention.

Regarding the last of the themes, participants' view of the intervention, there were only two cases where it was mentioned in the diaries. Both student-teachers had a positive attitude and reported feeling satisfied with their participation in the intervention. However, something that could not be used as a strong argument because it was not from the gathered data, is that most of the participants expressed their satisfaction and excitement for the intervention to the researcher verbally. One important factor for a successful alteration of emotional intelligence characteristics is the belief of change (Nelis et al., 2011). Positive attitudes towards interventions and the participants' perceptions of the developing process can have an impact on their self-efficacy (Dacre-Pool & Qualter, 2012; Yin et al., 2013; Petrides & Mavroveli, 2018). The development of personal beliefs of their self-efficacy was part of the intervention goals and seemed to be partially achieved for these two participants (students 1008, 1017).

Finally, after the quantitative results and the qualitative findings were presented and analyzed there was an effort to explore their interrelation and there was an open perspective on whether there would be new inputs on the findings from this combination. There were few complications from the effort to associate the qualitative findings only to the trait theory model. From the integrative analysis, which was based on the categories (factors and facets) of the TEIQue SF, little evidence was found across the emotion diary themes. Some facets from the factors of self-control and wellbeing appeared also in the thematic analysis, such as emotion regulation and self-esteem. From the themes of emotion regulation and emotion identification, it was hard to differentiate whether they were connected to the factor of wellbeing or self-control and seem to be fused. The factors

of emotionality and sociability were less evident in the emotion diaries, regarding the descriptive approach of the questionnaire's facets. In general, the process of convergence of both data sets was somehow complicated since the emotion diary themes could not be explicitly explained from the questionnaire's framework.

Some themes that emerged from the emotion diaries were connected to the ability theory, for example, self-awareness. As of these, the researcher considered that it is preferable to use both ability and trait measures to identify participants' profiles of EI because they are interconnected. Humans have both personality characteristics, known as traits and abilities, which can both be developed according to researchers (Mayer & Salovey, 1997; Petrides, 2011). An advantage regarding the use of this trait EI questionnaire, although not scientific, was that it is available free of charge for scientific purposes which makes it more approachable to university students or researchers with funding limitations. Regarding the mixed-method design and analysis, the research skills needed to provide incremental results are many. The researcher acknowledges the difficulty of such a design and was taken as a personal challenge for the scope of personal and professional development.

In conclusion, emotional intelligence has been widely identified as crucial in teacher education across the world (Corcoran & Tormey, 2013; Dacre-Pool L. D. & Qualter P., 2012; Palomera et al., 2008; Hawkey, 2006; Gilar-Corbi et al., 2018). Various studies with short- or long-term interventions have aimed to explore and develop the levels of emotional intelligence of in-service teachers, pre-service teachers or students. Plenty of promising results have been found in the studies which are reported above, that suggest the inclusion of emotional intelligence training as part of the teaching preparation and teacher education. Most of them have had significant results in the development of teachers' emotional intelligence (Nelis et al., 2009; Nelis et al., 2011; Hen & Sharabi-Nov, 2014), although there were few with non-significant findings (Dacre-Pool, 2012). Fewer studies have conducted in-depth qualitative research and even less mixed-method designs regarding teacher education tertiary students (Hen & Sharabi-Nov, 2014).

However, in the Greek context, there has not been any similar study or intervention targeted to student teachers, even though there has been a need for developing resilience and overcoming teaching burnout. Moreover, political and economic turmoil has affected education in many ways and teacher education has experienced cut-offs in terms of financial support which caused decreases in teaching practice or less available courses. The need for such interventions that provide tangible support on teachers from the level of teacher education is evident.

## **6.1 Limitations of the study**

There are some limitations regarding this study that the researcher acknowledges. One major limitation was the small number of participants for the quantitative part. A sample of just 42 students in only one university across Greece does not form a representative sample, so we cannot make any inferences or generalizations. Few limitations of the statistical procedures also include the assumptions of normality or sphericity which were not fulfilled. Before the intervention, no pilot to examine the intervention content or the instrument was performed. As it was mentioned again, the intervention time was only 4 hours in total, which is also an important limitation for the experimental results. The time between the two test points was also very short (1 week), so if there are long-term effects remain unknown. Moreover, another limitation is that there are differences in practices across universities in Greece so the results might differ in other similar future experiments. The findings of this analysis may not be generalized in the wide population of Greece, but they could be replicated in similar contexts following the given design.

A limitation regarding the use of the diaries could be that they require written expression of emotions and experiences and some individuals may not be able to express in such a way. In addition, the use of a self-report instrument for

assessing emotions may have posed threats to internal validity. Some of the limitations of self-reports are that they can measure only conscious emotions and may include some personal biases. According to Pekrun (2016), self-report instruments measure the perceptions of the reality from a subjective perspective. It is acknowledged that some participants might not be fully aware or honest about themselves but following the theoretical framework of this study, emotions have a subjective reality, which only the individual who experiences can provide information for.

## **6.2 Further research and Conclusion**

Future research should include a longer intervention and a larger sample from different universities across the country to replicate the experiment and explore the possible results. It would be more useful in the Greek context as from the qualitative data and the articles on teacher education in Greece there is evidence that students are experiencing high levels of stress from the teaching practice and other social factors. Support is needed even more these years that the socio-political problems have affected the students' everyday lives and the function of universities in Greece. Moreover, a study that would be focused on multiple universities across the country would be fruitful to explore more in-depth the situation. As has been highlighted in the literature, wellbeing is a very important factor for students' and teachers' effectiveness as professionals because it impacts both personal and working life. Interventions that increase students-teachers' self-awareness and help them develop emotional intelligence can be very helpful in their career as future teachers or educators.

As has been noted before, teachers need to acquire the social and emotional skills in order to be able to transmit or promote them to students and teacher education settings are ideal for their development (Hawkey, 2006; Gilar-Corbi et al., 2018). Even though there was not any statistically significant development of student-teachers' TEI in this study, through the mixed-method research design, insights on teachers' emotional needs and experiences in teacher education could

be of assistance for further research. Further studies could use emotion diaries, which seem to provide good insights on student-teachers' emotional world, before the intervention implementation as a needs assessment. It is suggested that more researchers utilize mixed-method designs to explore emotional intelligence in teacher education settings as they could gain very good insights into student teachers' experiences and perceptions.

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## APPENDICES

### Appendix 1

## UNIVERSITY OF JYVÄSKYLÄ

### ΣΥΓΚΑΤΑΘΕΣΗ ΓΙΑ ΕΠΙΣΤΗΜΟΝΙΚΗ ΕΡΕΥΝΑ

Μου ζητήθηκε να συμμετάσχω στην ακόλουθη έρευνα: **Συναισθηματική νοημοσύνη στην εκπαίδευση των εκπαιδευτικών στην Ελλάδα: Μια μελέτη βασισμένη σε παρέμβαση.**

Έχω διαβάσει και έλαβα την ειδοποίηση περί απορρήτου των υποκειμένων της έρευνας και έχω λάβει επαρκείς πληροφορίες σχετικά με τη μελέτη και την εφαρμογή της. Το περιεχόμενο της έρευνας μου εξηγήθηκε επίσης προφορικά και έχω λάβει σωστές απαντήσεις σε όλες τις ερωτήσεις μου σχετικά με αυτή. Οι διευκρινίσεις δόθηκαν από την **Μυρτώ Κυριαζοπούλου**. Είχα αρκετό χρόνο να μελετήσω τη συμμετοχή μου στην έρευνα.

Κατανοώ ότι είναι εθελοντική η συμμετοχή στη μελέτη. Έχω το δικαίωμα να διακόψω τη συμμετοχή μου ή να ακυρώσω τη συναίνεσή μου ανά πάσα στιγμή και χωρίς εξηγήσεις κατά τη διάρκεια της μελέτης. Η διακοπή της συμμετοχής ή η ακύρωση της συγκατάθεσης για τη μελέτη δεν έχει αρνητικές συνέπειες για μένα.

Υπογράφοντας το έγγραφο συγκατάθεσης, δέχομαι να χρησιμοποιηθούν οι πληροφορίες μου για την έρευνα που περιγράφεται στην ειδοποίηση απορρήτου.

Ναι

Δέχομαι ότι τα δεδομένα μου θα αρχειοθετηθούν με αναγνωριστικούς κωδικούς μετά την έρευνα.

Ναι

**Με την υπογραφή μου, επιβεβαιώνω τη συμμετοχή μου στη μελέτη, συμφωνώ οικειοθελώς να συμμετάσχω σε εξετάσεις και να επιτρέψω τα θέματα που αναφέρθηκαν παραπάνω.**

Υπογραφή

Ημερομηνία

Όνοματεπώνυμο

Διεύθυνση ηλ. ταχυδρομείου

**Συναινέσει**

Υπογραφή του παραλήπτη της συγκατάθεσης

Ημερομηνία

Όνοματεπώνυμο



## Appendix 2

## Intervention program

1st part (2hour session)	Introduction	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• The content of intervention</li> <li>• Consent form, privacy notice and pre-test</li> <li>• Info for emotion diaries</li> </ul>
	Section 1: Understanding emotions	<ul style="list-style-type: none"> <li>• Emotional intelligence and emotions theory through power point and videos <a href="https://www.youtube.com/watch?v=SIOjp-prbfeE">https://www.youtube.com/watch?v=SIOjp-prbfeE</a></li> <li>• Using Mahti cards and discuss in dyads</li> </ul>
	Section 2: Identifying emotions	<ul style="list-style-type: none"> <li>• Emotions theory, basic emotions, nonverbal communication, exercise through role play in groups of 3 and full group discussion</li> <li>• Movie suggestion: Inside out</li> </ul>
2nd part (2hour session)	Section 3: Expressing and using emotions	<ul style="list-style-type: none"> <li>• Why expressing emotions, empathy, definition, examples through videos <a href="https://www.youtube.com/watch?v=1Evwgu369Jw">https://www.youtube.com/watch?v=1Evwgu369Jw</a></li> <li>• Discussion in dyads about empathy (personal reflections)</li> <li>• Empathic and active listening, video and exercise in teams of 3 <a href="https://www.youtube.com/watch?v=t685WM5R6aM">https://www.youtube.com/watch?v=t685WM5R6aM</a></li> </ul>
	Section 4: Managing emotions	<ul style="list-style-type: none"> <li>• Managing strategies, promoting positive emotions (PowerPoint), discussion in teams of 4</li> <li>• Video for mindfulness: <a href="https://www.youtube.com/watch?v=vzKryaN44ss">https://www.youtube.com/watch?v=vzKryaN44ss</a></li> <li>• Exercises of mindfulness for managing emotions (breathing exercise: body scan)</li> </ul>
	Conclusion	<ul style="list-style-type: none"> <li>• Post-test</li> <li>• Discussion about the topics and questions</li> </ul>

## Appendix 3

**Οδηγίες:** Σας παρακαλούμε να σημειώσετε με ένα κύκλο τον αριθμό που αντανακλά καλύτερα το βαθμό συμφωνίας ή διαφωνίας σας με κάθε μια από τις προτάσεις που ακολουθούν. Όσο πιο πολύ διαφωνείτε με μια πρόταση, τόσο η απάντησή σας θα πλησιάζει το «1». Αντίθετα, όσο πιο πολύ συμφωνείτε, τόσο η απάντησή σας θα πλησιάζει το «7». Μη σκέφτεστε πολύ ώρα για την ακριβή σημασία των προτάσεων. Δουλέψτε γρήγορα και προσπαθήστε να απαντήσετε όσο το δυνατόν με μεγαλύτερη ακρίβεια. Σας υπενθυμίζουμε ότι δεν υπάρχουν σωστές ή λάθος απαντήσεις.

Διαφωνώ Απόλυτα	1	2	3	4	5	6	7	Συμφωνώ Απόλυτα
1. Δε δυσκολεύομαι καθόλου να εκφράσω τα συναισθήματά μου με λόγια.	1	2	3	4	5	6	7	
2. Συχνά το βρίσκω δύσκολο να δω τα πράγματα από την οπτική γωνία των άλλων.	1	2	3	4	5	6	7	
3. Γενικά είμαι ένα ιδιαίτερα δραστήριο άτομο με στόχους.	1	2	3	4	5	6	7	
4. Συνήθως μου είναι δύσκολο να ελέγξω τα συναισθήματά μου.	1	2	3	4	5	6	7	
5. Γενικά δε βρίσκω τη ζωή διασκεδαστική.	1	2	3	4	5	6	7	
6. Μπορώ να χειριστώ αποτελεσματικά τους άλλους ανθρώπους.	1	2	3	4	5	6	7	
7. Έχω την τάση να αλλάζω γνώμη συχνά.	1	2	3	4	5	6	7	
8. Γενικά δυσκολεύομαι να κατανοήσω τι ακριβώς νιώθω.	1	2	3	4	5	6	7	
9. Πιστεύω πως έχω πολλά χαρίσματα.	1	2	3	4	5	6	7	
10. Συχνά δυσκολεύομαι να υπερασπισθώ τα δικαιώματά μου.	1	2	3	4	5	6	7	
11. Συνήθως μπορώ να επηρεάσω τα συναισθήματα των άλλων ανθρώπων.	1	2	3	4	5	6	7	
12. Γενικά είμαι απαισιόδοξος άνθρωπος.	1	2	3	4	5	6	7	
13. Οι κοντινοί μου άνθρωποι παραπονιούνται ότι δεν τους συμπεριφέρομαι σωστά.	1	2	3	4	5	6	7	
14. Συνήθως δυσκολεύομαι να προσαρμόζω τη ζωή μου ανάλογα με τις περιστάσεις.	1	2	3	4	5	6	7	
15. Γενικά, είμαι ικανός να αντιμετωπίσω το άγχος.	1	2	3	4	5	6	7	
16. Συχνά δυσκολεύομαι να δείχνω στοργή στους κοντινούς μου ανθρώπους.	1	2	3	4	5	6	7	
17. Συνήθως μπορώ να «μπω στη θέση του άλλου» και να καταλάβω τα συναισθήματά του.	1	2	3	4	5	6	7	
18. Δεν έχω αρκετά κίνητρα στη ζωή μου.	1	2	3	4	5	6	7	
19. Συνήθως μπορώ να βρω τρόπους να ελέγξω τα συναισθήματά μου όταν το θέλω.	1	2	3	4	5	6	7	
20. Σε γενικές γραμμές, είμαι ευχαριστημένος από τη ζωή μου.	1	2	3	4	5	6	7	
21. Θα περιέγραφα τον εαυτό μου ως καλό διαπραγματευτή.	1	2	3	4	5	6	7	
22. Συχνά ανακατεύομαι σε καταστάσεις και αργότερα το μετανιώνω.	1	2	3	4	5	6	7	
23. Συχνά, σταματώ αυτό που κάνω και συγκεντρώνομαι σε αυτό που νιώθω.	1	2	3	4	5	6	7	
24. Αισθάνομαι καλά με τον εαυτό μου.	1	2	3	4	5	6	7	
25. Έχω την τάση να υποχωρώ ακόμη και όταν γνωρίζω πως έχω δίκιο.	1	2	3	4	5	6	7	
26. Πιστεύω πως δεν έχω καθόλου επιρροή στα συναισθήματα των άλλων.	1	2	3	4	5	6	7	
27. Πιστεύω ότι γενικά τα πράγματα θα εξελιχθούν καλά στη ζωή μου.	1	2	3	4	5	6	7	
28. Δυσκολεύομαι να δεθώ πολύ ακόμη και με όσους βρίσκονται πολύ κοντά μου.	1	2	3	4	5	6	7	
29. Γενικά, μπορώ να προσαρμόζομαι σε καινούρια περιβάλλοντα και καταστάσεις.	1	2	3	4	5	6	7	
30. Οι άλλοι με θαυμάζουν γιατί είμαι «άνετος».	1	2	3	4	5	6	7	

### Appendix 4

ID	pretest total	post test total	pre well-being	pre self-control	pre emotionality	pre sociability	post well-being	post self-control	post emotionality	post sociability
1001	3,77	3,30	3,67	3,83	3,75	4,50	3,00	3,33	3,00	4,33
1002	4,93	4,57	6,00	4,83	4,63	4,00	5,17	4,67	3,88	4,33
1003	5,20	5,43	5,67	4,17	6,25	4,00	6,33	4,50	6,13	4,33
1004	6,17	6,10	6,33	5,50	6,75	5,67	6,50	5,33	6,75	5,33
1006	4,43	4,17	3,83	4,17	4,88	4,50	4,17	4,50	3,75	4,33
1007	4,87	4,20	5,83	4,00	5,25	4,00	5,33	3,50	4,13	3,33
1008	5,00	4,77	5,17	4,67	4,88	5,00	5,00	4,83	3,75	5,17
1009	5,47	5,90	5,00	5,17	5,25	5,67	6,50	4,50	6,00	6,17
1010	5,03	4,67	4,50	4,83	5,38	5,00	4,17	3,83	5,25	4,83
1011	4,90	5,37	6,33	4,50	4,38	4,17	6,17	5,50	5,25	4,00
1012	5,43	5,07	6,00	4,83	4,88	5,50	5,50	4,17	4,88	4,83
1013	5,50	5,43	6,17	4,33	5,13	6,00	6,17	4,33	6,00	5,00
1014	4,13	3,90	3,17	3,67	4,88	4,33	3,33	3,33	5,00	3,50
1015	5,03	4,90	5,50	3,17	5,88	4,67	5,67	3,50	5,38	4,17
1017	4,33	4,23	5,33	2,50	4,50	4,50	4,33	3,83	5,13	3,50
1018	4,47	4,43	5,17	4,67	4,38	4,00	4,83	3,83	5,00	3,50
1019	4,10	4,63	3,67	3,67	4,63	4,00	4,67	3,67	5,88	4,17
1020	5,10	5,03	5,83	4,83	4,25	5,00	6,00	4,17	4,50	5,33
1021	5,00	4,83	6,00	3,00	5,75	5,17	5,33	3,50	5,25	4,67

# Appendix 5

