

**THE RELATIONSHIP AMONG EMPATHY, TRAIT EMOTIONAL  
INTELLIGENCE, STRENGTHS AND DIFFICULTIES  
AND THE CHANGES OF THESE VARIABLES  
BETWEEN AN “ARTS” AND A  
“NO ARTS” GROUP**

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An Abstract Presented to the Graduate Faculty of  
Saint Louis University in Partial Fulfillment  
of the Requirements for the Degree of  
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## Abstract

### *Purpose*

Arts education has been included in the Cypriot school curriculum. The importance of arts education is therefore a major curricular objective. It is used as one of the most widespread methods of experiential learning. The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between arts and no arts groups in the five state schools of Cyprus, gathering B' Lyceum students as samples. The significance of this issue proved the necessity for immediate and effective changes in the educational system of Cyprus.

### *Methods*

The study employed quantitative research methods. Data collection was achieved including the use of questionnaires in two time periods. The target population of this study was B' Lyceum students in the state schools of Cyprus. Purposeful sampling was used and the final sample selected for the statistical analysis was 589 at the beginning and at the end of the school year was 552 cases.

### *Findings*

Based on the analysis there is a significant change of empathy (affective) between time one and time two. Moreover, the degree of change is not significantly different between the "arts" and "no arts" group nor if there is a significant change of trait EI between time one and time two and also between the "arts" and "no arts" group. In addition, a significant change of strengths and difficulties was noticed between time one and time two (for conduct, hyperactivity, total SDQ).

### *Implications*

This study suggested that the current educational system in Cyprus must be revised on pedagogy regarding curriculum and further research. The Cypriot curricular of arts education must incorporate methods of experiential learning, revise teaching methods in order to cultivate empathy, trait EI, and strengths and difficulties. This study showed that most of the students who chose arts education faced conduct and hyperactivity problems. According to the findings, students who chose arts education usually face conduct or behavioural problems and arts education is a way to activate multiple intelligence.



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## Dedication

To my lovely husband for his endless encouragement  
and to my three lovely children: Feidias, Kyriakos and Marialeni.



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## Chapter 1: Introduction

### *Introduction*

*Ars longa, vita brevis!*

"*Life is short, and art long,*" Hippocratic

Aphorism.

Empathy and emotional intelligence (EI) are recognized as the most important issues in order to overcome certain difficulties in our environment. Years ago, Hodge (1954), recognized and appreciated the significance of arts education while equal opportunities have become a subject of widespread discussion (Taylor, 2013). Cultivating empathy and increasing emotional intelligence (EI) are excellent methods to support students. Furthermore, it is remarkable to mention that a positive relationship between trait emotional intelligence (trait EI) scores and duration of musical training were marked out (Petrides, Niven, & Mouskounti, 2006). In recent years, many educators advocated that empathy cannot be taught applying the traditional techniques, but only through experiential learning (Gordon, 2012). Arts education is one of the most widespread methods of experiential learning. Therefore, the significance of this issue proves the necessity for immediate changes in the educational system of Cyprus.

Besides, arts education contributes to emotional release while arts learning tends to reinforce and invigorate the student's whole personality. In our Cypriot society there is a plethora of students who face various problems in multiple cases. It can be suggested that one way to provide equal opportunities is giving emphasis on the increase of empathy and trait EI. In the context of globalization, arts education must be a crucial subcategory of any cultural policy (Dewey, 2008). It is obvious that its value needs more enhancement and emphasis since there is still doubt about its application. Arts education should take action and play a significant role in social justice and it tends to be considered as hidden curriculum in



usual classroom settings (Cochran-Smith, 1995; Ladson-Billings, 1995; Ladson-Billings 2006). Chernoff (2009) stated that

the arts, the real arts, can also act as Brecht's hammer to shape society. It is necessary to consider not only the constraints of state school funding and test mandates, but larger notions about what art is and whose art it is. (p. 78)

During the next decades, arts education gained more ground and started to be more important (Mishook & Kornhaber, 2006). In the United States, the benefits of arts education as Creedon (2011) indicated "not only build our brains, but they insulate them from our stressful urban environments" (p. 34). Teachers used arts education as a tool for students to think, express their feelings, think positively and optimistically and make a compelling involvement in their education.

In addition, educational theater offers students a journey into the kingdom of the imagination (Caracciolo & Wallowitz, 2009; Diket, 2003). Hence, all these assure that arts education "bridges cultures" (Groves, 2006). Music education is also positively connected with emotions and empathy (Pellitteri, Stern, & Nakhutina, 1999). Theater as an important part of arts education helps students to respect each other and become responsible and depicts the boundaries of our personal discipline. It prompts students to cultivate team working, to express their feelings, and broadens their mind, components that strengthen their personality and activate and motivate all their knowledges (Gardner, 1999).

Above and beyond, Howard Gardner's work around multiple intelligences (MI) has had a profound impact on thinking and practice in arts in education (AIE). The involvement of students in arts education creates learners" with "deep understanding" (Gardner, 1999). An educational implication coincides directly with the work of John Dewey. Nowadays, in Cyprus, in the middle of the financial crisis, something more than a necessity emerges to develop empathy and trait EI and investigate the strengths and difficulties of our students given that they are the future hope of broadening the minds of our humanity. Thus, "students

must master new cognitive abilities to develop a cultivated mind that is disciplined” (Sandell, 2011, p. 48) because the contemporary society is more demanding than it was in the past.

### *Object of the Study*

In Cyprus, not only in state schools but in private schools as well, there are pupils who face several financial and emotional problems. The Cypriot society used to be fundamentally homogeneous in race and social class. In recent years, the educational system in lyceum is gradually becoming more flexible and offers different directions depending on inclinations, skills and interests of students. Specifically, the “Eniaio Lykeio”, is more flexible as a response to the diverse challenges, national and global. It also strengthens the European dimension of our education and culture (MOEC, 2013).

Education and empathy has become a subject of widespread discussion especially in medical and nursing education (Jolliffe & Farrington, 2007). The significance of this problem calls for substantial changes in the educational system of Cyprus so that everyone would be acceptable in our school. It should also be pointed out that many scholars tend to agree that participation in arts develops and increases empathy (Booth, 2013; Jacobs, 2013; Rupert, 2006).

The importance of arts education is therefore, a major curricular objective. According to MOEC (2013), arts education has been included and taught in the school curriculum of Cyprus and it is included in compulsory core curriculum from elementary school up to lyceum (Grade A). The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples.

## *Background of the Study*

In the 21st century, the humanity and our schools in Cyprus face many challenges and difficulties since they depict the small portrait of our society. It is important to mention that the European Commission (2007/8) put as “general aim of secondary education to develop the cognitive, emotional and psychomotor domains of students” (Pitri, p. 3). The importance of education is following Confucius’s advice supporting that if the plan is for one hundred years, it has to educate children. It is acceptable in Turner’s (2013) opinion that no “one-size-fits-all” for education! As it emerges, arts education undertakes to achieve this change. Many researchers investigated on empathy as a central component of communication competence and personality (Jolliffe & Farrington, 2007). Some of the scholars argued and connected empathy with bullying and aggression (Santos, Chartier, Whalen, Chateau, & Boyd, 2011; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). Others examined empathy from a neurological view and in relation with bullying (Jolliffe & Farrington, 2007).

Even though empathy was described firstly in a therapeutic context, it has nowadays been widely spread and in other areas of scientific and naive psychology (Čavojová, Belovičová, & Sirota, 2011; Čavojová, Sirota, & Belovičová, 2012). Furthermore, it was stated by other researchers that empathy is not just a skill that someone can learn, but it can be developed or even better, be cultivated (Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007; Elder & Paul, 2012; Gair, 2013). As a consequence, there is a full involvement in the situation and the development of close bonds among students which means that one becomes connected with the other person. Feelings are different, because they contain elements of reflection and there are also cognitive in the sense that they produce a certain understanding of reality (Sørensen, 2009).

Many researchers discussed emotional intelligence based on the theory of multiple intelligences (Davis & Humphrey, 2012; Gardner, 1993). Throughout their research, they started to distinguish emotional intelligence from trait emotional intelligence (trait EI), i.e. whether the operationalization procedure is based on self-report (as in personality questionnaires) or on maximum performance (Pérez, Petrides, & Furnham, 2005; Petrides, Rita, & Kokkinaki, 2007; Petrides & Furnham, 2000). It is also a personality trait that is opposed to a cognitive ability (Petrides, Rita, & Kokkinaki, 2007). A teacher, who nurtures empathy has the opportunity to strengthen students and helps them “see the world as the others see it; curtails diverse forms of bullying and harassment; build tolerance; and foster kindness, consideration, and caring” (Sandell, 2011, p. 51).

Moreover, the term “strengths” refers to positive psychology while “difficulties” refers to negative psychology and is related to self-regard. Low self-regard leads to low confidence and low self-esteem while high self-regard leads to high self-esteem, confidence, and self-fulfillment (Pisanos, 2011). EI skills are key factors in the appearance of disruptive behaviors based on an emotional deficit (Petrides, Furnham, & Martin, 2004). According to Goodman (1997), the strengths and difficulties questionnaire (SDQ) is one of the most frequently used screening instruments and it has been established as a widely used instrument in child and adolescent mental health research (Hudley & Romo, 2007; Maughan & Coghill, 2011; Romo & Nadeem, 2007; Weisz, Sandler, Durlak, & Anton, 2006; Vostanis, 2006). The SDQ is a behavioral self rated screening questionnaire for 11-17year olds.

Cyprus has been divided since the Turkish invasion in 1974. This has led to the Turkish occupation resulting in two separate sides: the Turkish- Cypriot side which is occupied by Turks and the Greek -Cypriot one which concerns my study. It should be pointed out that empathy and emotional intelligence would be crucial in order to understand and cultivate our students. Furthermore, the rapid demographic change of our island has also

changed both the habits and stereotypes. It is remarkable that the new demanding society creates not only bullying but stress, anxiety and alienation among people and students. Some of the tools to compensate for these gaps make use of empathy, trait EI and gain strengths in order to cope with all difficulties. According to the Press and Information Office (PIO, 2009), “joining the European Union (EU) on 1st May 2004, signified the dawn of a new era for Cyprus”.

### *Purpose Statement*

Arts education has become a subject of widespread discussion and the significance of this problem calls for changes in the educational system of Cyprus. Providing support and helping students to feel emotionally comfortable is a safe way to avoid the reproduction of demoralized schools (Payne, 2008), the apartheid in education (Kozol, 2005) and the group with “bad boys” (Ferguson, 2000) as presented in some American group. The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples.

### *Variables*

The independent (categorical) variables of this study were time one and time two and the “art” and “no art” groups. The dependent (continuous) variables were the changes in empathy, trait EI and strengths and difficulties scores.

## *Research Hypotheses*

In order to identify whether there is a relationship among empathy, trait emotional intelligence, strengths and difficulties and the changes on these variables between “arts” and “no arts” group the following research hypotheses were proposed:

Research Hypothesis 1: There is a significant change of empathy between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 2: There is a significant change of trait EI between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 3: There is a significant change of strengths and difficulties between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 4: There is a significant correlation among empathy, trait EI and strengths and difficulties and the relationships among these three variables is different for the “arts” and “no arts” group.

## *Research Design*

The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples.

This study was a quantitative research study. A quantitative research study is appropriate when the research aims to assess reliability and validity in a short period of time (Bell, 2000). Data collection included a social-emotional questionnaire consisting of four parts: The demographic information and three parts of social-emotional variables of empathy, trait EI and dimensions of SDQ. The target population of this study was conducted for B' Lyceum students in the state schools of Cyprus because they have chosen theater, education, music, free perspective drawing and visual arts as optional subjects.

According to the statistical elements of MOEC (2013), the total number of students in these 46 Lyceums in state schools of Cyprus was 6922 for this academic year 2013-2014, while the number of students of B' Lyceum in the state schools of Limassol was 2046. Due to the large number of students the sampling was purposeful. Additionally, for the purpose of this study, a sample of 589 B' Lyceum students from Limassol area was eligible to participate in the survey at the beginning of the school year while at the end of the school year the sample was 552 B' Lyceum students. The majority of the students were females in both measurements (58.2% and 57.1% for first and second measurement respectively).

The research was conducted in a group of the five schools in Limassol, two in rural areas and three urban group of the lyceum state context. The survey was carried out in two different time periods. The first one was from the 1st of October until the middle (15<sup>th</sup>) of October 2013 and the second time point was from the 2st of April until the middle (15<sup>th</sup>) of April, 2014. The students came from different schools in urban and rural areas based on the geographical and socio economic distribution. The social-emotional questionnaire was confidential.

This procedure was followed after the permission of the Ministry of Education and Culture in Cyprus (MOEC) and after gaining the Saint Louis University Institutional Review Board (IRB) compulsory permissions. The researcher created two groups for her research.

The first sample was the group of students who chose the academic direction opting for mathematics or chemistry or history while excluding arts subjects and were named “no arts” group. The second sample was the group of students who chose arts education such as music education, theater education and visual arts including free perspective drawing and were named “arts” group.

The researcher evaluated the degree of empathy, trait EI and the dimensions of SDQ and the changes on these variables between “arts” and “no arts” group among students of B’ Lyceum in the five schools of Limassol. The students of two groups were both pre-tested and post- tested for empathy, trait EI and SDQ dimensions and the changes on these variables between the “arts” and “no arts” group.

#### *Statistical Analysis*

Continuous variables were presented with mean and standard deviation (SD) and with median and interquartile range (IQR). Quantitative variables were presented with absolute and relative frequencies. In order to explore the association between empathy, trait emotional intelligence, strengths and difficulties dimensions, Pearson’s correlation coefficients were used both in a total sample as well as for each individual group.

Likewise, students’ t-test was computed in order to evaluate differences in empathy, trait emotional intelligence, strengths and difficulties scores (separately for each questionnaire dimension) between the “arts” and “no arts” group separately for the first and second measurements. In order to evaluate the effect of both the arts” and “no arts” group and the differences in the degree of change during the follow up in the two study groups, linear regression analysis was conducted having as dependent the variables presented study scales (empathy, trait emotional intelligence and strengths and difficulties dimensions) and as independent variables the groups (“arts” and “no arts”), the time and the interaction of time



with the groups. Another variable that was included in the regression models referred to demographics.

Variables were firstly tested for normality using the Kolmogorov-Smirnov criterion. Log or other transformations were conducted in case of not normality. Descriptive statistics such as mean, standard deviation, median, minimum and maximum values were used to describe the empathy, trait emotional intelligence and strengths and difficulties scores at each time point. Also, the mean changes of the scales from baseline measures were described. The effect of time, group and also the interaction of time with group were tested via regression models and were presented with appropriate statistics such as regression coefficients with standard errors.

### *Key Concepts*

Empathy requires systematic reexamination, particularly on the part of arts education, concerned with global images and its power to control the personality and cultural understanding (Jeffers, 2009). Psychologists, philosophers, and educators studied about the implications of empathy not only on the 20<sup>th</sup> century but on the 21<sup>st</sup> century as well (Jeffers, 2009). Empathy may play a crucial role in social life when “shares emotion, experiences, needs, and goals” (Iacoboni, 2008, p. 109).

“Its proximal roots lie in Gardner’s (1983) work on multiple intelligences (MI) and, more specifically, his concepts of intrapersonal and interpersonal intelligence” (Pérez, Petrides, & Furnham, 2005, p. 656).

“Trait EI comprises personality facets are specifically related to affect. Thus, it is “another way to conceptualize trait EI is as a broad construct of general emotionality” (Petrides, Niven, & Mouskounti, 2006, p. 101).

The strengths and difficulties questionnaire is designed to be used as a screening tool in clinical assessment, to assess treatment outcomes, and as a research tool (Goodman, 2001). The SDQ subscales were developed by Goodman (1997) and it is a behavioral self rated screening questionnaire for 11-17year olds and assessed general difficulties and positive attributes.

### *Limitations of the Study*

The research was conducted in the presence of two limitations. These included the validity and reliability and data generalizability.

Any kind of technique which is going to be used for the collection of data has to be examined and assessed in order to identify in what extent it is valid and reliable (Bell, 2000; Gall, Gall, & Borg, 2010; McMillan, & Schumacher, 1989). The fact that the research was conducted in a group of the five schools, in Limassol, two in rural areas and three urban schools and only at lyceum state context it means that the data generalizability across the whole island was going to be difficult. The lack of substantial previous evidence in Cyprus regarding the implementation of arts education in relationship with empathy, trait EI and strengths and difficulties created a problem of research validity again.

The researcher also gave the participants enough time in order to think about their answers to the questions carefully and patiently and thus, the prospect of rapidity and inconsiderate answers were eliminated. A pilot was conducted before the research. The purpose of piloting the questionnaire is to confirm the success of a research study and get the infections out of the instrument (Bell, 2000; Gall et al., 2010) so that the researcher confirmed that the participants in the main research do not face difficulties about the wording of the questions or about the analysis of the data. The participants of the pilot research can inform the researcher regarding how long it has taken them to complete the questionnaire,

whether the instructions were clear, if they believe important topics were omitted and finally, if the layout of the questionnaire was clear and attractive (Bell, 2000, 2005; Gall et al., 2010).

The fact that the research was conducted in a group of the five Lyceum schools in Limassol, data generalizability across the whole island was going to be difficult. The lack of substantial previous evidence in Cyprus regarding the implementation of programs created again a problem of research validity. The students were self-reporting and this was a limitation because “self-reports are criticized for being inaccurate and subject to response biases” (Mavroveli, & Sánchez-Ruiz, 2011, p. 113).

Additionally, the researcher did not know if the research would lead to any differences between the two groups. The question, therefore, is how the researcher can be sure that the study would lead towards the collection of valid data, if there was no previous relevant evidence to compare with and measure up to.

### *Definition of the Terms*

#### *Arts Education*

Plato defined art as mimesis of nature. The researcher focused on three disciplines of arts education which were teaching subjects in the educational system of Cyprus: Music education, theater education, and visual arts including free perspective drawing.

*Music education (ME)*. According to MOEC (2013), the compulsory music education begins from pre-school up to A' Lyceum. In the B' Lyceum students have the choice to have the music education as an optional subject which is considered subject of interest. The music education is an optional subject for the C' Lyceum as well and is taught two hours per week for B' and C' Lyceum (an hour in the educational system of Cyprus is forty five minutes). In

B' Lyceum it is taught in specific forms of music education such as choir, orchestra, and band (MOEC, 2012).

*Theater education (TE).* According to the MOEC (2013), theatre education includes theater and drama which is taught from pre-school years until the end of the elementary school and it is called "theater education". In the secondary school ancient drama is taught rather as a linguistic subject than as role playing. In B' Lyceum students can choose theatre as an optional subject which is considered a subject of interest. The theater education is an optional subject for the C' Lyceum as well and it is taught four hours per week for B' and C' Lyceum (an hour in the educational system of Cyprus is forty - five minutes long).

*Visual arts (VA).* According to the Free Dictionary (n.d.), "art work, such as painting, photography, or sculpture, appeals primarily to the visual sense and typically exists in permanent form". Free perspective drawing is included in visual arts. Moreover, according to the new curriculum of Cyprus (MOEC, 2013), VA is a compulsory subject for students from pre-school up to A' Lyceum. For the B' and C' Lyceum it is an optional subject. It is taught four teaching hours per week for both B' and C' Lyceum. In the program of visual arts the free perspective drawing is included which is taught four teaching hours per week for both B' and C' Lyceum as an optional subject. Yet, it is not taught in previous classes as a separate subject. It may happen to teach only some chapters of that subject.

### *Empathy*

Hoffman (2000) defined empathy as "feelings that are more congruent with another's situation than with one's own situation" (p. 30), while Mehrabian and Epstein (1972) defined emotional empathy as a "vicariously emotional response to the perceived emotional experiences of others" (p. 525). Empathy is an evolved mechanism that promotes altruistic behavior (de Waal, 2008).

As Mehrabian and Epstein (1972) identified, there are two kinds of empathy and there “is a critical difference between the cognitive role – taking process and empathetic emotional responsiveness” (p. 525). The first one, the cognitive, cultivates the mind and the second is the affective which cultivates the emotions. According to Mary Gordon (2012), the program “Roots of Empathy” (RE) educates both the mind and the heart. This program involves students in social and emotional learning. Gordon (2012) believes that “communication skills, arts, and music, are important components of every class they offer” (p. 25). Deficits in empathy can play a critical role in behavioral problems (Jolliffe & Farrington, 2006; Miller & Eisenberg, 1988).

#### *Emotional Intelligence (EI)*

According to Goleman (2002), EI can “manage feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly towards their common goals” (p. 2). Goleman (2002) modified and grouped the five domains of EI into four major skills of EI: self-awareness, self-management, social awareness and relationship management.

#### *Trait Emotional Intelligence (Trait EI)*

The distinction between trait EI and ability EI is predicated on the method used to measure the structure and not on the elements (facets) that the various models are hypothesized to encompass (Pérez, Petrides, & Furnham, 2005). Petrides and Furnham (2001) proposed a clear conceptual distinction between two types which are the trait EI and ability EI (Petrides & Furnham, 2000; Petrides & Furnham, 2001).

#### *Strengths and Difficulties Questionnaire (SDQ)*

The strengths and difficulties questionnaire (SDQ) is an instrument developed by Robert Goodman (1997) and was designed to assess children’s social and emotional behavior. According to Goodman (1997, 1999, 2001), the SDQ is a measure for behavioral

problems and strengths in children and adolescents (four- to 16-year-old). It includes five domains: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behavior. It is designed to include both positive and negative worded items.

### *Lyceum Schools*

In the educational system of Cyprus, Lyceum schools consist of students between the ages of 15 to 18.

*Lyceum state schools.* In the educational system of Cyprus there are four stages of education: Pre-primary (ages 4-6), Elementary (ages 6 1/2-12/13), Secondary (ages 13-15/15 1/2) and Lyceum (ages 15-18). According to the MOEC (2013), for the 2013-2014 school year there were 45 lyceum state group all over Cyprus (14 in Nicosia district, 14 in Limassol district, 7 in Larnaca district, 8 in Paphos district, and 3 in Famagusta district).

### *Summary*

In conclusion, very little research has been done about the relationship among arts education and empathy, trait emotional intelligence and strengths and difficulties in the Cypriot schools. The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples.

This chapter presented the background of the study, the purpose of this study, the variables, and the research hypotheses, the chosen research design, the key concepts, the limitations and the definition of terms. Chapter two presents the literature review in relation to the study variables. It is divided into ten sections.

## Chapter 2: Literature Review

### *Introduction*

The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples.

The conceptual framework of the following literature review is divided into ten sections. The first section presents literature related to arts education and distinguishes arts education and arts in education (AIE) and then presents specific subjects of arts which are taught in the secondary schools of Cyprus: music education (ME), theater education (TE), and visual arts (VA) including free perspective drawing as an optional subject lesson in B’ and C’ Lyceum in the educational system of Cyprus. The second section presents literature on the scenario of arts education. The third section gives emphasis on the approaches and theories in relationship with arts education. The fourth section gives emphasis on arts based programs in the USA, in Europe and in Cyprus. The fifth section presents literature related to the impact of arts. The sixth section presents literature of the educational context of Cyprus related to arts education. The seventh section presents literature on a study case in Cyprus and in relationship with social-emotional variables of empathy, trait EI and strengths and difficulties (SDQ). The eighth section presents literature on empathy related with arts education. The ninth section presents literature on emotional intelligence (EI) and trait EI. Finally, the tenth section presents literature on strengths and difficulties (SDQ).

## *Arts Education*

The educational system of Cyprus, offers obligatory subjects from pre-primary up to A' Lyceum and optional ones for B' and C' Lyceum which are included in the corpus of education. Arts in Education are extracurricular programs (MOEC, 2013).

In this study, the researcher was concerned with these particular subjects as they are taught as optional in B' Lyceum in state schools in the educational system of Cyprus: music education, theater education, and visual arts including free perspective drawing which is taught additionally to the visual arts, as an extra subject. One student may choose visual arts excluding free perspective drawing and vice - versa or they may choose both of them. It depends on students' orientation and their perspective for their further studies. Quite often students chose these particular subjects because they are interested in them. However, the teachers of these subjects play a significant role to students' decision regarding whether they choose them or not. Specifically, some teachers have strengths and inspiration to instill them empathy or EI or some teachers give good marks which is important for students' final report. The final report (apolytirio) is still very crucial in the educational system of Cyprus because it contributes to a student's access in higher education as credit points.

Waldorf Education was established by Rudolf Steiner in 1919 which was also called Steiner School. It is based on a deep understanding of human maturity and has three stages: willing, feeling, and thinking (Nordlund, 2013, p. 14). For the Waldorf student, music education, theatre education and visual arts are not simply subjects to be read about, ingested and tested. Waldorf supports student's cultivation of the intellectual and emotional capacities in order to service the world (The Waldorf School of Santa Barbara, 2008, para. 1). Schooling in the arts had cognitive effects that help the preparation of students for the 21st-century workforce (Catterall, 2002, 2011, 2012; Deasy, 2002; Psilos, 2002).



### *Arts Education and Arts in Education (AIE)*

According to the Report of the Committee, the Department of Arts, Heritage and the Gaeltacht (2011), arts education referred actually to the teaching and learning of the arts as part of the general education. On the contrary AIE referred mostly to interventions from other teachers as extracurricular lessons into the education system. “That, meant artists of all disciplines visiting group or by group engaging with professional arts and cultural practice in the public arena” Department of Arts, Heritage and the Gaeltacht, 2011, p. 3).

### *Music Education (ME)*

In the educational system of Cyprus, music education as a teaching subject, is obligatory only from pre-primary school up to A' Lyceum and optional in B' and C' Lyceum (MOEC, 2013). According to the educational system of Cyprus, the ultimate aim of singing as a part of music education is to cultivate empathy and EI, discipline and self-control components sufficiently enough to strengthen the personality of a student (MOEC, 2013). The institution of the Eniaio Lykeio was introduced on a pancyprian scale, replacing the Lykeio of optional subjects in 2000-2001. Reasonably, the new institution was promoted in order to be able to face the challenges of the new society and reality (MOEC, 2013).

According to Watson (1991), Plato in the early years declared that “music is a moral law. It gives a soul to the universe, wings to the mind, flight to the imagination, a charm to sadness, and life to everything” (p. 45). “Music education is a communicator, a transducer of emotion, a stimulator of understanding explicit or implicit. Music education teaches in a way that we cannot replicate with words” (Skorton, 2009, para. 3). Students can compose, listen and write songs dealing with empathy and understanding (Seaman, 2012). Finally, it is a vehicle for students to express their true feelings and put everyone in the same place (Levine, 1997).

### *Theater Education (TE)*

Page, Freeman, and Hersh (2010) recognized that it is time to find new ways and “innovative initiatives for character-development programming and empathy training for their students” (p. 16). As Hobgood claimed (1987) theatre education “builds on a foundation of emotional and intellectual commitment” (p. 61). Two decades later, Lane (2012) attempted to connect theatre education with environmental education through role playing. He also suggested that “theatre education and indigenous knowledges aspects of embodiment allow students to look and listen in ways which increase the environmental sensitivity” (Lane, 2012, p. 397). The ultimate aim is to “build a more compassionate and empathetic student body” (p. 16), particularly in this sensitive age that teenagers were seeking to find their “true self”. Furthermore, theater arts in combination with movement and vocal activities helped the teachers to listen to each other, to work together and revived empathy among them (Orzulak, 2006). The use of Drama in classroom increases awareness collaboration, empathy and proper understanding of human behavior, in regard to the diversity in educational situations (Toivanen, Komulainen & Ruismäki, 2011).

### *Visual Arts (VA)*

The definition of Edutopia (2012) about VA includes “all forms of creative and expressive production in material and media resulting in architecture, painting, sculpture, photography, craft, ceramics, printing, and applied design” (p. 1). Free perspective drawing is a kind of visual expression and is one of the major forms within the VA.

Visual arts correlate with the sciences and humanities and help students and people to link the past and present life (Groves, 2003; Sandell, 2011). Finally, arts cultivate empathy as an answer to bullying and harassment (Jolliffe & Farrington, 2007; Sandell, 2011). As a result the teacher can inspire tolerance and “fosters kindness, consideration, and caring” (Sandell, 2011, p. 51).

## *The Scenario of Arts Education*

Arts Education dates back to Greek and Roman eras. Plato and Aristotle wrote about the importance of the arts because the Ancient Greeks very early anticipated that through theater education they could put priorities and limits in their lives. When Aristotle defined the good citizen as the man who has the capacity to govern and to obey as well, he saw beyond him, the family, the city and the community as a whole(Allen, 2002).

It is important for each school which hopes to be responsive to the needs and expectations of all pupils, to abandon racist dispositions and adopt attitudes of acceptance or even smooth incorporation and inclusion. Arts education allowed for direct human expression (Diket, 2003). Educators must offer an assurance for educational equity, high expectations and the use of imagination. They have to provide arts education among successful and unsuccessful students or dropout at group, “critical engagements with critical texts” (Rozansky & Aagesen, p. 464).

Well (1998), very fascinatingly pointed out that education must accomplish itself not only in theory, but also in practice so as to provide equal opportunities for all students, regardless of their race, color, class, nationality, gender, age or disabilities. All students work together in an attempt to build up one image.

Besides that, in the United States, it is well known (Hobgood, 1987) that “the beginnings of Theater in American Education, activities were voluntary and extracurricular” and it is emphasized that “TE became a teaching area” (p. 58). Delpit (2006) assesses that all successful teachers ought to stimulate all students to “think critically about what they are learning and the world at large” (p. 223). It is equally important “to enhance the quality of life for at risk youth, develop their ability to solve conflicts in a positive manner and to teach them skills that empowered them to become productive adults” (Moroney, 2003, p. 8).

Moreover, Dryfoos (1991) pointed out that “not only does everyone talk about high-risk behavior, everyone does it” (p. 57). In the literature review there are many labels for those students, such as marginalized, at risk, dropout students, and students with special needs, poor, black and other labels. McLoughlin & Garrison (2003) using the term at risk or marginalized or even dropout indicated that the children frequently labeled in that way, have challenges that include “hunger, drug use and addiction, teen pregnancy, gang membership and violence, low self-image, low or inappropriate conflict resolution skills, low academic achievement, as well as physical, sexual, and emotional abuse” (p. 10).

In Canada, educators frame and implement practices associated with "at-risk learners" within a dynamic social context. Burchardt, Le Grand and Piachaud (2002), note that in the USA, the name "ghettoization," "marginalization," and "the underclass" is a way “to denote the condition of those individuals similarly living in poverty” (as cited in Lakes, 2005). Additionally, in the United States, educators use the theater education as a tool for their student’s career and simultaneously, help young people to discover a meaning in their futures (Lakes, 2005).

The participants in image theater education tend to be “spontaneous” with punctual approach to texts from a critical stance (Courtney, 1973; Rozansky & Aagesen, 2010). Cooper (2004) illustrates the power of imagination, arguing that it is “instrumental in all learning... It brings ingenuity to the process of learning and liberates the mind from the actual by projecting us into the possible” (p. 87). Scholars present many approaches that contribute directly or indirectly to the arts. The literature review about the approaches is extended but it was an attempt to present some theories from the American, Greek and Cypriot domain.

## *Approaches and Theories in Relationship to Arts Education*

Some approaches and theories contributed to the use of arts education and the benefits of enactment with it. Gardner was one of the protagonists in the theory of “multiple intelligences” (1999). In the same way Piaget contributed in the establishment to arts education pointing out its meaning.

### *Gardner's Theory*

A broader vision and aspect of education should be adopted. Teachers need to serve all intelligences which must be their major and fundamental apprehension because group as small pictures of the society are often unequal and quite often racist. The inequality and the racism are about the multicultural (including Turkish-Cypriot), marginalized students, and students with special needs, at risk or dropout students.

Gardner's theory (1999) is an appropriate approach to release the curriculum and make use of the dramatic work through “multiple intelligence setting” (“MI setting”). Howard Gardner's work around multiple intelligences has had a rational impact on thinking and repetition in education - especially in the United States. He declares that it is time to release students and teachers from the monolithic knowledge and give the opportunity to see beyond the blackboard (Gardner, 1999). Similarly, it is time to discover the emotions and make an effort to use them as a moving power of knowledge. According to Gardner (1999), skills and techniques of representation must be flawless in order to portray a convincing reality or imagination by activating and actualizing all the funds of knowledges. Language, music education, theatrical thinking and the use of the body create the presuppositions to understand the world, to clarify problems and make things acceptable to other creatures or even give an understanding of our inner selves. Indubitably, music , theater education, visual arts including free perspective drawing and generally arts education, are the best way to

achieve that since they motivate and activate all the domains regarding Gardner's theory about MI(1999).

### *Constructivism Theory*

There are two major types of constructivism in the classroom. The first one is cognitive or individual constructivism which is based on the theory of Piaget and the second one is called social constructivism which gambles on Vygotsky's theory. In cognitive constructivism, ideas are harmonized in individuals in a personal way, in contrast to social constructivism where ideas are constructed through correlation with the teacher and other students (Powell, Katherine, Kalina, & Cody, 2009). Music, theater education, and generally arts education make this correlation easier and enforce the relationships between teachers and students. The last few years' educational reform which has taken place in Cyprus is in progress and it is based on the theory of constructivism (MOEC, 2011; Powell & Kalina 2009).

According to constructivism, students' minds are not blank slates (Latin term: *tabula rasa*). On the contrary their minds contain existing knowledge based on their prior experiences (Peters, 2000). Powell and Kalina (2009) claimed that ideas are harmonized in cognitive constructivism and individuals in a personal way, in contrast to social constructivism where ideas are constructed through correlation with the teacher and other students. "Both Popper and Piaget incorporated the idea that an independent reality is approximated through critical inquiry, testing, and revisability" (Harlow, Cummings, & Aberasturi, 2006, p. 42).

The concept of situated learning is embedded in constructivism (Pitri, 2004). In a situated learning approach, knowledge and skills are learned in contexts that reflect how knowledge is obtained and applied in everyday situations (Anderson, Reder, & Simon, 1996; Stein, 1998). According to Anderson, Reder, and Simon (1996), in situated learning, learning

is the result of a social process that encompasses ways of thinking, perceiving, problem solving and exists in complex, social environments made up of actors, actions, and situations. According to Piaget's cognitive constructivism theory, everyone has their own individual tempo to acquire knowledge and learn. As a result, theater and generally arts education may nurture students to activate all their potentials, all their strengths, cultivate the empathy and the trait EI (Goddu, 2012). Piaget's theory focused and emphasized to qualitative than quantitative developmental change in cognition, with an active role of the person in constructing knowledge (Goddu, 2012). Both Piaget and Vygotsky established the idea of teacher's role as a facilitator and guide, and not a director or even more, dictator (Powell, 2006). Experiential learning through arts education enforces and facilitates the relationships between teachers and students. Vygotsky's theory about the learning environment and the diverse learning leads to the road of arts (Powell et al., 2009).

### *Theory of Emotions*

The term “emotion” is a label that has different processes and meanings. The role of emotions still remains crucial and unique in our life. Emotions must be acknowledged and studied as constitutive components of socially just teaching that aims to facilitate the changes needed to improve the learning opportunities of students and to empower them to act for their rights and against injustice. According to Zembylas (2008), the unresolved issue of refugees after the Turkish invasion in 1974 influenced the policies and practices in the educational system of Cyprus. The participation in an arts education program is a hopeful prospect. Without feelings, there is no hope for art.

Engaging emotionality in teaching and learning, by examining the feelings of the students about poverty and discrimination, can be helpful and make the necessary change about the educational practices in the perceptions of equity in the schools and in the society (Chubbuck & Zembylas, 2008). Without the knowledge of the feeling of others there is no

transformation since “the cognition is the engine of the mind but feelings and emotions are the fuel and, often, the steering wheel of the mind” (Demetriou, Spanoudis, & Mouyi, 2012, p. 20).

Besides, as it has been stated by Greer (1993), other countries which experienced such a similar problem, have addressed the need to modify and revise arts education. The participation in TE gave the chance to participators to purify their sins through the fear and the mercy that was called “eleos” in Ancient Greek. The contemporary viewers believed in the valuable and life - long concepts of theater education and they reasonably promote the lifelong teaching which was one of the annual aims of the Ministry of Education of Cyprus (2010-2011) since the incorporation of Cyprus in the European Union (MOEC, 2011).

A study of Goleman (2008) that was held by the Collaborative for Academic, Social, and Emotional Learning (CASE), by Loyola University and the University of Illinois, illustrated the effects of social-emotional learning. He exemplified that the benefits and impact on at risk students was remarkable because they adopted “positive behavior and engagement in anti-social behavior, from bullying and fight to substance abuse” (p. 8).

Without doubt, emotions are in direct correlation with arts education. Emotions and TE are interrelated and interdependent. Goleman's emotional intelligence includes such components as self-awareness, social awareness, self-management, responsible decision making and relationship skills; the goal of building emotional intelligence (BEI) is to improve children's abilities in each component. It is important to read between the lines whereas making art, is the same as creativity and critical thinking.



## *Arts Based Programs*

According to CASEL (2013), research clearly demonstrates that social and emotional skills can be taught through school-based programs. Some arts based programs are proposed for teaching social and emotional skills (Elias, & Weissberg, 2000; Johnson, Poliner, & Bonaiuto, 2005; Lantieri & Nambiar, 2012; Shah, 2012; Weissberg, Resnik, & Payton, 2003).

### *Building Emotional Intelligence (BEI)*

Building Emotional Intelligence (BEI) combines concepts and techniques from cognitive and behavioral theories with Goleman's (1995) conception of EI. Feelings imply the use of arts education, even though there is no directly clear and specific reference about arts and emotions. Arts education is impossible and invisible without feelings to cultivate mutual respect and shape the students. Education without arts creates machines and not human beings.

### *Theater of the Oppressed (TO)*

The Theater of the Oppressed (TO) is an alternative way since it promotes “critical literacy” and “examined oppression, empathized with others” (Rozansky & Aagesen, 2010, p. 464). It is an alternative also hope for “dropouts” students as it strengthens them to confront the world and become incorporated in it.

### *Discipline-Based Arts Education (DBAE)*

Discipline-based arts education(DBAE), as a method is based on the faith that art students of all ages can best learn about art by working with the same type of content that professional artists work with (Walker, 2001). It is fundamental to encourage students for empathy and trait EI so as to avoid stereotypes and embrace the team with tolerance and without prejudices so as to overcome difficulties.

It is well-known in state schools that whether students have “discipline- DBAE, or integrated arts that promotes core content knowledge— literacy, numeracy, critical thinking—alongside with self-expression, the desire to have arts” not only exists but increases as well (Chernoff, 2009, p. 77). In order to make personal links with these big ideas and explorations of these issues they have to be guided to the magic road of art. It is a common consensus that a society is condemned to die when “it keeps its people chained to stereotype images” (Broudy, p. 27).

#### *The Getty Center*

“The Getty Center” is a very good example of such an approach which has been created as an effort through seminars, conferences and debates to establish discipline-based arts education (DBAE). Greer stated (1993) that “other countries who were facing such a problem, have addressed the need to revise arts education and they proposed the broadening of the arts curriculum” (p. 96). Here there is the opportunity to follow DBAE in our schools. However, the emphasis on the individual scrutiny and reflection invites student artists to grapple with and make meaning of these issues in their own lives. This common-sense synthesis of arts education approaches implies the possibility of students’ engagement both academically and instinctively in art production (Roberts, 2005).

#### *Career Technical Education (CTE)*

In Cyprus, the technical student tends to be considered as at risk, despite the private student as a millennial. Theater education helped students “to raise their self-image, to become problem solvers” (Cymber, 2011; Reese, 2011). Arts education was the key to carry on them with a solid quantity of technical practice, attitudes and social contacts which “established habits for his future” (Hartke, p. 42). This was the best way to see the alienated youth not as “dysfunctional and deficient than as attempting to transform the marginalized into disciplined” (Lakes, 2005, p. 27).

Unfortunately, there were misperceptions about CTE abound. Technical students very often have behavioral problems or even difficulties in the cognitive domain. Arts education may instigate “high aspirations that can provide the push for educational attainment and the motivation to overcome difficulties encountered on the way” (Burchardt, 2004, p. 181).

### *DreamCatchers' Theater*

In the USA, Betty Garrison, a theater educator created this work with at risk students giving them a hope for tomorrow:

Doing dramatic work with at-risk youth offers powerful, and often challenging, opportunities for growth to all involved. As people who are marginalized and silenced in society- at-large, at-risk youth need safe outlets for voice and emotion that validate self, allow exploration of actions and beliefs and offer opportunities for growth in social and life skills. (McLoughlin & Garrison, 2003, p. 10)

McLoughlin and Garrison (2003) found out that the “DreamCatchers' Theater” in Chicago, is an attempt to help students. Lakes (2005) illustrated that “visual and performing arts gave at- risk young people opportunities to investigate their biographical histories and personal experiences” (p. 32).

### *International Drama/Theater & Education Association (IDEA)*

International Drama/Theater and Education Association (IDEA) (2013) is a worldwide organization that was founded in 1992 and it is interested in all citizens from the entire world. According to IDEA (2011), its members are culturally diverse drama, theater education and education practitioners, artists, pedagogues and teachers, from around 90 countries who are united in their commitment to making available, important and present in the lives of children and young people everywhere. Greece is also one of the participant countries. Many national drama/theater associations are members of IDEA, as well as individual artists and practitioners. They advocate and support drama/ theater education as part of a full human education and they promote international dialogue and research around

the practice and theory of drama/ theater education. Beyond them, they support the practice of drama/ education to achieve human rights and peace throughout the world.

*International Theater Institute and International summer Institute for Ancient Drama (ITI)*

The Cyprus Centre of International Theater Institute (ITI) was founded in November 1977. In Cyprus there is also the International Summer Institute for Ancient Greek Drama –as part of this-which started in the year 1998 as a summer school movement, running parallel with the International Meeting and Festival of Theater group. It is organized under the auspices of the Cultural Identity and Development Committee of the International Theater Institute, as a yearly event (ITI, n.d.).

*Methodology for a Pupil & Performing Arts Centred Teaching training course (Mppact)*

It is validated by a European program of Comenius - Socrates (2013) that promotes the international mobility. The Mppact makes an effort to find the identity in a changing Europe and in a changing world in the reality of the globalization. Mppact is itself a methodology which is placed at the center of the learning process. One of the core aims is to realize of the cultural action and education as social transformations. In Cyprus, there is a reference that one school, the Lyceum of Dasoupolis in Nicosia, used the Mppact as part of teaching of Ancient Greek, the Iliada of Homer (MOEC, 2012). According to Mavrocordatos (2009), the manifest of Mppact centers on the creativity and imagination of the students through arts education. It is applied in Greece, Cyprus, England and Denmark.

*Peace Education Environmental Education (PEEE) through Arts*

In addition, Aggelides, Stylianou, and Leigh (2004) suggested that the curriculum of Cyprus should include “programs to combat racism, xenophobia and discrimination” if the purpose is to make a peaceful education (p. 313). The literature review suggests that Cyprus has always been intercultural due to the co-existence of Greek-Cypriots and Turkish-Cypriots along with Maronites, Armenian and Latin minorities (CPIO, 2001). The road of visual arts

is wonderful and functions as a facilitator to socialization because “pictures were not understood as individual expressions, but rather as communicative texts composed of visual signs that could be created and used in the service of social activities” (Illeris, 2012, p. 227). The International Child Art Foundation (ICAF) started developing a methodology for peace education through art programs. It is based on the fields of psychology, peace education, and arts and aims to help children transform aggression into friendship. It must involve all parts of the communities in conflict, including the young (Fulbright, Mayor, & Ishaq, 2003). According to the authors, in this program participants learned through collaborative and individual art projects to explore the "other side" as well as themselves. A subtle aim was to sow the seeds of peaceful coexistence into the future of Cyprus and contribution to global peace. When the environment is studied as a component of peace education, it gives the prospect of enlightening holistic thinking and develops peaceful coexistence (Vrasidas, Zembylas, & Evagorou, 2007).

Psychodrama is a guided dramatic action that allows participants to examine problems and issues (Holmes, 1984; Kranz, Ramirez, & Lund, 2007; Moreno, 1999; Orkibi, 2011). It is a therapeutic approach that utilizes a variety of child case studies especially for students who face emotional and behavioral problems. Educators have used drama to face those problems (Feldman, 2008). Gardner (1993) pointed out another point of view, the use and utilization of psychodrama to bereaved children.

A circular document for secondary schools announced the introduction of a policy initiative to promote “peaceful coexistence”. This circular document for peaceful coexistence refers to primary education as well and it was one of the objectives of the school-year 2008–09, emphasizing that education must cultivate those elements that offer us and children “the peaceful coexistence and collaboration between Greek Cypriots and Turkish Cypriots (MOEC, 2008). Cyprus became a member of the European Union (EU) in 2004

which implies that it has the commitment to agree and obey with the rules of Schengen, one of which is the free movement of European citizens.

### *Roots of Empathy (ROE)*

The Roots of Empathy (ROE) is “a classroom program that has shown dramatic effect on reducing levels of aggression and violence among schoolchildren while raising social/emotional competence and increasing empathy” (Gordon & Green, 2008, p. 34). Mary Gordon created the “Roots of Empathy” in 1996 as pilot program in Toronto, Ontario, reaching 150 children (Gordon, 2007, 2012). They must establish classroom environments that challenge and nurture diverse groups of students (Muschell & Roberts, 2011). This program instills the empathy and caring among students. It is offered in schools across Canada and Australia. The ROE has reached almost 29,000 students so far in 2005(Gordon, 2012). According to the president (Gordon), the program also aims to the inclusion to diversity settings with respect and caring (2012).

### *The Impact of Arts*

The crux of creative, stimulated and critical thinking are central to a humanistic approach to arts education (Eisner, 1999; Greer, 1993). The benefits of arts education in curriculum are various and multilevel. First of all, they help students to respect each other, to gain discipline and become responsible by taking part in a performance, they can express their feelings, letting alone broaden their mind. Arts education is a global issue since “the challenges and opportunities of globalization require scholars and practitioners to develop international competencies” (Dewey, 2008, p. 277).

This is the crucial reason regarding why in the past few years, it has become more important to include arts in the current curriculum. Psychodrama and role-playing, and

imitative play are methods educators can use to encourage understanding self/other-awareness, and emotion regulation (Calley & Gerber, 2008). Courtney (1973) distinguishes and compares music and theater education pointing out that theater education is a direct art form.

It is remarkable that after the World War II “the number of theater programs at all levels grew” (Hobgood, 1987, p. 58). The educational theater, brought into the light the students with the tools and materials “for an intellectual comprehension of the field of theater education and gave him an organized program of study for the grasp of these” (Hartke, p. 42). Uthman (2002) revealed another parameter of theater impact that is very important and useful for all the stages of learning, as readers’ TE which gives them “the opportunity to let students shine as well as learn – they build confidence and reading skills too” (p. 57). In another study of Groves (2003) visual arts, especially painting became “a viable tool in anger management” (p. 192).

In the USA, the problem with arts education is more apparent particularly in segregated schools where students feel abandoned and without trust (Kozol, 2005; Sanchez, 2010). Every school, few decades ago, had a full-time music teacher. During the following decades, all these services vanished and became a luxury because in these entire schools the white became the minority. Consequently, school musicians were removed during these years. The excuse was always the financial crisis (Kozol, 2005). It is acceptable that arts education is so important and necessary to those kids especially for the improvement of their emotional world.

The United Nations Educational, Cultural and Scientific Organization (UNESCO, 2013) demonstrates that arts lead to “a balanced intellectual, emotional and psychological development of individuals and societies” (para. 7). Also, arts education may “enhance social adaptability enabling them to build tolerance and acceptance” (para. 7).

### *Educational Context of Cyprus*

The educational system in Cyprus is highly centralized (Angelides, Vrasidas, & Charalambous, 2007; Aristodemou, 1995; Koutselini, 2004; Kyriakides, Kaloyirou, & Lindsay, 2006; Kyriakides, 2005; Papastavrou, 1995; Reilly, 1992) while some other researchers report it as ethnocentric (Hajisoteriou, 2012). This is the reason why the private and the state schools in Cyprus, are obliged to follow a national curriculum which is given out by the Ministry of Education and Culture of Cyprus (MOEC, 2012). As the researcher aforementioned, in the Cypriot educational system, subjects of arts education are optional in B and C' Lyceum while they are obligatory from pre-primary up to A' Lyceum. Theater education is exclusively taught by teachers of teatrology and not by teachers of Greek literature who have a background of knowledge and experiences in ancient drama, comedy and tragedy. It is crucial to know that orientation of modern theater has roots from the ancient theater. Thespis firstly established the ancient drama, so as to get an even deeper awareness and perception of theater. Each particular subject of drama is a hopeful and optimistic vision of what can happen through arts education. Each student feels more comfortable when he has the chance to express his feelings and put aside or even throw away the label of his race, his social class or his ethnicity, factors he thinks that would be obstacles for him to the "social ladder"(Macleod, 2008).

According to the MOEC (2013), "the Eniaio Lykeio" offers common core subjects, which are obligatory for all pupils, and optional subjects. Common core subjects offer general education, multi-faceted development and acquisition of general skills, which are required by the contemporary realities. All subjects in class A' are common core subjects. In classes B' and C' pupils attend common core lessons and at the same time they choose optional subjects for systematic and in depth study of subjects in which they are interested in.



MOEC is against segregation of non-indigenous children. Trimikliniotis and Demetriou (2006) pointed out that there was an inclination towards segregation in schools with high assimilation of migrants, minorities, and Greek Cypriots from poorer backgrounds. At the same time with the growing number of these students, in most of those schools, there is a significant reduction of the 'typical' Greek-Cypriot students (i.e. white, middle-class). Although there is increasing evidence of racial prejudice against minorities (Trimikliniotis, 2008), the MOE supports that it does not have the mechanisms to provide proper figures on racist incidents in the schools. Another study of Panayiotopoulos and Nicolaidou (2007), acknowledges that their semi-structured interviews pointed to racist incidents; non-indigenous children were targeted mostly because of the manner in which they get dressed, the financial difficulties of their families and their skin color. The work of Christopoulou (2010) in Greek educational context showcased that "art curricula ought to connect to students' life experiences and reflect changing social needs" (p. 99).

In the same way, art curricula in Cyprus ought to be redefined due to the rapid and radical social and economic changes. It is well-known that nowadays, in the Cypriot schools there are mixed abilities students and a whole class with Greek Cypriots can rarely be found. Each class also has students who come from Asia, the Middle East, England, the ex-Union of Soviet Socialist Republics (USSR) or even Turkish Cypriot. They differ not only in ethnicity but in social class and culture, as well. Each school has the obligation to find ways to communicate with these students. Unluckily, it is familiar that local and national compulsions are at the bottom of the list of school preferences in relation to the arts because as it has been said, they are not the "bread and the butter of education".

### *The Study Case of Cyprus*

It is very important to highlight some historical events of the history of Cyprus because most of the population problems in Cyprus happened due to those historical events. Cyprus was under the Ottoman occupation for four centuries (1570-1878) and then under British regulation from 1878 up to 1960 (Katsonis & Huber, 1998; Persianis, 1996). Cyprus is still divided for almost four decades now into its south part (Greek Cypriots) and north part (Turkish Cypriots) after the 1974 Turkish invasion in Cyprus (Papadakis, 2008). Since the occupation of Cyprus in 1974 the two parts have been estranged even though, in 2003 some freedom of movement was allowed between the two sides from the Turkish Cypriot side (Philippou, 2009; Zembylas, Charalambous, & Charalambous, 2012). Since then in Cyprus and Europe in general there are a lot of immigrants. Cyprus has been a member of the European Union since 2003. This change of the demographic information of the island has also changed the habits and stereotypes.

As a result, the lack of homogeneity has led to crucial and radical changes in the Cypriot society and consequently in the school context as well. Some of the problems raised are bullying which students with emotional and behavioral difficulties usually face by at risk students or even dropout ones. In the last two years, another problem has even arisen: the financial crisis. Thus, in order to summarize them the main problems of teenager students are the unresolved political and ethnic problem with the Turkish Cypriots, the financial crisis and the change of demographic population of Cyprus. All these changes, have also caused problems to the school society itself. More specifically, many students face emotional and behavioral problems with the utmost problem of them to be school bullying. As a teacher in Cyprus, in researcher's own experience, the roots of problem focus on the behavioral and emotional difficulties which have arisen from those aforementioned changes. The omission of

tools in order to cope with those difficulties raised even more problems. A study of Fanti and Kimonis (2012) in Cyprus proved that there is a connection between narcissism and bullying and impulsivity and victimization. Thus, the researcher introduces some tools so as to face the deficiencies of some policies regarding those problems. These are the cultivation of empathy and EI among students of Cyprus through arts education. Particularly, the present study aims to investigate the relationship among social-emotional variables of empathy, trait emotional intelligence, strengths and difficulties and the changes on these variables between arts and no arts groups in the five state groups of Cyprus, B' Lyceum students.

### *Arts Education and Empathy in Cyprus*

Even though Cyprus does not enlist arts in high priority, it is urgent not only to include arts in general education for all grades but also to set it as a priority. The literature review proves that using empathy and EI as tools can help to cope with difficulties and overcome the gaps in education smoothly. “Moral education in a democracy should stimulate and encourage reciprocity and mutual respect in order to move children from heteronomy and unilateral respect to autonomy and mutual respect” (Cummings & Harlow, 2000, p. 307).

Considering that for Cyprus context it is crucial to weave empathy into a theater lesson, particularly when you teach complex topics (Orzulak, 2006) especially, to cultivate empathy among teenagers who are the future citizens of our country. The Turkish invasion of 1974 divided the island into two diverse parts: The Greek-Cypriot part and the Turkish-Cypriot part. Empathy can be used as a tool to overcome these difficulties which are analyzed to superstitions and prejudices. Similarly, emotional intelligence and especially trait EI may be helpful for those special conditions in Cyprus because it is a self-report test (Petrides & Furnham, 2000, 2001). The contemporary class in a state school of Cyprus consists of students from several countries, various religions and different social and economic classes. Zembylas (2013) referred to empathy and peace education which is already referred in a

previous research (Zembylas 2008; Zembylas & Bekerman, 2008). In another study, Zembylas (2013) used the term reconciliatory empathy which is related both to cognitive and affective empathy and a step more than that. It is referred to the special political and ethnic context of Cyprus that is reflected to the educational context, as well. Empathy would be a crucial and connective element to this effort particularly among students in both parts.

#### *Emotional Intelligence (EI) and Trait Emotional Intelligence (trait EI) in Cyprus*

Ogoemeka (2011), indicated the basic role of EI “in establishing, maintaining and having quality interpersonal relationships” (p. 597). The role of EI in a school can be proved very helpful for students and well-promising for the future success in their lives (Pouyioutas, Solomou, & Ioannou, 2008).

The trait EI ASF has also been named as the theory of trait emotional self-efficacy which emerges from the distinction between two EI constructs: Ability EI and trait EI (Petrides, 2001; Petrides & Furnham, 2000, 2001; Petrides, Furnham, & Frederickson, 2004). This supports its utility as a tool for practitioners in investigating aspects of socio-emotional competence in adolescence and evaluating socioemotional learning programs (Frederickson, Petrides, & Simmonds, 2012).

#### *Strengths and Difficulties in Cyprus*

As it was mentioned before, strengths and difficulties in Cyprus context is a complicated issue connected with the problem of immigrants in Cyprus and the multi-level and diverse Cyprus society. Zembylas and Bekerman (2008) recognized the potential of dangerous memories of both Israel and Cyprus and the “endeavor of educators to ease pain and offer hope to students” (p. 127). Cultivating the EI and empathy and using them as tools and equipment, we enhance the progression of schools and leave away “the implications of dangerous and traumatic memories” (Zembylas & Bekerman, 2008, p. 125).

## *Empathy*

Many researchers defined the term of empathy (Barker & Salekin, 2012; Cohen & Strayer, 1996; Hogan, 1969; Mehrabian & Epstein, 1972). Empathy is positively related to social intelligence (Bandura, 1999; Jolliffe & Farrington, 2004, 2006) and an important part of EI, a basic factor of clinical psychopathy, is a reduced empathic reaction to victims (Hare, 1991). Thus, regardless of the kind of empathy cognitive or affective, “the relationship with behavior is exactly the same and the presence of empathy facilitates prosocial behavior and inhibits antisocial behavior” (Jolliffe & Farrington, 2006, p. 540). A study from Kyriakides, Kaloyirou and Lindsay (2006) showed that the problem of bullying in the state primary schools of Cyprus has become a great problem. Moreover, Endresen and Olweus (2001, 2002) identified negative relationship between empathy and bullying, by using a measure of affective empathy. Cognitive and affective empathy has also been proposed in psychopathy, having psychological and behavioral traits in relation to violence (Hart, Cox, & Hare, 1995). Smith (2006) distinguished cognitive empathy from emotional empathy and pointed out the need of balance between them otherwise, people may adopt Machiavellian, behaviour.

### *Empathy vs. Sympathy*

It is really necessary to distinguish empathy from sympathy. Both are acts of feelings and come from Greek roots. The first one, “empathy” comes from the Greek “*empathia*” which is a composite of the words “*en*” and “*pathos*” which means emotions and translates into “being in some sort of suffering, feeling or emotion”. The second “sympathy” comes from the Greek “*sympathia*” which is a composite of the words “*syn*” and “*pathos*”, and translates into “to feel sorry for and share with someone who suffers. Sympathy refers more to the expression of feeling for another person and empathy refers to putting someone in others’ side and understanding of others’ feelings and it is more about sharing the same

feelings (Oxford new dictionary). Rime's study pointed out the connection between empathy and emotion sharing (2007).

Lipps (1851-1914) scrutinized empathy as a concept of our aesthetic experiences and as a central category of the social and human sciences and as the primary basis for recognizing each other as minded creatures. Titchener very early invented and used the Greek term empathy and transformed the academic framework to the aesthetic perception in order to express the difference between the German terms of "Einfühlung" which means in feeling and "mitgeföhlung" which means with feeling or feeling into (Jahoda, 2005; Stanford Encyclopaedia, 2008). Actually, when Titchener was translating "Einföhlung" as "empathy" he had in mind Lipps's conception of empathy.

Additionally, arts made a great contribution to social sharing of emotions and sharing thoughts (Loomis, Lewis, & Blumenthal, 2007; Rimé, 2007). According to Eisenberg and Miller (1987), sympathy is an emotional condition that consists of feelings of sorrow.

#### *Arts Education and Empathy*

Although the evidences agree about the importance and the value of empathy, the researcher "needs a comprehensive strategy to teach empathy that gives it the same importance as diversity, ethics, and other foundational concepts, across the curriculum" (Gerdes, Segal, Jackson, & Mullins, 2011, p. 112). Such curriculum must incorporate messages of empathy, emotional intelligence and the strengths and difficulties of students were included in the segments of arts (Seaman, 2012). The researchers also found out that the arts affect the individual's engagement, skills, tolerance and empathy for others (Catterall, 2002; Deasy, 2002). Learning about characters with worldviews, beliefs and studying those leads to increased empathy and understanding of others' views (Deasy, 2002).

Jeffers (2009) pointed out that empathy requires systematic re-examination, particularly on the part of arts education, concerned with "global images" and its power to control the personality and cultural understanding (p. 19). According to the author, arts

education embraces the mind and body with empathy and builds human capacities while negotiates the worlds of objects with “empathic insight” (Jeffers, 2009).

Both in the USA and in Cyprus, it is well-known that local and national pressures are at the bottom of the list of school priorities in relation to the arts education because as it has been said, they are not the “bread and the butter of education”. First of all, it is necessary to convince parents, students and then local and national authorities about the importance of arts in relation to empathy, to trait EI and to strengths and difficulties. Especially during the present financial crisis, diachronic Hartke reminds us that unfortunately nowadays “there is no lack of ingenuity but there is a tendency to emphasize what is immediately useful at the expense of what is ultimately helpful” (Jeffers, 2009, p. 41).

Jeffers (2009) estimated empathy as a fundamental source which offers “the promise of intersubjective understanding” (p. 2). In the same way, Berr (2007) addressed the central role of empathy, appreciating that students thrive from such coupling and also enriches the experience for teachers of music education as well. Carpenter’s findings (2002) for creative people of arts showed that the most important emotional characteristics are empathy and personality strength. There is a need for a stronger “heuristic tradition to convey empathy, both as a construct and as an experience, in social work education” (Gerdes, et al., 2011, p. 110).

### *Why Empathy?*

Rebore (2001) denoted that “the key virtue for ethical growth and development at each stage is justice” (p. 48). The implications of empathy have arisen many discussions and this is the reason of dealing with empathy (Jeffers, 2009; Jolliffe & Farrington, 2006; Miller & Eisenberg, 1988) and trait EI as a crux of discussions and studies among psychologists and philosophers (Petrides & Furnham, 2000; Petrides & Furnham, 2001). In order to understand the importance of empathy it is necessary to understand the “physiological component (e.g.,

mirror neurons) necessary to develop and mediate the affective and cognitive components of empathy” (Gerdes et al., 2011, p. 114). It is widespread that “empathy is at the heart of good teaching and leadership” (Orzulak, 2006, p. 81). Consequently, the discovery of mirror neurons of psychology was parallelized with the DNA of biology. This is a revolution because scientists understand the brain, emotions and human interactions in another way (Gerdes et al., 2011). This is the reason why “empathy shapes minds in a way that make them better suited to the exercise of this simulation technique. This positive feedback loop would ultimately make the empathizers have the same mental structure” (Sorensen, 1998, p. 75).

The fact that Empathy is connected not only with classroom settings but with leadership as well, implies that high empathy is a crucial component for a contemporary leadership (Holt & Marques, 2012) since it gives the opportunity of sharing emotions or experiences or even to have access on student’s needs and goals (Iacoboni, 2008). Nagy (2007) wondered if empathy is the antidote to bullying and referred to empathy neurons as of mirror-neurons. Finally, the capacity for empathy is important for the human community because arts activate and share emotions and it also needs cognitive engagement (Jacobini, 2008; Jeffers, 2009).

### *Emotional Intelligence (EI)*

Many researchers contributed to the theory of EI (Gardner, 1983; Goleman, 1995). It is necessary to manage our own emotion when we want to manage the emotions of others (Ogoemeka, 2011), which leads to the ancient wisdom that if you want to govern and manage others, you must firstly manage to govern yourself. Goleman (1998) defines self-awareness as “knowing what we are feeling at the moment, and having a realistic assessment of our own abilities and a well-grounded sense of self-confidence” (p. 318). Students with low levels of



to EI show greater levels of impulsiveness and poorer interpersonal and social skills are likely encourage the development of various antisocial behaviours (Petrides et al., 2004).

There is growing evidence that emotional abilities are a relevant predictor of health and well-being (Hertel, Schütz, & Lammers, 2009). Furthermore, it is encouraging that recently educators have been exploring the relationship between teaching and emotion (Zembylas, 2002). As Afolabo, Okediji and Ogunmwonyi (2009) stated EI, is a concept made popular by the groundbreaking work of Daniel Goleman. The concept is based on years of research by numerous scientists such as P. Salovey, J. Meyer, H. Gardner, R. Sternberg and J. Block.

Pisanos (2011) addresses that "brain science" and "positive psychology" are the two of the fields of study influencing EI. The first one applies to growing and making changes and the second "focuses on strengths and increases self-regard" (Pisanos, 2011, p. 485).

### *Trait Emotional Intelligence (trait EI)*

Trait emotional intelligence and "intelligence as mental abilities contribute to the behaviors and achievements of individuals" (Cho, Nijenhuis, Van Vianen, Kim, & Lee, 2010, p. 125) because trait EI refers and applies for emotion-related behavioral dispositions and self-perceived abilities (Petrides, 2011). EI and trait EI were distinguished by the work of Petrides and Furnham (2000, 2001, 2003) and Petrides, Furnham, and Frederickson (2004). The trait EI which is also labeled "trait emotional self-efficacy," is mostly about emotion-related to dispositions and self-perceptions. Trait EI is measured via self-report (Petrides & Furnham, 2001). The concept of self-efficacy was established by Bandura (1977). Since then, self-efficacy was grounded in the social cognitive theory (Bandura, 2006a).

Research findings related to social-emotional skills, such as trait emotional intelligence, self-efficacy and empathy, concluded that they play a significant role in the aggressive behavior (Petrides et al., 2004). All these variables are crucial components of an individual's social development (Kokkinos & Kipritsi, 2012). According to Petrides et al. (2007), trait EI has been joined to emotional self-efficacy.

### *Strengths and Difficulties (SD)*

Some of the difficulties encountered by the educational system in Cyprus are not only the Turkish Cypriots, the aggressive behaviour, the bullying and harassment but also the discrimination to others with many approaches: foreigners, at risk students or dropout, different socioeconomic status especially after the financial crisis of March.

The use of art can “engage people in training or retraining the mirror neurons for affective sharing and the cognitive pathways for self/other-awareness, mental flexibility, and emotion regulation” (Gerdes et al., 2011, p. 124). The term “strengths” refers to positive psychology while “difficulties” refers to negative psychology and it is related to self-regard. Low self-regard leads to low confidence and low self-esteem while high self-regard leads to high self-esteem, confidence and self-fulfillment (Pisanos (2011). EI skills are key factors in the appearance of disruptive behaviors based on an emotional deficit (Petrides et al., 2004). The strengths and difficulties questionnaire (Goodman, 1997) is one of the most frequently used screening instruments and has been established as a widely used instrument in child and adolescent mental health research (Vostanis, 2006). According to Ogoemeka (2011), European society has changed radically, thus, “it is nearly unrecognizable from our 21st century mentality” (p. 601).

## *Summary*

The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties and the changes on these variables between arts and no arts groups in the five state groups of Cyprus, taking B lyceum students as samples. This chapter was designed with an understanding of the related foundational literature and underlined the importance and the necessity to include in our education practices of empathy and EI, especially trait EI through arts education. This could be an immediate response to face effectively all the problems that the educational system of Cyprus faces. The following chapter describes the methodology of this study and it is divided into ten sections.

## Chapter 3: Methodology

### *Introduction*

Chapter three focuses on the research methods and is structured and organized into ten sections as follows. This chapter provides detailed information on the methodological approach of this research. The first section presents the purpose of the study. The second section displays the research design of the study. The third section states the research hypotheses that were tested in that study. The fourth section defines and indicates the variables of that study while the fifth section describes the site program with detailed reference to each school that participated in the research and the sixth section is a description about the target population. The seventh section is divided into three subsections. The first subsection presents the choice of specific instruments and the second one presents the social-emotional questionnaire of that study. The third subsection presents information on the validity and reliability of the instrument. The eighth section presents information on the data collection. Firstly, it presents the procedures that study followed in order to engage the subjects and secondly, the procedures of the study that the researcher pursued in order to keep the data secured and protect the anonymity of the subjects. The ninth section describes the data analysis of that study and finally the tenth section is the summary of the chapter.

### *Object of the Study*

The object of this research was to investigate the relationship among social-emotional variables of empathy, trait EI, strengths and difficulties and the changes on these variables between arts and no arts groups in the five state schools of Cyprus, taking B' Lyceum

students as samples. Lack of evidence for the relationship among social-emotional variables of empathy, trait emotional intelligence, strengths and difficulties, led the researcher to pursue this study. The researcher focused on the educational context of Cyprus.

### *Research Design*

The study employed a quantitative approach for the collection of all the needed data. Data collection consisted of the social-emotional questionnaire. The survey was carried out in two different time points. The first one was on 1st of October until the middle (15<sup>th</sup>) of October, 2013 and the second time point was from April 2<sup>nd</sup> until April 15th 2014.

This procedure was followed after the permission of the Ministry of Education and Culture in Cyprus (MOEC) and the Saint Louis University Institutional Review Board (IRB) compulsory permissions. The researcher created two groups for her research. All students of B' Lyceum have the same main subjects and the difference was on the chosen subjects. The first one was the group of students that had academic education and chose mathematics or chemistry or history and was named "no arts" group and the second one had arts education and chose music, theater education, and visual arts including free perspective drawing and was named "arts" group. The social-emotional questionnaire was confidential. Students in two groups ("arts" and "no arts") were pre- tested and post – tested for empathy, trait emotional intelligence, strengths and difficulties dimensions and the changes on these variables. The researcher used a six- month interval.

The target population of this study was conducted for B' Lyceum students in the state schools of Cyprus because they had chosen as optional subjects, theater, music, visual arts and free perspective drawing.. According to the statistical elements of MOEC (2013), the total number of students in these 46 Lyceums in the state schools of Cyprus was 6922 for

this year 2013-2014, while the number of students of B' Lyceum in state schools of Limassol was 2046. Due to the large number of students the sampling was purposeful. For the purpose of that study, a sample of 589 B' Lyceum students from Limassol area was eligible to participate in the survey at the beginning of the school year, and a sample of 552 at the end of the school year. The majority of the students were females in both measurements (58.2% and 57.1% for first and second measurement respectively). The research was conducted in a group of the five schools, one in the western secondary school in Limassol, two in rural areas and two urban schools of Lyceum state context.

Students of B' Lyceum who participated in the survey were divided in two groups in relation to chosen subjects: "no arts" and "arts" group. The social-emotional questionnaire was distributed to five Lyceums in the wider Limassol area: one of the school in the centre of the city was selected, one situated at the east side of the city, one at the west side of the city, the two other schools were selected outside the Limassol district at the east and central rural area. The students came from different schools urban and rural areas based on the geographical and socio- economic distribution.

### *Research Hypotheses*

In order to identify whether there was a relationship among empathy, trait emotional intelligence, strengths and difficulties and the changes on these variables between arts and no arts groups the following research hypotheses were proposed:

Research Hypothesis 1: There is a significant change of empathy between time one and time two and the degree of change is significantly different between the "arts" and "no arts" group.

Research Hypothesis 2: There is a significant change of trait EI between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 3: There is a significant change of strengths and difficulties between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 4: There is a significant correlation among empathy, trait EI and strengths and difficulties and the changes among these three variables between “arts” and “no arts” group.

### *Variables*

This section was divided in two subsections. The first one defined and presented the independent variables of the study and then the second presented and defined the dependent variables of the study.

#### *Independent Variables*

The independent (categorical) variables of that study was time one and time two, the “art” group and the “no art” group.

#### *Dependent Variables*

The dependent (continuous) variables were the changes in empathy, trait EI and strengths and difficulties scores.

### *Program Description*

According to the Ministry of Education (MOEC, 2013), the school curriculum in Cyprus is the same in all state schools. As a result, all A' Lyceum students chose the same subjects which were compulsory while B' Lyceum students had the same subjects as basics and the rest as chosen in relation to academic or arts education. The chosen subjects were divided into two subcategories: The subjects of interest which were taught two hours every week and the lessons of specialization which were taught four hours every week in group. Each teaching hour lasts forty- five minutes and those teaching hours were in pairs and lasts 90 minutes.

### *Site Description*

According to the MOEC (2013), there were 46 Lyceum states schools operating in Cyprus for the 2013-2014 school year (14 in the Nicosia district, 14 in the Limassol district, seven in the Larnaca district, eight in the Paphos district, and three in the Famagusta district). The total number of B' Lyceum students in those 46 Lyceums were 6,992.

The purposive sampling of that study was B' Lyceum students from five Lyceums of the wider Limassol district. In order to include students from diverse geographic areas, students were selected based on their location. The first school (Laniteio Lyceum) is located in the centre of the city, in an urban area. The second school (St' Nicholas Lyceum) is located on the east side of the city, in a working-class area. The third school (Polemídia Lyceum) is located on the west side of the city, in an area of a low socioeconomic status. Finally, the last two schools (Agros and Omodos Gymnasium and Lyceum) are situated outside the Limassol



district, in a north-centre rural area the first one and in a rural west area the other one. The following five subsections presented information on each one of those schools.

#### *Laniteio Lyceum*

Laniteio Lyceum was built in 1960 and is situated at the centre of Limassol city (<http://www.group.ac.cy>). For the school year of 2013-2014, 838 students attended the school (208 in A' Lyceum, 320 in B' Lyceum and 210 in C' Lyceum) and 99 teachers taught in this school, whether on a full time or part time basis (MOEC, 2013). The 320 B' Lyceum students from Laniteio Lyceum (176 boys and 144 girls, divided in sixteen classes) were invited to participate in this study.

#### *St' Nicholas Lyceum*

St' Nicholas Lyceum was built in 1972 and is situated at the east side of Limassol city (<http://www.group.ac.cy>). For the school year of 2013-2014, 447 students attended the school (160 in A' Lyceum, 144 in B' Lyceum and 143 in C' Lyceum) and 76 teachers taught in this school, whether on a full time or part time basis (MOEC, 2013). The 144 B' Lyceum students from St' Nicholas Lyceum (68 boys and 76 girls divided in seven classes) were invited to participate in this study.

#### *Polemida Lyceum*

Polemida Lyceum was built in 1976 and is situated at the west side of Limassol city (<http://www.group.ac.cy>). For the school year of 2013-2014, 497 students attended the school (150 in A' Lyceum, 157 in B' Lyceum and 172 in C' Lyceum) and 98 teachers taught in this school, whether on a full time or part time basis (MOEC, 2013). The 157 B' Lyceum students from Polemida Lyceum (52 boys and 105 girls divided in seven classes) were invited to participate in this study.

### *Agros Gymnasium and Lyceum*

Agros Gymnasium and Lyceum were built in 1944 and are situated in the Troodos mountains. They accommodate students from villages around Agros village (<http://www.group.ac.cy>). For the school year of 2013-2014, 51 students attended the Lyceum school (42 in A' Lyceum, 51 in B' Lyceum and 56 in C' Lyceum) and 66 teachers taught in the school (in all six levels), whether on a full time or part time basis (MOEC, 2013). The 51 B' Lyceum students from Agros Lyceum (17 boys and 24 girls divided in three classes) were invited to participate in this study.

### *Omodos Gymnasium and Lyceum*

Omodos Gymnasium and Lyceum were built in 1944 and are situated in the Troodos mountains. They accommodate students from villages around Omodos village (<http://www.group.ac.cy>). For the school year of 2013-2014, 41 students attended the Lyceum school (13 in A' Lyceum, 17 in B' Lyceum and 11 in C' Lyceum) and 34 teachers taught in the school (in all six levels), whether on a full time or part time basis (MOEC, 2013). The 17 B' Lyceum students from Agros Lyceum (5 boys and 12 girls is (one class) were invited to participate in this study.

### *Sample Size*

The purposive sampling of this study was B' Lyceum students from five Lyceums of the wider Limassol district. According to the statistical elements of MOEC (2013), the total number of students of B' Lyceum in states schools of Cyprus is 6922 for this year 2013-2014, while the number of students of B' Lyceum in state schools of Limassol is 2046. For the purpose of that study, a sample of 589 B' Lyceum students from Limassol area was eligible to participate in the survey at the beginning of the school year, and a sample of 552 at

the end of the school year. The majority of the students were females in both measurements (58.2% and 57.1% for first and second measurement respectively).

### *Instrumentation*

This section presents the instrumentation of the study that the researcher used in order to collect all the needed data. It is divided into four subsections. The first subsection presents the choice of specific instruments. The second subsection, presents the contents of the social-emotional questionnaire the study used. The third subsection describes the three questionnaires and the demographic information. The fourth subsection presents information on the validity and reliability of the study.

#### *The Choice of Specific Social-Emotional Questionnaire*

The researcher chose this specific social-emotional questionnaire which led to quantitative research because of her specific interest about arts education. Based on her previous enactment with arts she realized the tremendous impact of arts education on students in relation to social-emotional variables of empathy, emotional intelligence and the dimensions of strengths and difficulties and the changes on these variables between “arts” and “no arts groups”. Based on the literature review the researchers conceptualized with empathy and bullying and aggressive behaviour (Endresen & Olweus, 2001; Jolliffe & Farrington 2006; Jolliffe & Farrington, 2006b; Santos, et al., 2011; Schonert-Reichl, et al., 2011). Some others found the impact of arts education to emotional intelligence (Petrides, 2001; Petrides & Furnham, 2000, 2001; Petrides, Furnham, & Frederickson, 2004). Some others pointed out the increase of strengths on student’s personality (Goodman, 1997, 2001).

### *The Social-Emotional Questionnaire*

In order to test the research questions and the hypotheses, the social-emotional questionnaire was given to each one of the participating student. The social-emotional questionnaire had four parts: The DE of students, the BES, the trait EI and the SDQ.

*Demographic information.* The demographic elements of students included information about the name of their school, their gender, and chosen subjects: Mathematics or chemistry or history or music education, theater, visual arts including free prospective drawing. Based on this information about arts/no arts, the researcher created two groups for her research. All students of B' Lyceum have the same core subjects and the difference is on the chosen subjects. The first one was the group of students that had academic program and chose mathematics or chemistry or history and was named "no arts" group. The second one was the group of students that had arts program and chose arts, specifically, music education, theater education, and visual arts including free perspective drawing and was named "arts" group. The demographics selected with the current form of questionnaire were used for descriptive purposes and to test the hypothesis if they affect changes in trait EI and SD scores during the follow up period.

*Basic Empathy Scale (BES).* In the second part the researcher used the basic empathy scale (BES) which assessed the students' levels of empathy (Jolliffe & Farrington, 2006). The BES is a 20 item self-report questionnaire which was developed to provide assessment of both cognitive and affective empathy. The answers were recorded on a five-point Likert scale (1 = "Strongly Disagree", 2 = "Disagree", 3 = "Neither Agree nor Disagree", 4 = "Agree", 5 = "Strongly Agree") depending on the extent to which the item described them. The BES has good levels of construct validity and reliability in both males and females. "There was also a significant difference in the total score of the BES between males and females (mean =64:3 (S.D. = 9.8) for males compared to 75.3 (S.D. = 8.3) for females,  $t= 16.1$ ,  $p< .0001$ ,  $d= 1:22$ )"

(Jolliffe & Farrington, 2006, p. 602). The Cronbach alpha for cognitive and for affective empathy was  $\alpha = .79$  and  $\alpha = .85$  respectively. (Jolliffe & Farrington, 2006). The BES has a five –point scale with 20 questions.

In the current study, the internal consistency for cognitive empathy was acceptable and good for affective empathy. “The reliability of the overall BES for this sample was a = .87, with the reliability of the cognitive scale a = .79 and the reliability of the affective scale a = .85” (Jolliffe & Farrington, 2007, p. 270). According to Jolliffe & Farrington (2006), the 20-item BES has nine cognitive items and eleven affective. A confirmatory factor analysis was undertaken on the 20-item BES based on the entire sample of 720 students. This study showed that the loadings for the cognitive items ranged from 0.43 to 0.62 and that the loading for the affective items ranged from 0.41 to 0.71. (Jolliffe & Farrington, 2006, p. 598)

*Trait Emotional Intelligence.* In the third part of the social-emotional questionnaire, the researcher used the trait emotional intelligence (trait EI) ASF (TEIQue-ASF; Petrides et al. 2006). It was based on the theory of trait emotional intelligence (trait emotional self-efficacy) emerged from the distinction between two EI constructs: ability EI and trait EI (Austin 2009; Petrides, 2001; Petrides & Furnham, 2000, 2001; Petrides, Furnham, & Frederickson, 2004; Warwick & Nettelbeck 2004). This supports its utility as a tool for practitioners in investigating aspects of socioemotional competence in adolescence and evaluating socioemotional learning programs (Frederickson, Petrides, & Simmonds, 2012).

It is a simplified version, short form of the TEIQue. “The TEIQue—ASF scale includes 30 short statements answered on a 7-point Likert scale” (Petrides, Furnham, & Mavroveli, 2007, p. 265). It has four factors: well-being, self-control, emotionality and sociability, emotional intelligence (Petrides, Furnham, & Mavroveli, 2007). The ASF version of 30 short statements is separated into two sides, 15 facets for each one (Petrides, Sangareau, Furnham, & Frederickson, 2006). The trait emotional intelligence questionnaire is one of the

latest versions and it was used and standardized in Greek version. The Greek translation of the trait EI Questionnaire—Adolescent Short Form (TEIQue-ASF; Petrides et al. 2006) was used to measure trait EI. The TEIQue-ASF is a simplified version, in terms of wording and syntactic complexity, of the adult short form of the TEIQue (Petrides, Sangareau, Furnham, & Frederickson, 2006, p. 540). “The internal consistency of the Dutch TEIQue-ASF was .81 on the total sample N= 282” (Mavroveli, Petrides, Rieffe, & Bakker, 2007, p. 267).

According to Petrides and Furnham (2001), the EI (emotional ability) concerns the actual ability to perceive process and utilize affected laden information and should be measured via maximum-performance tests. Trait EI (emotional self-efficacy) concerns a constellation of emotions related to self-awareness and characters (Davey, 2005; Petrides, Pita, & Kokkinaki, 2007). In a recent study of Cooper and Petrides (2010), results showed that TEIQue–SF demonstrated “good psychometric properties at the item and global level. Overall, the 2 studies suggest the TEIQue-SF can be recommended when a rapid assessment of trait emotional intelligence is required” (p.449). Another study of Mavroveli, Petrides, Shove, and Whitehead (2008) showed that the TEIQue-CF has satisfactory levels of internal consistency ( $\alpha = 0.76$  and  $\alpha = 0.73$ , respectively) (p. 516). A recent study of Stavrinides, Georgiou and Theofanous, (2010) examined the relationship between bullying and empathy by using a sample of 205 sixth-grade students, randomly selected from urban and rural group in Cyprus. They used time one and time two with a six-month interval (p. 1). Their study yielded similar reliability coefficients, since for the cognitive component, the alphas were .80 for Time 1 and .83 for Time 2 and for the affective component, and the alphas were .71 at Time 1 and .77 at Time 2 (Stavrinides, Georgiou, & Theofanous, 2010, p. 4).

In another study in Greece (Kokkinos & Kipritsi, 2012) the researchers used the questionnaires of trait EI and empathy in order “to examine the relationship between bullying, victimization in 206 elementary school 6th graders” (p. 41). They used the Greek

translation of the Trait Emotional Intelligence Questionnaire—Adolescent Short Form (TEIQue-ASF; Petrides et al. 2006) in order to measure trait EI.

Bullying was positively correlated with victimization and negatively with total self efficacy, trait EI, and empathy, whereas victimization scores were negatively correlated with self-efficacy and trait EI (Kokkinos & Kipritsi, 2012, p. 51). The results of this study showed that trait EI was  $p = -.25, p < .001$  increasing variance in victimization and cognitive and affective components of empathy were significant,  $p = -.25, p < .05$  increasing variance in bullying (Kokkinos & Kipritsi, 2012, p. 52).

*Strengths and Difficulties Questionnaire (SDQ)*. In the fourth part of the social-emotional questionnaire, the researcher used the SDQ which is a behavioral self rated screening questionnaire for 11-17 year olds and was used to assess general difficulties and positive attributes (<http://www.sdqinfo.com/b3.html>). It took about 5 minutes for a student to answer the questions set in it. The SDQ is a short questionnaire for emotional and behavioral disorders in children and adolescents aged 4-16 years (Goodman, 1999; Youth in Mind, 2005). In Goodman's (2001) study the low alpha coefficients were described as .41 for children's self-report.

According to Goodman (2001), the questionnaire construct validity of the SDQ consists of 25 closed-ended questions of five items that also yield a total difficulties score – and are divided into five scales covering emotional problems, conduct problems, hyperactivity problems - inattention, peer problems and prosocial behavior which measures the adolescent's ability to act prosocially. The instrument included four problem subscales, in addition to a prosocial dimension (<http://www.sdqinfo.org>). In another study using SDQ, the Cronbach alpha for the total SDQ scores was .73. The official translation was used in the present study (<http://www.sdqinfo.com/b3.html>).

These are the five domains: emotional, conduct symptoms, hyperactivity/inattention, peer relationships, prosocial behaviour. Each item uses a three-point ordinal Likert format: 0= not true, 1= somewhat true, 2=certainly true. Responses can be rated 0–2 for negatively worded items and rated inversely 2–0 for positively worded items. In this way, for all items higher scores indicate more problematic attributes. The SDQ has been used in epidemiological and clinical research in many countries and different cultures for emotional and behavioral difficulties (Goodman, Meltzer, & Bailey, 2003; Mathai, Anderson, & Bourne, 2004; Roy, Veenstra, & Clench-Aas, 2008; Richter, Sagatun, Heyerdahl, Oppedal, & Røysamb, 2011). Another study in Cyprus assessed difficulties and positive attributes by Kokkinos and Kipritsi, in 2012 in elementary schools of Cyprus. “Its psychometric properties have been extensively investigated” (Richter, Sagatun, Heyerdahl, Oppedal, & Røysamb, 2011, p. 1002) and it is designed to measure psychological adjustment in children and adolescents (Roy, Veenstra, & Clench-Aas, 2008). Higher scores on this index suggest that teachers believe that a child’s behavioral problems upset the child, and may interfere with peer relations and classroom learning (Mavroveli, Petrides, Shove, & Whitehead, 2008). Each dimension of SDQ questionnaire was analyzed separately. There is no need to adjust for type I error since the tests are independent. This is the usual analysis for SDQ dimensions as referred in all relevant papers.

According to Youth in Mind (2005), the SDQ has been translated into over 30 languages such as Afrikaans, Arabic, Bengali, Catalan, Chinese, Croatian, Czech, Danish, English (Australian, UK, USA), Finnish, French, Gaelic, German, Greek, Hungarian, Icelandic, Irish, Italian, Japanese, Korean, Lithuanian, Norwegian, Polish, Portuguese, Punjabi, Romanian, Russian. The SDQ questionnaire has already been validated in a Greek sample: “The factor structure of the Strengths and Difficulties Questionnaire (SDQ) in Greek adolescents” (Giannakopoulos, Tzavara, Dimitrakaki, Tountas, Kolaitis, & Rotsika, 2009) with



“internal consistency coefficient for the total difficulties score was 0.77, Cronbach  $\alpha$  values for the prosocial behaviour, emotional symptoms and hyperactivity/inattention were 0.72, 0.73 and 0.63, respectively. The lowest  $\alpha$  was found on the peer problems scale (0.50) and conduct problem scale (0.56)” (Methodology section, para. 2). Kokkinos and Kipritsi (2012) in their study also used the strengths and difficulties questionnaire in Greek version.

#### *Validity and Reliability of the Study*

Validity focuses on whether the results of a study can be generalized to different settings or populations and assesses what extent they were valid and reliable (Bell, 2000; McMillan & Schumacher, 1989, 2001). Specifically, the social-emotional questionnaire was given to at least 20 B' Lyceum students chosen on the basis of their school location and the chosen subjects. These students were chosen from different districts than the districts included in the final sample. The 20 students provided their comments on the specific instrument.

#### *Data Collection*

This section presents information on data collection and it is divided into two subsections. The first section presents the procedures this study followed in order to recruit the subjects and the second section the various procedures the study followed in relation to keeping the data secured and protecting the anonymity of the subjects.

#### *Procedure*

A letter explaining the aims and logistics of the research was sent to the head-teachers of the five chosen schools in Limassol, Cyprus. A consent form was sent to the parents explaining the purpose and procedure of the study. The researcher gave oral and written instructions describing the procedure to the children. The questionnaire was completed under

supervision during regular class period which lasted about forty - five minutes. The researcher assured students during the completion of the questionnaire for the confidentiality and independent response. All children were informed that they could withdraw from the study at any point and without penalty.

Students completed the social-emotional questionnaire in two time periods separated by a six-month interval (time one and time two). The first one was from the 1st of October until the middle (15<sup>th</sup>) of October, 2013 and the second time point was from April 2<sup>nd</sup> until April 15, 2014. This procedure was followed after the permission of the Ministry of Education and Culture in Cyprus and the Saint Louis University Institutional Review Board (IRB) compulsory permissions. The students were willing to participate in the questionnaire the researcher prepared. The researcher created two groups for her research. The first one was the group of students which was named “no arts” and they chose academic subjects. The second one was the group of students which was named “arts” and they chose arts subjects. The researcher evaluated the degree of empathy, the trait EI and the dimensions on strengths and difficulties and the changes on those variables between the “arts” and “no arts” group gathering B’ Lyceum students as samples: Laniteio, Saint Nicolas, Polemidia, Agros and Omodos. The social-emotional questionnaire was confidential. Students of two groups were pre- tested and post-tested on those three variables.

#### *Recruitment of Subjects*

The first step in conducting the particular research took place in Limassol and it was going to gain access in the archive of the MOEC in order to gather the necessary information concerning the number of students of B’ Lyceum at the state schools in Cyprus. In order to conduct that research, prior permission was gained from the Ministry of Education and Culture of Cyprus so that the school principal to give consent for the participation in the study, as all the five schools are state schools and ought to follow the rules and regulations of

the specific ministry. Once the necessary permissions were received, the researcher visited each one of the five selected schools in September 2013 and met each principal of those schools, in order to explain the purpose of the research and the procedures that would be followed.

Then the researcher contacted all those probable candidates for the research. Those teachers were the links and the mediators between the researcher and the participating students, as they helped the students for the questionnaire. The researcher explained to the teachers the purpose and the significance of this survey, the procedures that would be followed obtained their help. The researcher assured them and made clear that the names of the group would never be mentioned in the research and the findings would be coded for the study in order to keep the confidentiality and certainly, the results would not be used for any other purpose. McMillan and Schumacher (1989) emphasized the confidential affirmation through anonymity as one of the important ethical principles of research (Cohen et al., 2000; Cohen & Manion, 1994; Frankfort-Nachmias & Nachmias, 1992). The procedure of getting all those questionnaires back was quite difficult and time-consuming because very small number of questionnaires was not returned completed or some of them granted this as a waste of time. Besides, there was another possibility in which some students did not dare to reveal their emotions on the belief of weakness or in the prospect of weakness.

During that meeting the researcher gave teachers an invitation letter that was sent to students' legal guardians to be signed and returned to the school. This letter explained the purpose of the research project, its significance, and the student ability to freely opt out of the study at any time (McMillan & Schumacher, 1989). During the meetings with teachers, the researcher emphasized that because teachers are persons of authority and assess students regularly, they should not force any of the students to participate without their will.

Moreover, the researcher indicated that teachers should ensure that the participating students would feel comfortable to opt out of the study at any time.

Once the invitation letter was signed by students' legal guardians and returned to teachers, the researcher gave the social-emotional questionnaire to those students who agreed to participate into the research. Those students had approximately 40-45 minutes to answer the questionnaire. The researcher had the responsibility of gathering the questionnaires and informing the principals.

#### *Document Security*

Despite the social-emotional questionnaire being confidential, the document security was important. The researcher personally delivered all necessary documents (consent forms) to the principals of the five schools. The principals assured that they kept those documents in their personal room safe. The researcher had the responsibility of keeping all the gathered documents safely. The documents were safe if the researcher kept the confidentiality allowing the survey to be conducted under a normal procedure without problems.

#### *Data Analysis*

The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B' Lyceum students as samples. The following research hypotheses were proposed:

In order to identify whether there was a relationship among empathy, trait emotional intelligence, strengths and difficulties and the changes on those variables between arts and no arts groups the following research hypotheses were proposed:

Research Hypothesis 1: There is a significant change of empathy between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 2: There is a significant change of trait EI between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 3: There is a significant change of strengths and difficulties between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 4: There is a significant correlation among empathy, trait EI and strengths and difficulties and the changes among these three variables between “arts” and “no arts” group.

### *Statistical Analysis*

Continuous variables were presented with mean and standard deviation (SD) and with median and interquartile range (IQR). Quantitative variables were presented with absolute and relative frequencies. Variables were firstly tested for normality using the Kolmogorov-Smirnov criterion. Mann-Whitney test was computed in order to evaluate differences in empathy and strengths and difficulties scores (separately for each questionnaire dimension) between the types of groups separately for the first and the second measurements as well as between the first and the second measurements for a total sample and each type of group. Student’s t-test were computed in order to evaluate differences in trait emotional intelligence scale between the type of groups separately for the first and second measurements as well as between the first and the second measurements for a total sample and each type of group. In

order to explore the association between empathy, trait emotional intelligence and strengths and difficulties dimensions, in a total sample and separately for each type of group, Spearman's correlation coefficients were used. Correlation coefficient between 0.1 and 0.3 were considered low, between 0.31 and 0.5 moderate and those over 0.5 were considered high. For the evaluation of the effect of the type of groups, the time effect and the differences in the degree of change during the follow up in the two study groups, linear regression analysis were conducted having the variables presented study scales as dependent (empathy, trait emotional intelligence and strengths and difficulties dimensions) and the type of groups, the time and the interaction of time by type as independent variables. Gender was also included in the regression models. Adjusted regression coefficients ( $\beta$ ) with standard errors (SE) were computed from the results of the linear regression analysis. In addition, log transformations was conducted in case of not normality. All reported p values are two-tailed. Statistical significance was set at  $p < 0.05$  and analysis was conducted using SPSS statistical software (version 18.0).

### *Summary*

To summarize, chapter three presented the research methods that were used to test this study's hypotheses and it was organized into ten sections. Based on previous findings the first section presented the purpose of this study which was to investigate the relationship among social-emotional variables of empathy, trait emotional intelligence, strengths and difficulties and the changes on these variables between arts and no arts groups in the five state schools of Cyprus, gathering B' Lyceum students as samples.

The first section developed an introduction while the second section presented the purpose of the study, based on previous findings. The third section presented the research

design. In section four, research hypotheses were proposed in order to identify whether there is any relationship among social-emotional variables of empathy, trait emotional intelligence, strengths and difficulties in the five state groups of Cyprus. The fifth section described the independent and dependent variables of this study and it was divided into two subsections.

Likewise, the sixth section presented the site description, in this case schools, where the study took place. In order to have normal distribution in relation to geography distribution areas, the schools were selected based on their location.

The seventh section described the instrumentation of this study. It was divided into four subsections presented the instrumentation this study used. The first subsection explained the reasons the researcher chose the specific social-emotional questionnaire instead of other questionnaires the study used, and the second subsection supported the way the questionnaire was developed, based on the independent and dependent variables of the study. The third and the fourth subsection also presented some information on each one of BES, trait EI, the dimensions of SDQ and some information on the validity and reliability of the study.

The eighth section described the program of data collection and the procedures of this study. A total of 589 students B' Lyceum students from Limassol area-five schools participated in the study in the beginning of the school year. At the end of the school year 552 students participated in the study. The majority of the students were females in both measurements (58.2% and 57.1% for first and second measurement respectively). The survey was carried out separately in each of the five selected groups, during the two different time periods of the school year of 2013-2014.

The ninth section was divided into four subsections, presenting the information on data collection and was divided into two subsections. The first one described the procedures this study was based on in order to recruit the subjects and the second section the followed

procedures of the study in order to keep the data secured and protected from the anonymity and conspiracy of the subjects.

Last but not least, the last section was the data analysis techniques and statistical analysis. The researcher was computed in SPSS computer program which is designed for statistical analysis (Gall et al., 2010).



## Chapter 4: Findings

### *Introduction*

The purpose of this research was to investigate the relationship among arts education and social-emotional variables of empathy, trait EI, strengths and difficulties as well as the changes on these variables between “arts” and “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples. In order to identify whether there is a relationship among empathy, trait emotional intelligence, strengths and difficulties and the changes on these variables between “arts” and “no arts” group the following research hypotheses were proposed:

Research Hypothesis 1: There is a significant change of empathy between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 2: There is a significant change of trait EI between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 3: There is a significant change of strengths and difficulties between time one and time two and the degree of change is significantly different between the “arts” and “no arts” group.

Research Hypothesis 4: There is a significant correlation among empathy, trait EI and strengths and difficulties and the changes among these three variables between “arts” and “no arts” groups.

Chapter four reports the statistical analysis that tested the four hypotheses and it is organized into three sections. Specifically, the first section describes the statistical analysis.

The second section presents the results of this research and it is organized into four subsections; the first subsection refers to the sample characteristics, the second to differences in all study scales between types of groups, the third is concerned with the differences in all study scales between measurements and the fourth refers to the correlation among all study scales. The third section presents each of the research hypotheses in this study and whether these are rejected or not.

### *Statistical Analysis*

Continuous variables were presented with mean and standard deviation (SD) and with median and interquartile range (IQR). Quantitative variables were presented with absolute and relative frequencies. Variables were be firstly tested for normality using the Kolmogorov-Smirnov criterion. Mann-Whitney test was computed in order to evaluate differences in empathy and strengths and difficulties scores (separately for each questionnaire dimension) between the types of groups separately for the first and the second measurements as well as between the first and the second measurements for the total sample and each type of group. Student's t-test was computed in order to evaluate differences in trait emotional intelligence scale between the type of groups separately for the first and the second measurements as well as between the first and the second measurements for the total sample and each type of group. In order to explore the association between empathy, trait emotional intelligence and strengths and difficulties dimensions, in the total sample and separately for each type of group, Spearman's correlation coefficients were used. The correlation coefficient between 0.1 and 0.3 were considered low, between 0.31 and 0.5 moderate and those over 0.5 were considered high. For the evaluation of the effect on the type group, the time effect and the differences in the degree of change during the follow up in the two study

groups were considered. Linear regression analysis was conducted having the variables presented study scales as dependent (empathy, trait emotional intelligence and strengths and difficulties dimensions) and the type of groups, the time and the interaction of time by type as independent variables. Gender was also included in the regression models. Adjusted regression coefficients ( $\beta$ ) with standard errors (SE) were computed from the results of the linear regression analysis. In addition, log transformations were conducted in case of non-normality. All reported p values are two-tailed. Statistical significance was set at  $p < 0.05$  and analysis was conducted using SPSS statistical software (version 18.0).

## *Results*

### *Sample Characteristics*

The sample consisted of students attending B' Lyceum. At the beginning of the school year (from now and on it will be referred as first measurement) 589 students participated in the study. More specifically, 342 of them (58.1%) were attending "art" groups and the remaining 247 (41.9%) were attending "non-art" groups. At the end of the school year (from now on it will be referred as second measurement) 552 students participated in the study. More specifically, 317 of them (57.4%) were attending "art" groups and the remaining 235 (42.6%) were attending a "non-art" groups. In the Table 4.1, gender and classes taken by the participants are presented for each measurement in the total sample as well as for each type of group separately. The majority of the students were females in both measurements (58.2% and 57.1% for the first and the second measurement respectively). Regardless of the type of groups, females remained the majority of the students enrolled in the study in all cases, with the percentages being 50.6% and 63.7% for the "non art" groups in the first and second measurement respectively and 63.7% and 60.9% for the "art" groups. The most popular

subject in the “art” groups was the theatre since most students chose theatre classes both in first (64.3%) and second (63.7%) measurements. The second most popular subject was virtual arts, being chosen by 28.9% and 28.4% of the students in the first and second measurements. As far as common subjects in both “art” and “non art” groups are concerned, it was found that mathematics had higher percentages of preference regardless of the type of the group in both measurements (42.3% of the students in total participated at the beginning of the school year and 42.4% of the students in total participated at the end of the school year).

*Table 4.1 Information regarding gender and subjects chosen by enrolled students in both measurements, presented in the total sample and for each type of group separately.*

	First measurement (N=589)			Second measurement (N=552)		
	Total sample	Art group		Total sample	Art group	
		No (N=247)	Yes (N=342)		No (N=235)	Yes (N=317)
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
<b>Gender</b>						
Male	246 (41.8)	122 (49.4)	124 (36.3)	237 (42.9)	113 (48.1)	124 (39.1)
Female	343 (58.2)	125 (50.6)	218 (63.7)	315 (57.1)	122 (51.9)	193 (60.9)
<b>To which group is your chosen subjects of B Lyceum*</b>						
Theatre	220 (64.3)	N/A	220 (64.3)	202 (63.7)	N/A	202 (63.7)
Music	50 (14.6)	N/A	50 (14.6)	39 (12.3)	N/A	39 (12.3)
Visual Arts	99 (28.9)	N/A	99 (28.9)	90 (28.4)	N/A	90 (28.4)
Free Perspective Drawing	52 (15.2)	N/A	52 (15.2)	48 (15.1)	N/A	48 (15.1)
<b>To which group is your chosen subjects of B Lyceum</b>						
Mathematics	249 (42.3)	139 (56.3)	110 (32.2)	234 (42.4)	135 (57.4)	99 (31.2)
Biology	47 (8.0)	21 (8.5)	26 (7.6)	58 (10.5)	20 (8.5)	38 (12.0)
Chemistry	109 (18.5)	58 (23.5)	51 (14.9)	100 (18.1)	51 (21.7)	49 (15.5)
Physics	161 (27.3)	93 (37.7)	68 (19.9)	147 (26.6)	89 (37.9)	58 (18.3)
History	54 (9.2)	22 (8.9)	32 (9.4)	56 (10.1)	27 (11.5)	29 (9.1)
Ancient Greek	45 (7.6)	14 (5.7)	31 (9.1)	37 (6.7)	15 (6.4)	22 (7.0)
Other lessons	391 (66.4)	169 (68.4)	222 (64.9)	355 (64.3)	162 (68.9)	193 (60.9)

Note. N/A: Non-applicable \*referred only in students attending art high group

### *Differences in all Study Scales between Types of Groups*

Scores in SDQ subscales are presented in the Table 4.2 for each type of group and each measurement separately. Significant differences in the scores between the “art” and “non art” groups were not found in the first measurement ( $p>0.05$ ), indicating that students

were having similar levels of behavioural problems regardless of the type of their groups. In the second measurement, score in the “hyperactivity” subscale was significantly higher in students attending “art” groups compared to students attending “non art” groups ( $Z=-0.34$ ,  $p=0.001$ ), indicating that students attending “art” groups were facing more problems due to their hyperactivity than students attending “non art” groups (Figure 4.1). Also, total SDQ score was significantly higher in students attending the “art” groups compared to students attending the “non art” groups ( $Z=-2.06$ ,  $p=0.039$ ), indicating that students attending the “art” groups were facing more behavioural problems in general than students attending the “non art” groups (Figure 4.2). Scores in all other subscales did not differ between different the types of groups.

*Table 4.2 Scores in SDQ subscales separately for each type of group and each measurement.*

	Art school	First measurement				Second measurement			
		Mean±SD	Median (IQR)	Z value	P Mann Whitney	Mean±SD	Median (IQR)	Z value	P Mann Whitney
Emotional	No	2.8±2.1	2 (1 - 4)	-0.91	0.361	3.1±2.5	2 (1 - 4)	-0.98	0.325
	Yes	2.9±2.2	3 (1 - 4)			3.3±2.5	3 (1 - 5)		
Conduct Problems	No	2.3±1.5	2 (1 - 3)	-1.41	0.159	2.6±1.6	2 (1 - 4)	-0.70	0.482
	Yes	2.5±1.7	2 (1 - 3)			2.8±1.8	2 (2 - 4)		
Hyperactivity	No	2.8±1.9	2 (1 - 4)	-0.94	0.346	2.9±2.0	3 (1 - 4)	-0.34	0.001
	Yes	3.1±2.2	3 (1 - 4)			3.5±2.2	3 (2 - 5)		
Peer Problems	No	2.1±1.7	2 (1 - 3)	-0.17	0.863	2.3±1.9	2 (1 - 3)	-0.16	0.875
	Yes	2.0±1.6	2 (1 - 3)			2.3±1.8	2 (1 - 3)		
Prosocial	No	7.0±2.0	7 (6 - 9)	-0.92	0.359	7.0±2.0	7 (6 - 9)	-1.92	0.055
	Yes	7.2±2.1	7 (6 - 9)			7.2±2.1	8 (6 - 9)		
Total SDQ score	No	10.0±5.1	9 (6 - 13)	-1.24	0.216	10.9±5.6	10 (7 - 15)	-2.06	0.039
	Yes	10.6±5.3	10 (7 - 14)			11.8±5.5	11 (7 - 15.5)		



Figure 4.1 Error bar of “Hyperactivity” subscale scores in the second measurement for each type of group.

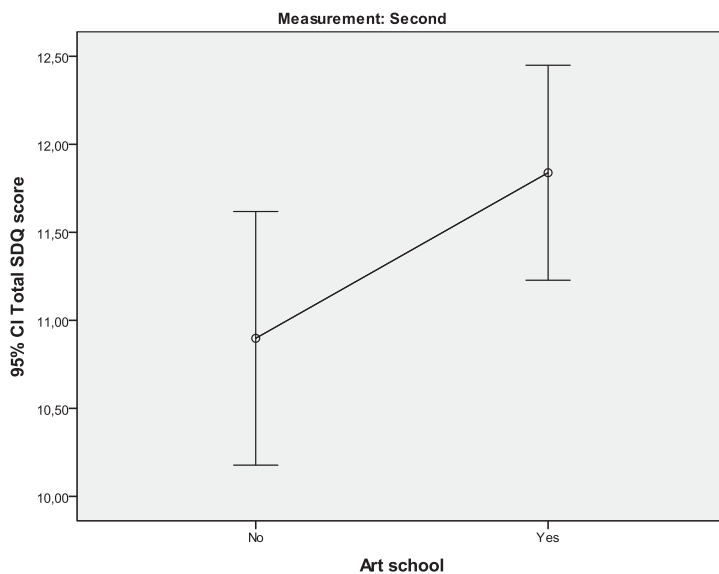


Figure 4.2 Error bar of total SDQ score in second measurement for each type of group.

Scores in trait EI scale are presented in the Table 4.3 for each type of school and each measurement separately. Significant differences in the scores between the “art” and “non art” groups were not found in the first measurement nor in the second one ( $p>0.05$ ), indicating that students had similar levels of emotional intelligence regardless of the type of their group.

Table 4.3 Score in trait EI scale separately for each type of group and each measurement.

trait EI scale								
Art group	First measurement				Second measurement			
	Mean±SD	Median (IQR)	t (df)	P Student's t-test	Mean±SD	Median (IQR)	t (df)	P Student's t-test
No	4.8±0.8	4.8 (4.3 - 5.4)	1.30 (586)	0.194	4.8±0.8	4.8 (4.1 - 5.4)	1.85 (549)	0.066
Yes	4.7±0.8	4.7 (4.2 - 5.3)			4.6±0.8	4.6 (4.1 - 5.1)		

Likewise, scores in BES subscales are presented in the Table 4.4 for each type of group and each measurement separately. Significant differences in the scores between the “art” and the “non art” groups were not found in the first measurement nor in the second one ( $p>0.05$ ), indicating that students had similar levels of empathy regardless of the type of their group.

Table 4. 4 Score in BES subscales separately for each type of group and each measurement.

	Art group	First measurement				Second measurement			
		Mean±SD	Median (IQR)	Z value	P Mann Whitney	Mean±SD	Median (IQR)	Z value	P Mann Whitney
Cognitive Empathy	No	34.7±6	35 (31 - 39)	-0.58	0.560	34.4±6.2	35 (30 - 39)	-0.81	0.417
	Yes	34.5±5.6	35 (31 - 39)			34.8±5.7	35 (31 - 39)		
Affective Empathy	No	35.2±8	35 (30 - 41)	-0.43	0.665	35.7±7.3	36 (30 - 41)	-1.68	0.093
	Yes	35.6±7.1	36 (31 - 41)			36.6±7.3	37 (31 - 42)		



### *Differences in all Study Scales between Measurements*

Scores in SDQ subscales in each measurement are presented in Table 4.5 for each type of group separately and in the total sample. Significantly higher was the score in “conduct problems” subscale at the second measurement, in the total sample (Figure 4.3) and in students attending the “non art” groups, indicating that at the end of the school year more conduct problems were reported. Moreover, the score in “hyperactivity” subscale was considered significantly higher at the second measurement, in total sample (Figure 4.4) and in students attending the “art” groups, indicating that at the end of the school year more problems were reported due to hyperactivity. In general, at the end of the school year more behavioral problems were recorded in the total sample (Figure 4.5) and in the “art” groups, since total SDQ score increased significantly in the second measurement compared to the first one in these cases. As far as emotional, peer problems and prosocial behavior are concerned, there were no significant changes between the two measurements neither in total sample nor in each type of group.

*Table 4.5 Scores in SDQ subscales in every measurement for the total sample and for each type of group separately.*

		Total sample		Art group			
				No		Yes	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
Emotional	First Measurement	2.9±2.1	3 (1 - 4)	2.8±2.1	2 (1 - 4)	2.9±2.1	3 (1 - 4)
	Second Measurement	3.2±2.5	3 (1 - 5)	3.1±2.5	2 (1 - 4)	3.3±2.5	3 (1 - 5)
	Z-value		-1.68		-0.94		-1.45
	P		0.093		0.345		0.147
Conduct Problems	First Measurement	2.4±1.6	2 (1 - 3)	2.3±1.5	2 (1 - 3)	2.5±1.7	2 (1 - 3)
	Second Measurement	2.7±1.7	2 (2 - 4)	2.6±1.6	2 (1 - 4)	2.8±1.8	2 (2 - 4)
	Z-value		-2.94		-2.35		-1.89
	P		0.003		0.019		0.059
Hyperactivity	First Measurement	3±2	3 (1 - 4)	2.8±1.9	2 (1 - 4)	3.1±2.2	3 (1 - 4)
	Second Measurement	3.2±2.1	3 (2 - 5)	2.9±2	3 (1 - 4)	3.5±2.1	3 (2 - 5)
	Z-value		-2.11		0.00		-2.75
	P		0.035		0.996		0.006
Peer Problems	First Measurement	2.1±1.6	2 (1 - 3)	2.1±1.7	2 (1 - 3)	2±1.6	2 (1 - 3)
	Second Measurement	2.3±1.8	2 (1 - 3)	2.3±1.9	2 (1 - 3)	2.3±1.8	2 (1 - 3)
	Z-value		-1.80		-1.12		-1.41
	P		0.071		0.262		0.158
Prosocial	First Measurement	7.1±2	7 (6 - 9)	7±2	7 (6 - 9)	7.1±2.1	7 (6 - 9)
	Second Measurement	7.1±2.1	7 (6 - 9)	7±2	7 (6 - 9)	7.2±2.1	8 (6 - 9)
	Z-value		-0.13		-0.49		-0.61
	P		0.898		0.621		0.542
Total SDQ score	First Measurement	10.3±5.3	10 (6 - 14)	10±5.1	9 (6 - 13)	10.6±5.3	10 (7 - 14)
	Second Measurement	11.4±5.6	11 (7 - 15)	10.9±5.6	10 (7 - 15)	11.8±5.5	11 (7 - 15.5)
	Z-value		-3.35		-1.63		-3.06
	P		0.001		0.103		0.002

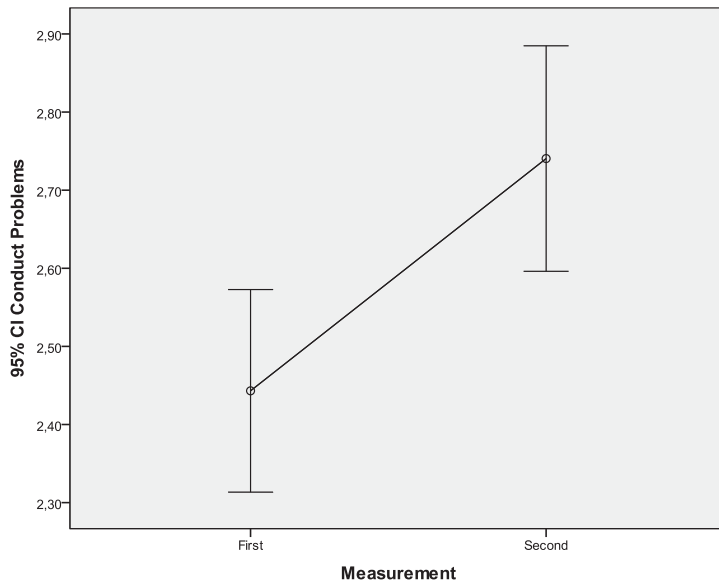


Figure 4.3. Error bar of “Conduct problems” subscale for each measurement

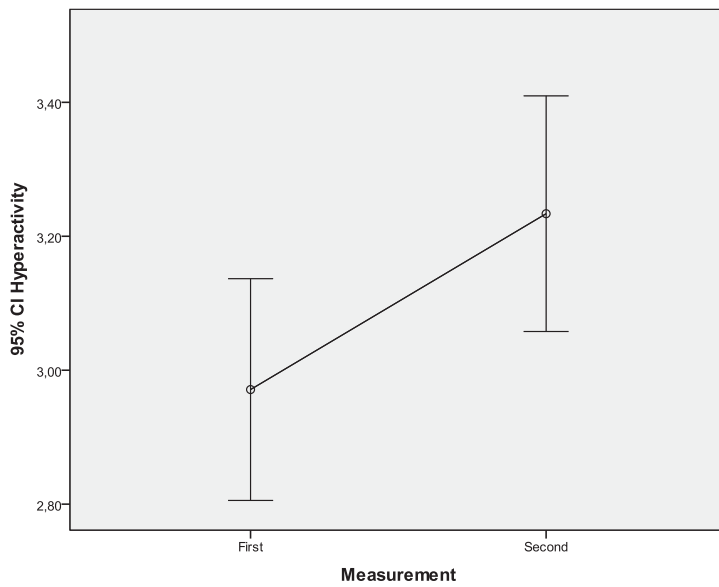


Figure 4.4 Error bar of “Hyperactivity” subscale for each measurement.

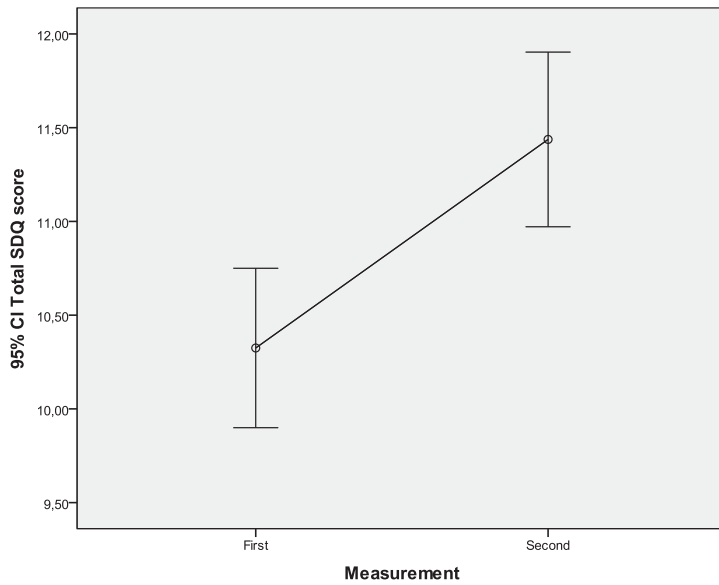


Figure 4. 5 Error bar of total SDQ score for each measurement

Scores in trait EI scale in each measurement are presented in the Table 4.6 for each type of group separately and in total sample. Significant differences in the scores between the first and the second measurement were not found in the total sample nor in the “art” and the “non art” groups ( $p>0.05$ ), which implies that students had similar levels of emotional intelligence in both measurements.

Table 4.6 Score in trait EI scale in every measurement for total sample and for each type of group separately.

		Total sample		Art school			
				No		Yes	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
trait EI	First Measurement	4.8±0.8	4.8 (4.2 - 5.3)	4.8±0.8	4,8 (4,3 - 5,4)	4,7±0,7	4,7 (4,2 - 5,3)
	Second Measurement	4.7±0.8	4.7 (4.1 - 5.3)	4.8±0.8	4,8 (4,1 - 5,4)	4,6±0,8	4,6 (4,1 - 5,1)
	t (df)	1.40 (1137)		0.56 (480)		1.42 (655)	
	P	0.161		0.577		0.156	

Scores in BES subscales are presented in Table 4.7 for each type of group and each measurement separately. Significant differences in the “cognitive empathy” subscale between the first and the second measurements were not found in total sample nor in the “art” and

“non art” groups ( $p>0.05$ ), which means that students had similar levels of cognitive empathy in both measurements. On the other hand, in the “art” groups, it was only found that the score in the “affective empathy” subscale increased significantly in the second measurement, indicating that students in the “art” groups had significantly higher levels of affective empathy at the end of the school year compared to the beginning.

*Table 4.7 Score in BES subscales in every measurement for total sample and for each type of group separately.*

		Total sample		Art group			
				No		Yes	
		Mean±SD	Median (IQR)	Mean±SD	Median (IQR)	Mean±SD	Median (IQR)
Cognitive Empathy	First Measurement	34.6±5.8	35 (31 - 39)	34.7±6	35 (31 - 39)	34.5±5.6	35 (31 - 39)
	Second Measurement	34.6±5.9	35 (31 - 39)	34.4±6.2	35 (30 - 39)	34.8±5.7	35 (31 - 39)
	Z-value	-0.04		-0.67		-0.67	
	P	0.966		0.505		0.505	
Affective Empathy	First Measurement	35.4±7.5	36 (30 - 41)	35.2±8	35 (30 - 41)	35.6±7.1	36 (31 - 41)
	Second Measurement	36.2±7.3	37 (31 - 41)	35.7±7.3	36 (30 - 41)	36.6±7.3	37 (31 - 42)
	Z-value	-1.82		-0.53		-2.04	
	P	0.069		0.598		0.042	

#### *Differences in the Degree of Change in all Study Scales between Types of Groups*

It should be pointed out that in order to assess the degree of change in all study scales during the follow up in the two types of groups, linear regression analysis were conducted having the variables presented study scales as dependent (empathy, trait emotional intelligence and strengths and difficulties dimensions) and the variables the group (“arts” and “no arts”), the time and the interaction of time with group as independent. The gender was also included in the model in order to adjust the findings with its effect. Log transformations were used in all SDQ and BES subscales due to the lack of normality in their distribution.

Multiple regression results in “emotional” subscale as the dependent variable is presented in the Table 4.8. The linear prediction of gender, type of groups and measurement were significantly related to the scores in “emotional” subscale ( $F(3,1136)=26.06, p<0.001$ ). Approximately 6% of the variance of the “emotional” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. Only the gender had a significant effect on student’s score in the “emotional” subscale ( $\beta=0.14, p<0.001$ ), indicating that female students had more emotional problems in comparison to male ones. It was remarkable that the effects of measurement and the type of groups in the “emotional” subscale were considered non-significant. Furthermore, the degree of change in the particular subscale during the follow up was similar in both types of school, since the interaction term when included in the model was non-significant ( $\beta=0.004; SE=0.03; t=0.11; p=0.914$ ).

*Table 4.8 Multiple linear regression results with “Emotional” subscale (log transformed) as dependent variable.*

	$\beta$	SE	T	P
Gender				
Male	0.00 <sup>+</sup>			
Female	0.14	0.02	8.59	<0.001
Measurement				
First	0.00			
Second	0.03	0.02	1.85	0.064
Art group				
No	0.00			
Yes	0.003	0.02	0.19	0.848
Adjusted R Square	0.06			
F-value (df <sub>1</sub> , df <sub>2</sub> )	26.06 (3, 1136)***			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Multiple regression results in “conduct problems” subscale as the dependent variable are presented in the Table 4.9. The linear prediction of the gender, the type of group and the measurement were significantly related to scores in “conduct problems” subscale ( $F(3,1136)=15.08, p<0.001$ ). Approximately 4% of the variance of the “conduct problems”

subscale in the sample can be accounted for by the linear combination of the aforementioned variables. Based on the findings the gender had a significant effect on student's score in the "conduct problems" subscale ( $\beta=-0.07$ ,  $p<0.001$ ), indicating that female students had less conduct problems compared to male ones. Also, the results showed that score in "conduct problems" subscale increased significantly during the follow up period ( $\beta=0.04$ ,  $p=0.003$ ), implying that at the end of the school year students were facing more conduct problems compared to students at the beginning of the year. Moreover, students attending the "art" groups were facing more conduct problems compared to students attending the "non art" groups ( $\beta=0.03$ ,  $p=0.027$ ). The degree of change in the particular subscale during the follow up was similar in both types of groups, since the interaction term when was included in the model was non significant ( $\beta=-0.01$ ;  $SE=0.02$ ;  $t=-0.27$ ;  $p=0.789$ ).

*Table 4.9 Multiple linear regression results in "conduct problems" subscale (log transformed) as the dependent variable.*

	$\beta$	SE	T	P
Gender				
Male	0.00 <sup>+</sup>			
Female	-0.07	0.01	-5.81	<0.001
Measurement				
First	0.00			
Second	0.04	0.01	2.95	0.003
Art school				
No	0.00			
Yes	0.03	0.02	2.22	0.027
Adjusted R Square	0.04			
F-value (df <sub>1</sub> , df <sub>2</sub> )	15.08 (3, 1136)***			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Multiple regression results in "hyperactivity" subscale as dependent variable are presented in Table 4.10. The linear prediction of the gender, type of groups and measurement were significantly related to scores in "hyperactivity" subscale ( $F(3,1136)=11.91$ ,  $p<0.001$ ).

Approximately 3% of the variance of the “hyperactivity” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. As it was found, the gender had a significant effect on student’s score in the “hyperactivity” subscale ( $\beta=-0.07$ ,  $p<0.001$ ) which indicates that female students had less hyperactivity problems compared to male ones. Also, it was found that score in “hyperactivity” subscale increased significantly during the follow up period ( $\beta=0.03$ ,  $p=0.042$ ), indicating that at the end of the school year students were facing more hyperactivity problems compared to students in the beginning of the year. Additionally, students attending “art” groups were facing more hyperactivity problems compared to students attending “non art” groups ( $\beta=0.06$ ,  $p<0.001$ ). Also, the degree of change in the particular subscale during the follow up was similar in both types of groups, since the interaction term when was included in the model was non significant ( $\beta=0.05$ ;  $SE=0.03$ ;  $t=1.78$ ;  $p=0.075$ ).

*Table 4.10 Multiple linear regression results in “hyperactivity” subscale (log transformed) as the dependent variable.*

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	-0.07	0.02	-4.68	<0.001
Measurement				
First	0.00			
Second	0.03	0.02	2.04	0.042
Art group				
No	0.00			
Yes	0.06	0.02	3.58	<0.001
Adjusted R Square	0.03			
F-value (df <sub>1</sub> , df <sub>2</sub> )	11.91 (3, 1136)***			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Multiple regression results in “peer problems” subscale as the dependent variable are presented in the Table 4.11. The linear prediction of the gender, the type of school and the measurement were not significantly related to scores in “peer problems” subscale



( $F(3,1137)=3.20$ ,  $p=0.087$ ). Approximately 0.3% of the variance of the “peer problems” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. Only the gender had a significant effect on student’s score in “peer problems” subscale ( $\beta=-0.03$ ,  $p=0.043$ ), indicating that female students had fewer “peer problems” compared to male ones. Non-significant were the effects of measurement and type of groups in the “peer problems” subscale. Also, the degree of change in the particular subscale during the follow up was similar in both types of groups, since the interaction term when was included in the model was non-significant ( $\beta=-0.001$ ;  $SE=0.03$ ;  $t=-0.03$ ;  $p=0.978$ ).

*Table 4.11 Multiple linear regression results in “peer problems” subscale (log transformed) as the dependent variable.*

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	-0.03	0.02	-2.03	<b>0.043</b>
Measurement				
First	0.00			
Second	0.02	0.02	1.55	0.122
Art group				
No	0.00			
Yes	0.002	0.02	0.11	0.913
Adjusted R Square	0.003			
F-value (df <sub>1</sub> , df <sub>2</sub> )	2.20 (3, 1137)			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Multiple regression results in “prosocial” subscale as the dependent variable are presented in the Table 4.12. The linear prediction of the gender, the type of school and the measurement were significantly related to scores in “prosocial” subscale ( $F(3,1137)=26.75$ ,  $p<0.001$ ). Approximately 6% of the variance of the “prosocial” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. It is important that only the gender had a significant effect in student’s score in “prosocial” subscale ( $\beta=0.07$ ,

p<0.001), indicating that female students had more prosocial behavior compared to male ones. The effects of the measurement and the type of school in the “prosocial” subscale were not considered significant. In addition, the degree of change in the particular subscale during the follow up was similar in both types of school, since the interaction term when was included in the model was non-significant ( $\beta=0.01$ ; SE=0.02; t=0.88; p=0.378).

*Table 4.12. Multiple linear regression results in “prosocial” subscale (log transformed) as the dependent variable.*

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	0.07	0.01	8.92	<0.001
Measurement				
First	0.00			
Second	0.002	0.01	0.26	0.798
Art group				
No	0.00			
Yes	-0.001	0.01	-0.19	0.851
Adjusted R Square	0.06			
F-value (df <sub>1</sub> , df <sub>2</sub> )	26.75 (3, 1137)***			

Note. <sup>+</sup>indicates reference category \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

Multiple regression results in the total SDQ score as the dependent variable are presented in the Table 4.13. The linear prediction of the gender, the type of groups and the measurement were significantly related to the total SDQ score ( $F(3,1135)=6.04$ ,  $p<0.001$ ). Approximately 1% of the variance of the total SDQ score in the sample can be accounted for by the linear combination of the aforementioned variables. The effect of the gender was not significant. According to the results, the total SDQ score increased significantly during the follow up period ( $\beta=0.05$ ,  $p=0.001$ ), which proves that at the end of the school year students were facing more behavioral problems compared to students at the beginning of the year. Moreover, students attending “art” groups were facing more behavioral problems compared

to students attending “non art” groups ( $\beta=0.04$ ,  $p=0.007$ ). Also, the degree of change in the particular subscale during the follow up was similar in both types of groups, since the interaction term when was included in the model was non-significant ( $\beta=0.02$ ;  $SE=0.03$ ;  $t=0.63$ ;  $p=0.529$ ).

*Table 4.13 Multiple linear regression results in the total SDQ score (log transformed) as the dependent variable.*

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	-0.01	0.02	-0.39	0.697
Measurement				
First	0.00			
Second	0.05	0.02	3.31	0.001
Art s group				
No	0.00			
Yes	0.04	0.02	2.70	0.007
Adjusted R Square	0.01			
F-value (df <sub>1</sub> , df <sub>2</sub> )	6.04 (3 , 1135)***			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Multiple regression results in trait EI scale as the dependent variable are presented in the Table 4.14. The linear prediction of the gender, the type of groups and the measurement were significantly related to scores in trait EI scale ( $F(3,1135)=4.14$ ,  $p=0.006$ ).

Approximately 1% of the variance of the trait EI scale in the sample can be accounted for by the linear combination of the aforementioned variables. The gender had a significant effect in student’s score in trait EI scale ( $\beta=0.11$ ,  $p=0.020$ ), proving that female students had significantly higher levels of emotional intelligence compared to male ones. Non-significant was the effect of measurement in the trait EI scale. Moreover, students attending “art” groups had significantly lower levels of emotional intelligence compared to students attending “non art” groups ( $\beta=-0.12$ ,  $p=0.013$ ). Also, the degree of change in the particular subscale during

the follow up was similar in both types of groups, since the interaction term was included in the model was non-significant ( $\beta=-0.04$ ;  $SE=0.09$ ;  $t=-0.39$ ;  $p=0.696$ ).

*Table 4.14 Multiple linear regression results in trait EI scale as dependent variable.*

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	0.11	0.05	2.34	0.019
Measurement				
First	0.00			
Second	-0.07	0.05	-1.39	0.164
Art group				
No	0.00			
Yes	-0.12	0.05	-2.48	0.013
Adjusted R Square	0.01			
F-value (df <sub>1</sub> , df <sub>2</sub> )	4.14 (3, 1135)**			

Note. <sup>+</sup>indicates reference category \* $p<0.05$  \*\* $p<0.01$  \*\*\* $p<0.001$

Furthermore, multiple regression results in “cognitive empathy” subscale as the dependent variable are presented in the Table 4.15. The linear prediction of the gender, the type of groups and the measurement were significantly related to scores in “cognitive empathy” subscale ( $F(3,1137)=35.73$ ,  $p<0.001$ ). More specifically, approximately 8% of the variance of the “cognitive empathy” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. It is remarkable that only the gender had a significant effect in student’s score in “cognitive empathy” subscale ( $\beta=0.05$ ,  $p<0.001$ ), indicating that female students felt more cognitive empathy compared to male ones. In contrast, the effects of measurement and type of groups in the “cognitive empathy” subscale were not significant. Besides, the degree of change in the particular subscale during the follow up was similar in both types of school, since the interaction term when was included in the model was non-significant ( $\beta=0.01$ ;  $SE=0.01$ ;  $t=1.07$ ;  $p=0.285$ ).

Table 4.15 Multiple linear regression results in “cognitive empathy” subscale (log transformed) as the dependent variable.

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	0.05	0.01	10.34	<0.001
Measurement				
First	0.00			
Second	0.001	0.01	0.18	0.854
Art group				
No	0.00			
Yes	-0.003	0.01	-0.63	0.526
Adjusted R Square	0.08			
F-value (df <sub>1</sub> , df <sub>2</sub> )	35.73 (3, 1137)***			

Note. <sup>+</sup>indicates reference category \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

Likewise, multiple regression results in “affective empathy” subscale as the dependent variable are presented in the Table 4.16. The linear prediction of the gender, the type of groups and the measurement were significantly related to scores in “affective empathy” subscale ( $F(3,1135)=84.88, p<0.001$ ). Approximately 18% of the variance of the “affective empathy” subscale in the sample can be accounted for by the linear combination of the aforementioned variables. Based on the findings, the gender had a significant effect on student’s score in “affective empathy” subscale ( $\beta=0.08, p<0.001$ ), proving that female students felt more affective empathy compared to male ones. Also, it was found that score in “affective empathy” subscale increased significantly during the follow up period ( $\beta=0.01, p=0.026$ ), indicating that at the end of the school year students were having higher levels of affective empathy compared to students at the beginning of the year. Non-significant was the effect of type of group on the “affective empathy” subscale. Also, the degree of change in the particular subscale during the follow up was similar in both types of groups, since the interaction term when was included in the model was non-significant ( $\beta=0.01; SE=0.01; t=0.71; p=0.477$ ).

Table 4.16 Multiple linear regression results in “affective empathy” subscale (log transformed) as the dependent variable.

	B	SE	t	P
Gender				
Male	0.00 <sup>+</sup>			
Female	0.08	0.01	15.74	<0.001
Measurement				
First	0.00			
Second	0.01	0.01	2.23	0.026
Art group				
No	0.00			
Yes	-0.004	0.01	-0.08	0.935
Adjusted R Square	0.18			
F-value (df <sub>1</sub> , df <sub>2</sub> )	84.88 (3, 1135)***			

Note. <sup>+</sup>indicates reference category \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

#### Correlation among all Study Scales

Spearman’s correlation coefficients among all study scales in the total sample and for each type of group separately regarding the first measurement are presented in the Table 4.17. All SDQ subscales as well as the total score were significantly and negatively correlated with the trait EI scale ( $p<0.001$  for all subscales), except for the “prosocial” subscale which was positively yet significantly correlated with the trait EI scale ( $p<0.001$ ). Thus, more behavioral problems are associated with lower levels of emotional intelligence (Figure 4.6). The aforementioned result applies for all students and for each and every type of group separately. Also, in the total sample and in each type of group, it was found that “cognitive empathy” subscale was negatively correlated with “conduct problems”, “hyperactivity”, “peer problems” subscales and with total SDQ score, while positively correlated with “prosocial” subscale. Therefore, more conduct, hyperactivity or peer problems and more behavioral problems in general, are associated with lower levels of cognitive empathy whilst more prosocial behavior is associated with higher levels of cognitive empathy. Thus, more behavioral problems are associated with lower levels of cognitive empathy. In the total

sample, “affective empathy” subscale was negatively correlated with “conduct problems” ( $p < 0.001$ ) and “hyperactivity” ( $p = 0.020$ ), while positively correlated with “emotional” ( $p < 0.001$ ) and “Prosocial” ( $p < 0.001$ ) subscales. Consequently, more conduct or hyperactivity problems result in lower levels of affective empathy. Also, more emotional problems and more prosocial behavior result in higher levels of affective empathy. As far as students in “non art” groups are concerned, it was found that more emotional problems and more prosocial behavior are also associated with higher levels of affective empathy ( $p < 0.001$  for both correlations). For the students in “art” groups, it was found that more conduct, hyperactivity or peer problems result in lower levels of affective empathy ( $p < 0.001$ ,  $p = 0.023$  and  $p = 0.030$  respectively) while more emotional problems and more prosocial behavior result in higher levels of affective empathy ( $p < 0.001$  for both correlations). Additionally, it was found that “cognitive empathy” subscale was positively correlated with trait EI scale ( $p < 0.001$  for all correlations), both in total sample (Figure 4.7) and in each type of school, indicating that higher levels of cognitive empathy are associated with higher levels of emotional intelligence. On the other hand, there was not a significant correlation between “affective empathy” subscale and trait EI scale.

*Table 4.17 Spearman's correlation coefficients among all study scales in the total sample and for each type of group separately regarding the first measurement.*

		Total sample			Non art group			Art group		
		BES			BES			BES		
		trait EI			trait EI			trait EI		
			Cognitive Empathy	Affective Empathy		Cognitive Empathy	Affective Empathy		Cognitive Empathy	Affective Empathy
SDQ										
Emotional	r	-0.49	0.00	0.36	-0.51	0.03	0.36	-0.48	-0.02	0.36
	P	<0.001	0.994	<0.001	<0.001	0.632	<0.001	<0.001	0.659	<0.001
Conduct Problems	r	-0.29	-0.19	-0.20	-0.34	-0.16	-0.09	-0.25	-0.20	-0.28
	P	<0.001	<0.001	<0.001	<0.001	0.010	0.144	<0.001	<0.001	<0.001
Hyperactivity	r	-0.43	-0.23	-0.10	-0.45	-0.19	-0.07	-0.41	-0.26	-0.12
	P	<0.001	<0.001	0.020	<0.001	0.003	0.298	<0.001	<0.001	0.023
Peer Problems	r	-0.40	-0.28	-0.08	-0.48	-0.25	-0.02	-0.33	-0.30	-0.12
	P	<0.001	<0.001	0.062	<0.001	<0.001	0.706	<0.001	<0.001	0.030
Prosocial	r	0.21	0.42	0.39	0.23	0.47	0.46	0.19	0.38	0.34
	P	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total SDQ score	r	-0.60	-0.22	0.05	-0.64	-0.17	0.10	-0.57	-0.26	0.00
	P	<0.001	<0.001	0.269	<0.001	0.008	0.103	<0.001	<0.001	0.927
trait EI	r	-	0.35	0.01	-	0.33	-0.02	-	0.35	0.03
	P		<0.001	0.896		<0.001	0.733		<0.001	0.635



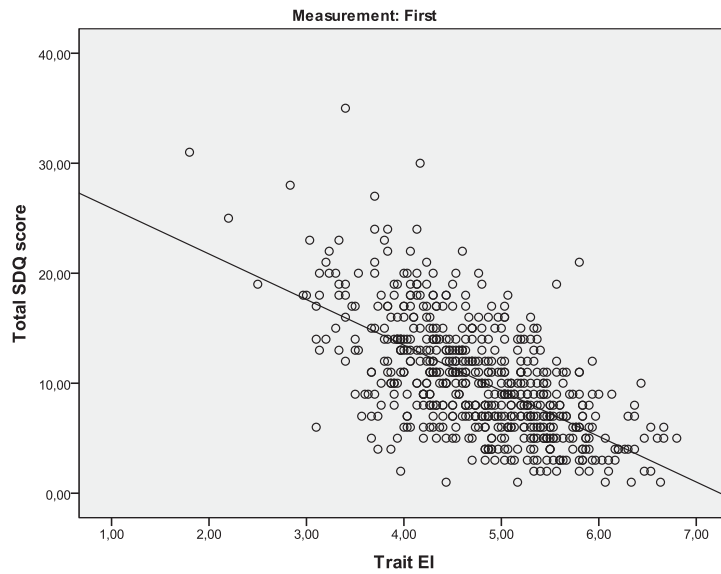


Figure 4.6 Correlation between the total SDQ score and the trait EI scale in the total sample for the first measurement.

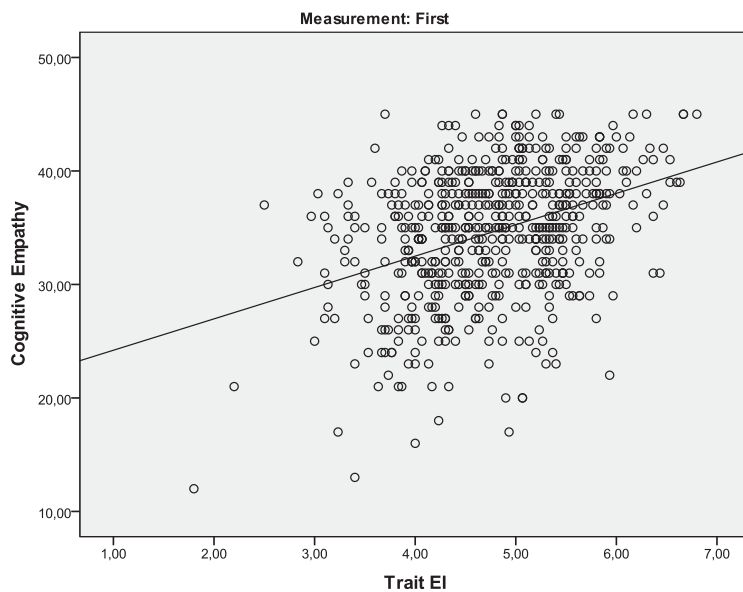


Figure 4.7 Correlation between the “cognitive empathy” subscale and the trait EI scale in the total sample for the first measurement.

Spearman’s correlation coefficients, among all study scales in the total sample and for each type of group separately regarding the second measurement, are presented in the Table 4.18. All SDQ subscales, as well as the total score were significantly and negatively

correlated with the trait EI scale ( $p < 0.001$  for all subscales), except for “prosocial” subscale which was positively yet significantly correlated with the trait EI scale ( $p < 0.001$ ). Thus, more behavioral problems are associated with lower levels of emotional intelligence (Figure 4.8). The aforementioned result applies for all students and for each and every type of group separately. Also, in regard to the total sample and to students attending the “art” groups, it was found that “cognitive empathy” subscale was negatively correlated with “conduct problems”, “hyperactivity”, “peer problems” subscales and with the total SDQ score, whereas positively correlated with “prosocial” subscale ( $p < 0.001$  for all correlations). Therefore, more conduct, hyperactivity or peer problems and more behavioral problems in general are associated with lower levels of cognitive empathy while more prosocial behavior is associated with higher levels of cognitive empathy. Concerning students in the “non art” groups, it was found that more conduct, hyperactivity problems or more behavioral problems in general are associated with lower levels of cognitive empathy ( $p < 0.001$ ,  $p < 0.001$  and  $p = 0.002$  respectively) while more prosocial behavior is associated with higher levels of cognitive empathy ( $p < 0.001$ ). In the total sample, “affective empathy” subscale was negatively correlated with “conduct problems” ( $p < 0.001$ ), “hyperactivity” ( $p = 0.020$ ) and “peer problems” ( $p < 0.001$ ) while positively correlated with “emotional” ( $p < 0.001$ ) and “prosocial” ( $p < 0.001$ ) subscales. Thus, more conduct, hyperactivity or peer problems result in lower levels of affective empathy. Also, more emotional problems and more prosocial behavior result in higher levels of affective empathy. As far as students in “non art” groups are concerned, it was found that more emotional problems and more prosocial behavior are also associated with higher levels of affective empathy ( $p < 0.001$  for both correlations) while more conduct problems result in lower levels of affective empathy ( $p = 0.007$ ). In relation to the students in “art” groups, it was found that more conduct or peer problems result in lower levels of affective empathy ( $p < 0.001$  and  $p = 0.028$  respectively) while more emotional

problems and more prosocial behavior result in higher levels of affective empathy ( $p < 0.001$  for both correlations). Additionally, the findings have shown that “cognitive empathy” subscale was positively correlated with trait EI scale ( $p < 0.001$  for all correlations) both in the total sample (Figure 4.9) and in each type of school, indicating that higher levels of cognitive empathy are associated with higher levels of emotional intelligence. On the other hand, a significant correlation between “affective empathy” subscale and trait EI scale was not noticed.

*Table 4.18 Spearman’s correlation coefficients among all study scales in the total sample and for each type of group separately regarding the second measurement.*

		Total sample			Non art group			Art group		
		BES			BES			BES		
		trait EI	Cognitive Empathy	Affective Empathy	trait EI	Cognitive Empathy	Affective Empathy	trait EI	Cognitive Empathy	Affective Empathy
SDQ										
Emotional	r	-0.46	0.05	0.37	-0.52	0.03	0.36	-0.41	0.06	0.37
	P	<0.001	0.228	<0.001	<0.001	0.610	<0.001	<0.001	0.314	<0.001
Conduct Problems	r	-0.33	-0.29	-0.26	-0.31	-0.31	-0.18	-0.34	-0.28	-0.33
	P	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001
Hyperactivity	r	-0.41	-0.23	-0.09	-0.39	-0.27	-0.11	-0.41	-0.22	-0.09
	P	<0.001	<0.001	0.042	<0.001	<0.001	0.088	<0.001	<0.001	0.095
Peer Problems	r	-0.39	-0.18	-0.10	-0.45	-0.12	-0.08	-0.33	-0.22	-0.12
	P	<0.001	<0.001	0.015	<0.001	0.076	0.226	<0.001	<0.001	0.028
Prosocial	r	0.19	0.38	0.45	0.31	0.46	0.49	0.11	0.33	0.41
	P	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.042	<0.001	<0.001
Total SDQ score	r	-0.60	-0.20	0.02	-0.62	-0.20	0.04	-0.56	-0.21	-0.01
	P	<0.001	<0.001	0.594	<0.001	0.002	0.516	<0.001	<0.001	0.816
trait EI	r	-	0.41	0.00	-	0.40	0.05	-	0.43	-0.02
	P		<0.001	0.995		<0.001	0.467		<0.001	0.660

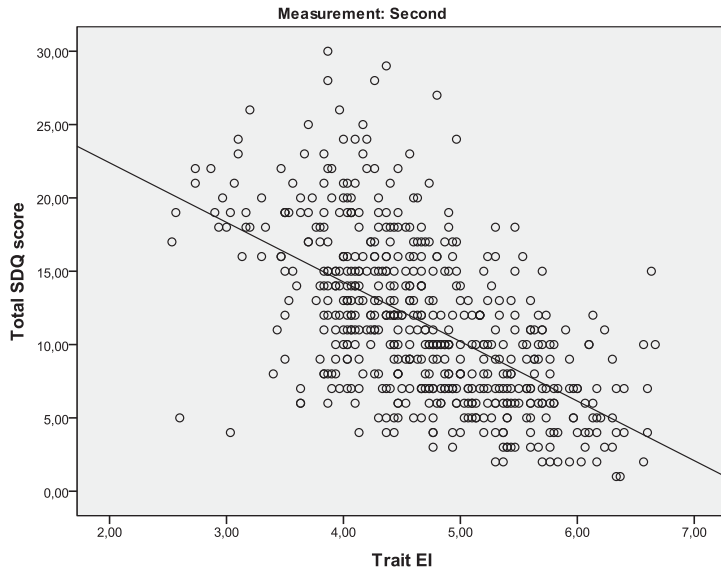


Figure 4. 8 Correlation between the total SDQ score and the trait EI scale in the total sample for the second measurement.

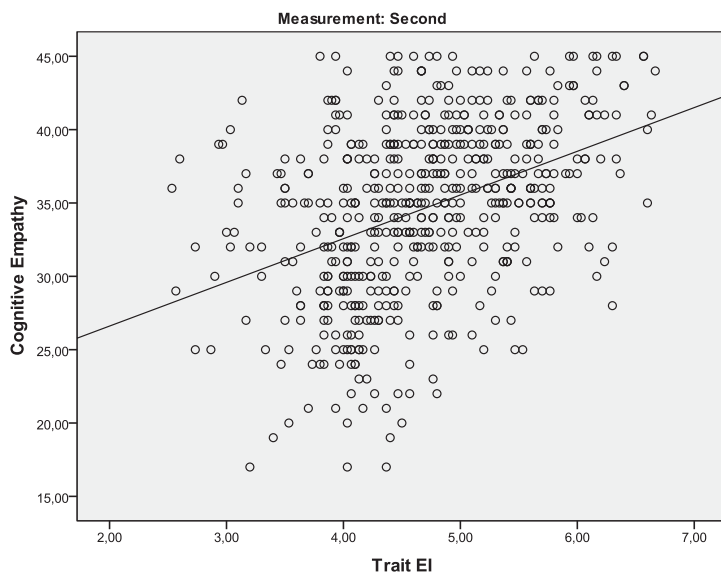


Figure 4.9 Correlation between the “cognitive empathy” subscale and the trait EI scale in the total sample for the second measurement.

### Research Hypotheses

In order to identify whether there was a relationship among social-emotional variables of empathy, trait, trait emotional intelligence, strengths and difficulties and the changes on

these variables between the “arts” and the “no arts” group in the five state schools of Cyprus, gathering B’ Lyceum students as samples, four research hypotheses were proposed and are described in the proceeding sections.

#### *Research Hypothesis 1*

Based on the analysis, the first research hypothesis that there is no significant change of empathy (affective) between time one and time two can be rejected but the degree of change is not significantly different between the “arts” and “no arts” group.

#### *Research Hypothesis 2*

Based on the analysis, the second research hypothesis that there is not a significant change of trait EI between time one and time two can be rejected but the degree of change is not significantly different between the “arts” and “no arts” group.

#### *Research Hypothesis 3*

Based on the results, the third research hypothesis that there is not a significant change of strengths and difficulties between time one and time two can be rejected (for conduct, hyperactivity, total SDQ) it seems that these traits degrade over the school year but the degree of change is not significantly different between the “arts” and “no arts” group.

#### *Research Hypothesis 4*

Based on the correlation analysis, the fourth research hypothesis that there is a significant correlation among empathy, trait EI, strengths and difficulties and the changes among these three variables between “arts” and “no arts” group cannot be rejected.

## *Summary*

Chapter four reported the statistical analysis that tested the four hypotheses and was organized into three sections.

The first section described the statistical analysis. The second section presented the results of this research and it was organized into four subsections; the first subsection referred to the sample characteristics the second presented the differences in all study scales between types of groups, the third investigated the differences in all study scales between measurements and the fourth the correlation among all study scales. The third section presented each of the research hypotheses of that study and whether these were rejected or not.

## Chapter 5: Discussion

### *Introduction*

Chapter four reported the statistical analysis that tested the four hypotheses. Chapter five presents a discussion about the findings and it is organized into three sections. The first section presents a discussion of the significant findings of this study. The second section presents the implications that arise from this research and is divided in two subsections. The first subsection refers to the implications for pedagogy. The second subsection refers to the implications for further research, with emphasis given on the population and on the research method.

### *Significant Findings*

Based on the findings, the most popular subject in the “art” groups was theatre since most students preferred theatre classes (64.3%). The second most popular subject was visual arts, being picked by 28.9% and 28.4% of the students in the first and second measurement.

According to the findings in the cognitive empathy scale, female students expressed more cognitive empathy compared to male ones. The effects of measurement and the type of group in the “cognitive empathy” subscale were not significant. Also, the degree of change in the particular subscale during the follow up was similar in both types of groups while in the affective empathy scale the female students felt more affective empathy compared to male ones. At the end of the school year, students seem to have higher levels of affective empathy compared to students at the beginning of the year while the degree of change in the particular subscale during the follow up was similar in both types of groups.

In trait EI scale, the female students had significantly higher levels of emotional intelligence compared to male ones and students attending “art” groups had significantly

lower levels of emotional intelligence compared to students attending “non art” groups. Finally, the degree of change in the particular subscale during the follow up was similar in both types of groups.

The SDQ has five subscales: In the “emotional” subscale, findings showed that female students had more emotional problems compared to male ones and the effects of measurement and the type of group in the “Emotional” subscale were non-significant. Furthermore, the degree of change in the particular subscale during the follow up was similar in both types of groups.

In “conduct problems” subscale, findings indicated that female students had fewer conduct problems in comparison to male ones while the “conduct problems” increased significantly during the follow up period. Additionally, students attending “art” groups were facing more conduct problems compared to students attending “non art” groups. The degree of change in the particular subscale during the follow up was similar in both types of groups.

In the “hyperactivity” subscale, findings led to the conclusion that female students had fewer hyperactivity problems compared to male ones and at the end of the school year students seemed to face more hyperactivity problems. Students attending “art” groups were facing more hyperactivity problems compared to students attending “non art” groups with the degree of change in the particular subscale during the follow up to be similar in both types of groups.

In “peer problems” subscale findings led to the conclusion that female students had fewer peer problems compared to male ones and the effects of measurement and type of school were not significant. In addition, the degree of change in the particular subscale during the follow up seemed to be similar in both types of groups.

In the “prosocial” subscale findings indicated that female students had more prosocial behavior compared to male ones and the effects of measurement and type of school were not



significant. Also, the degree of change in the particular subscale during the follow up was similar in both types of groups.

Generally in the total SDQ score findings led to the conclusion that at the end of the school year students were facing more behavioral problems compared to students at the beginning of the year while students attending “art” groups were facing more behavioral problems compared to students attending “non art” groups and the degree of change in the particular subscale during the follow up was similar in both types of groups.

Additionally, based on the findings, all SDQ subscales as well as the total score were significantly correlated with the trait EI scale, Thus, more behavioral problems are associated with lower levels of emotional intelligence and lower levels of cognitive empathy whereas more emotional problems and more prosocial behavior resulted in higher levels of affective empathy. Based on the above findings there is a trend of degrading behavior for all students over the course of the school year.

The analysis revealed that there was no statistically significant change of empathy, trait EI, strengths and difficulties between time one and time two and the degree of change in empathy, trait EI, strengths and difficulty was not significantly different between the “arts” and “no arts” groups. Furthermore, there was no significant correlation among empathy, trait EI and strengths and difficulties and the changes among those three variables between “arts” and “no arts” groups. There was no significant change between “art” and “no art” groups.

### *Implications*

This study, based on the findings about behavioural problems, suggests that the Cypriot curriculum of arts education must incorporate methods of experiential learning in order to cultivate empathy, trait EI, strengths and difficulties. This study showed that most of the students who chose arts education faced conduct and hyperactivity problems. According

to the findings, students who chose arts education usually face conduct or behavioural problems and arts education is a way to activate multiple intelligence (Gardner, 1999). As it was mentioned before, this happens because most of the students that chose those specific lessons (theatre, visual arts, free perspective drawing, music) were motivated by the good grades since there were no final exams. Consequently, the interest may not be genuine or students might not be talented in these subjects.

The analysis revealed that there was no statistically significant change of empathy, trait EI, strengths and difficulties between time one and time two and the degree of change in empathy, trait EI, strengths and difficulty was not significantly different between the “arts” and “no arts” groups. Furthermore, there was no significant correlation among empathy, trait EI and strengths and difficulties and the changes among those three variables between “arts” and “no arts” group. There was no significant change between “art” and “no art” groups.

Moreover, it can be stated that only subscales of conduct hyperactivity, total SDQ, affective empathy, trait EI changed and increased between time one and time two. Subscales of conduct hyperactivity, total SDQ, affective, trait EI had higher levels in “art” groups in relation to “no art”.

Consequently, based on these findings, there are specific implications for pedagogy and for further research. The first subsection refers to the implications for pedagogy with emphasis to curriculum, to teachers and to students. The second subsection refers to the implications for further research, with emphasis given on the population and on the research method.

### *Implications for Pedagogy*

According to the MOEC(2013) arts subjects such as theater education, music education, visual arts and free perspective drawing are optional in B’ Lyceum. These findings can suggest that arts education increased subscales of affective empathy, conduct

hyperactivity and the total SDQ changed and increased between time one and time two. The most popular subject in art school was theater (64.3%).

*The curriculum.* As it has been mentioned before, according to the literature review the Cyprus educational system is centralized and needs changes (Koutselini, 2004). Additionally, it is important for the hidden curriculum be considered in usual classroom settings using arts education as a tool for social justice (Cochran-Smith, 1995; Ladson-Billings, 1995; Ladson-Billings 2006). Since the European Commission (2007/8) put as aim of the secondary education to cultivate the cognitive and the emotional domains of students (Pitri, 2007), this leads to the conclusion that the curriculum needs more assessment, based on the findings not only for teachers but for students, for the procedure and the final product of them as well. The impact of theater allows us to suggest the incorporation of theater education in the curriculum as compulsory since it may increase the affective empathy.

Based on the findings students who chose arts lessons had more conduct problems and were more hyperactive. Furthermore, these findings allow the suggestion of reformatting arts lessons on more experiential learning in order to increase the affective as well as cognitive empathy (Gordon, 2012). Theater as a journey into the kingdom of the imagination (Caracciolo & Wallowitz, 2009; Diket, 2003) must be revised and involve more attractive products using empathy as the antidote to bullying (Nagy, 2007).

*The teachers.* Teachers must cooperate for the redesign of the curriculum and to enrich with activities with which students may be helped as much as possible. A teacher, must nurture empathy to help them get away from any form of bullying and harassment (Sandell, 2011). Engaging emotionality in teaching and learning, can be helpful for the necessary changes about the educational practices in the schools and society in combination with emotional intelligence (Chubbuck & Zembylas, 2008; Demetriou, Spanoudis, & Mouyi, 2012).

According to the document of the World Bank about the teacher policies of the Republic of Cyprus (2014) teachers must build their knowledge and skills on a continuing basis through Cyprus Pedagogical Institute. Hence, more training and more motivations for the teachers to attend courses and to adjust their teaching with theories of Vygotsky, multiple intelligence of Gardner and the Piaget's theory for effective results about empathy and emotional intelligence (Gardner, 1999; Powell, 2006). It is significant that motivation is another key to achieve educational goals (World Bank, 2014, p. 22).

*The students.* It is necessary for teachers to cultivate empathy in order to help students to face their conduct or behavioral problems (Jeffers, 2009; Jolliffe & Farrington, 2006; Miller & Eisenberg, 1988). Furthermore, based on the literature review, teachers must engage students with critical thinking to build brains (Creedon, 2011; Rozansky & Aagesen). These activities might include role playing, painting, various activities, creative projects that reveal their emotions and their imagination in order to control or even to cope with aggressive and behavioral and conduct problems (Jolliffe & Farrington, 2007; Santos, Chartier, Whalen, Chateau, & Boyd, 2011; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). As it was stated by the literature review problem solving is another way to face those problems and teaching them skills that empowered them to become creative adults (Moroney, 2003).

#### *Implications for Further Research*

This study employed quantitative research methods. Data collection included the use of questionnaires. The targeted population of this survey was B' Lyceum students in the state schools of Cyprus. In the future, researchers could perform studies where the population and the research method would differ.

*The population.* This study was conducted with a student sample. The population selected for this research was B' Lyceum students in the five state schools in Limassol of Cyprus. In the future a similar study could be conducted with the use of a different age

population. A future study could focus on students that attend primary school or even kindergarten. Therefore, the results of this investigation may not generalize to an employment situation or other ages as elementary or primary school or even teacher's perceptions about this research. A future study could also focus on students that attend private school in relationship with state schools.

*The research method.* This study employed only quantitative research methods and data collection included the use of questionnaires in two time periods, with a six month interval time. A future study could be conducted with an interval study of more than six months. In addition, the need for more research in this area that will also utilize qualitative research methods can be useful. A different type of study could be conducted in the future that would employ qualitative methods or mixed methods such as questionnaires and interviews from teachers and /or their students about the perspective of arts education. Specifically, future researchers could select a smaller sample in order to interview teachers and /students and/or to observe them during theater, music, visual arts in the state schools. It would be also useful when interviewing students, future researchers to collect more detailed data in relation to the students who had hyperactivity or conduct problems than others and two teams could be created and be compared. Specifically, preschool or elementary school and the interval time could last more than six months.

### *Conclusion*

The purpose of this study was to investigate the relationship among social-emotional variables of empathy, trait EI and SDQ and the changes on these variables between the "arts" and the "no arts" group in the five state schools of Cyprus, gathering B' Lyceum students as samples in order to identify whether there was a relationship among empathy, trait emotional

intelligence, strengths and difficulties and the changes on these variables between “arts” and “no arts” group.

The study employed quantitative research methods. Data collection included the use of questionnaires. The targeted population of this study included B' Lyceum students in the five state schools in Limassol of Cyprus. The first sample that was used in the statistical analysis was 589 students at the beginning of the school year and at the end of the school year 552 students participated in the study.

As it was indicated, students who selected arts subject had more behavioural problems and were more hyperactive than others. The findings of this study led to the conclusion that it is necessary to reform the educational system of Cyprus in order to help students grow a healthy and strong personality to face the existing financial and other problems. The curriculum as a vital part of the school ought to lead to certain implications. As a result, those implications are related to urgent adoption of a new pedagogy and further research was presented in this final chapter in order to provide suggestions for using a new school curriculum or reforming the existing curriculum in relation to empathy, trait EI and SDQ.

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## Vita Auctoris

Polymnia Hadjineophytou was born on January 7, 1965 in Limassol, Cyprus. In 1987 she received a Bachelor Degree in Modern Greek Literature from the National and Kapodistrian University of Athens, Greece. In 2005, she attended an Annual Master Training Program for Secondary Teacher Education in Ancient Greek Literature from the Center for Scientific Evaluation and Development (K.OP E.A A) and she has focused on ancient drama. She completed a MA (Magister Artium) on Sciences Education (Educational Leadership and Policy) in Open University of Cyprus (2006-2009).

During 1988-1996 she worked in Primary schools and during 1996 -2010 Ms Hadjineophytou started her career as a Modern Greek teacher in Lyceum group in Limassol, Cyprus, where she has taught History, Latins, Ancient Greek, and Modern Greek Literature. In 2010 she was promoted in an Assistant Headmistress and she worked two years in this position. Since 2013 she has been working in state schools in Limassol in the position of Headmistress.

In 1998 she earned her First National prize in a poetry contest in memory of Angelos Sikelianos. During the years 2003-2005, she had the initiative to write down and publish the first Calendar as a contribution for building a new church of Saint Savvas in Ypsonas in Limassol. In 2005 she wrote and published the book on the lives and sequences of St. Savvas Fundraising Committee for the erection of the church in Ypsonas.

In 2008 she earned her first Scholarship for attendance and participation for one week in the International Summer Institute of Ancient Greek. In 2009, she earned a Scholarship for attendance and participation for three weeks in the International Summer Institute of Ancient Greek.

Her research interests lie principally on the variables that they may affect students' use of arts education, with emphasis on the effect of the empathy, trait emotional intelligence and strengths and difficulties in Cyprus have on such use.

Ms Hadjineophytou is married and has two sons and one daughter. She continues to live and work in Limassol, Cyprus. She is still a General Representative of O.E.L.M.EK for twelve consecutive years and Secretary of the Cyprus Coordinator of her organization (O.E.L.M.EK.). She was a member of the Provincial Association of Greek Cypriots. Then she was elected as a member of Philologists Cyprus Association of Greek Literature (S.E.K.F) for six years and now she returned as the provincial secretary of the Greek Cypriot Literature where workshops are organized as S.E.K.F. with analysts from Cyprus and Greece as keynote speakers. She participated in the Comenius Program as a coordinator to Poland through the student's exchange program. Among the years of 2010-2012 she took part in another European program the "Frogy Frog", a program that gives information about the educational system and policies in a group of European schools.

It is great honor for her that recently, the Minister of Cyprus Education included her in the chosen team of eight educators in order to evaluate and prepare a new proposal evaluation for the educational system of Cyprus.