

# International conference on **Adolescent Medicine & Child Psychology**

September 28-30, 2015 Houston, USA

## Emotional intelligence evaluation in Greek adolescents: A data mining approach

Evgenia Gkintoni<sup>1</sup>, Constantinos Halkiopoulos<sup>2,3</sup>, Gerasimos Antzoulatos<sup>2,3</sup> and Georgia Giannopoulou<sup>4</sup>

<sup>1</sup>University of Crete, Greece

<sup>2</sup>Technological Educational Institute of Western Greece, Greece

<sup>3</sup>University of Patras, Greece

<sup>4</sup>Harokopeion University, Greece

In this paper, Machine Learning and Data Mining methods were applied so as to discover patterns and associations among characteristics of Emotional Intelligence (EI) in a group of Greek adolescents 13-17 years. Emotional intelligence can be defined as the ability to monitor one's own and other people's emotions to discriminate between different emotions and label them appropriately and to use emotional information to guide thinking and behavior. For recording, tracing and evaluation of the EI, was used the standardized scale Trait Emotional Intelligence (TEIQue) which examines the Trait model of EI as proposed by K.V. Petrides. Trait EI is a constellation of emotional self-perceptions located at the lower levels of personality. In lay terms, trait EI refers to an individual's self-perceptions of their emotional abilities. The TEIQue provides an operationalization for the model of Petrides and colleagues that conceptualizes EI in terms of personality. The test encompasses 15 subscales organized under four factors: Well-Being, self-control, emotionality and sociability. The psychometric properties of the tool were investigated in a study on a French-speaking population, where it was reported that its scores were globally normally distributed and reliable. The methodology, that was adopted, consists of three concrete phases. During the first phase electronic questionnaires were created and posted through the website. Subsequently, data were collected and preprocessed from the questionnaires. The data set for analysis was consisted of demographics elements of responders such as the gender, the birth-place, the place of present residence, educational background of both the respondents and their parents, professional occupation of parents and also of subscales of the TEIQue test. During the third phase, the data set was analyzed based on Data Mining techniques and evaluate the results. More specifically, we utilized classification algorithms so as to manage to describe the hidden patterns underlying in the data. Decision trees are a powerful way in order to represent and facilitate statements analysis (psychological) principally, comprising successive decisions and variable results in a designated period. Furthermore, clustering technique (such as K-Means algorithm) was applied which is a well-known knowledge discovery process of extracting previously unknown knowledge, actionable information from very large scientific and commercial databases. The k-means is a very popular algorithm and one of the best for implementing the clustering process. Also, the parameters of the algorithm were set depending on the application cases and also the results were correlated with the demographic characteristic of the respondents in order to evaluate and assess the significance of exported rules/conclusions. In addition, the respondents were classified into clusters based on the four factors emerged by the psychometric tool. The results indicate among others that the use of Data Mining methods is an important tool to export and receive the conclusions and decisions especially in the field of psychological assessment and mental health in adolescents.

### Biography

Evgenia Gkintoni is a Psychologist and PhD student in Clinical Neuropsychology at the University of Crete. She holds Master of Science in Mental Health from the University of Athens in Greece and Master of Education from Roma Tre University in Italy. She works as a Clinical Psychologist in the University Psychiatric Clinic of Patras. In addition, she is specialized in Systemic Family Therapy and in Cognitive Behavior Therapy in Egineion Hospital (A' Psychiatric University Clinic in Athens) and she has participated as a Lecturer in European and International Conferences from 2009.

[evigintoni@yahoo.gr](mailto:evigintoni@yahoo.gr)

### Notes: