ABSTRACT
Defining individual and cognitive factors that determine the career adaptability of university students and developing these factors through education, will positively affect the students’ career success. The aim of this study is to empirically test the influence of demographic factors and emotional intelligence, which are regarded as influential factors, on the career adaptability of university students. The study sample consists of students at Akdeniz University Tourism Faculty, which is located in the city of Antalya, Turkey. Data were collected through questionnaires distributed among 341 students, selected by random sampling method and these were analysed by CHAID method, which is a decision tree application. Findings of the study reveal the effects of gender and emotional intelligence on various significance levels in classifying the students' career adaptability as high and low. Findings indicate that emotional intelligence and gender are significant variables that can be used to differentiate the career adaptability. It is concluded that women with a high emotional intelligence level tend to have high career adaptability. According to the findings of the study, it is observed that female students with high emotional intelligence are more likely to deal with the challenges of today’s business world in a better way.

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INTRODUCTION

In today's world, individuals' tendency to shift their careers brings about ambiguities and unpredictability. Studies on occupational psychology assist us in understanding the career development process better. The stress levels of the individual during career transitions require the individual to make both emotional and cognitive adjustments (Ramos & Lopez, 2018). Career adaptabilities include a series of self-regulatory, cognitive-affective behaviour capacities or psycho-social sources that assist individuals to cope with the present and expected career development tasks, occupational transitions, and problems related to complex and ill-defined career and jobs (Savickas & Porfeli, 2012).

With the technological developments, the definitions of the profession are changing and the complexity and uncertainty of the business world is increasing. This puts pressure on university students who are preparing for their future careers. The development of career adaptation skills is one of the important factors affecting the success of young people. In this context, first of all, it is necessary to determine the factors that affect career adaptability. These factors may be beneficial for development of career adaptation programs in the departments where students are educated. In addition, employers can improve their work performance according to the characteristics of the employees. Studies on career adaptation abilities have shown that demographic variables are determinative on career adaptability (Kanten, 2012; Di Fabio et al., 2013; Sarıçam et al., 2015; Kanbur & Şen, 2017; Kaya, 2017; Yanar & Kırdök, 2017; Kalaycıoğlu, 2018).

In psychology literature, the importance of developing emotional intelligence in order to strengthen the career adaptation of individuals is often emphasized. Emotional intelligence includes the ability to establish empathy, to perceive straight, to evaluate, to express feelings and to regulate emotions. Di Fabio et al. (2012) confirm the unique role of emotional intelligence in estimating the challenges in emotional decisions. Studies on the emotional intelligence and career adaptability (Carson & Carson, 1998; Teixeira et al., 2012; De Guzman & Choi, 2013; Coetzee & Harry, 2014) provide empirical evidence on the idea that there are positive relations between the emotional intelligence of individuals and their career adaptabilities.

As can be seen in the literature review section of this study, there are very few studies on career adaptability in tourism. In existing studies, the factors affecting the career adaptability abilities or the cases affected by
career adaptability (career success, job performance) were analysed descriptively with regression and correlation analysis. The main difference of current study is that it attempts to determine the different demographic characteristics and emotional intelligence of tourism faculty students in order to classify them as low and high, according to the averages from the career adaptation scale. For this purposes, well-known clustering algorithm, CHAID method (which is a decision tree application), was used.

The study has two major contributions. The first one is to determine the characteristics of the students with low and high career adaptability in tourism sector. Discussion of research results with the relevant literature support may provide cues of improving the career adaptability for university educators and employers. Another importance is to introduce a new method for researchers and practitioners working in the field. Clustering methods offer significant benefits to researchers.

This study aims to find answers to the following research questions.

1. What is the effect of independent variables (demographic factors and emotional intelligence) in classifying the career adaptabilities of tourism faculty students?

2. What is the order of significance of the independent variables in classifying career adaptabilities of tourism faculty students?

LITERATURE REVIEW

Career adaptability includes self-regulatory capacities in the career development (Savickas & Porfeli, 2012). Career adaptabilities are regarded as a psychosocial structure in which people interact with the environment and use the psychological sources in dealing with occupation and career transitions (Savickas, 1997). Furthermore, it also includes a series of attitudes, competencies, and behaviours that individuals utilize in adapting the suitable activities for themselves (Savickas, 2013).

Career adaptability consists of four dimensions. These are career concern, career control, career curiosity and career confidence. Career concern refers to the capacity of planning and conscious and positive orientation towards an occupational future. Career control reflects the personal responsibility capacity for the career and job experiences, self-management, persistence and decisiveness for an occupational future.
Career curiosity reflects the tendency for exploring the environment, and it is related to the adoption of new information and competences by way of seeking knowledge and taking risks. Lastly, career confidence reflects the self-confidence tendency for overcoming challenges about the career and successfully solving the problems.

Salovey and Mayer (1990) acknowledged emotional intelligence as a set of information processing skills, which are used by individuals to construct a reality in managing their lives in an adaptive way by using emotional stimuli (Puffer, 2011). Researchers highlight the importance of emotion and emotional intelligence in order to understand and explain career. Kidd (1998) found out that the role of emotional experiences, expressions, and communication has importance while discussing the career decisions. People utilize both affective and cognitive abilities while socially constituting their careers (Brown et al., 2003). Carson and Carson (1998) evidenced that there is a positive relationship between the emotional intelligence of individuals and their career commitment.

According to the theoretical principals of Mischel's (1973) cognitive-affective processing system theory, emotional intelligence of individuals predicts their career adaptability. Emotional intelligence has a greater adaptive functionality (Schutte et al., 2009). Therefore, it is possible to claim that individuals with a high emotional intelligence utilize their emotions with a greater awareness while having a greater capacity to integrate the emotional experience with ideas and practices (Schutte et al., 2009).

On the other hand, Cobb and Mayer (2000) and Goleman (1998) regard emotional intelligence as a predictor of a successful life. Studies demonstrate that individuals that have the ability to understand their own emotions in a better way are more successful in self-regulation; therefore, they can achieve higher decision making performance (Seo & Barrett, 2007; Yitshaki, 2012). Research on emotional intelligence within the career context (Coetzee & Harry, 2014) provides empirical evidence on the predictive validity of emotional intelligence on the career adaptability concept of Savickas (2005, 2013).

Kanten (2012) has determined that university students' career adaptability averages differ in terms of certain factors. The average of the students' career adaptability varies according to gender, department preferences, whether the area they want to work in is related to the department and the social environment in which the students grow. In another study, Kaya (2017) investigated the effect of risk taking
behaviours on career adaptability, and found that career adaptation skills and risk taking factors differ according to gender and grade point average, income and student’s class.

Yanar and Kırdök (2017) found that gender and academic achievement of high school students’ career beliefs were predictors of career values. According to the results of the research, it is determined that the highest career value of high school students is gaining, male students give more importance to leadership career value than female students, while female students give more importance to help career value than male students. Kanbur and Şen (2017) compared the X and Y generation in terms of career adaptability skills and career satisfaction. The career adaptability of the employees varies according to the generations. They found that the average of career adaptability scores of generation X employees was higher than the average of career adaptability scores of Y-generation workers.

In his study, Kalaycıoğlu (2018) examined whether career adaptation has an impact on job performance and contextual performance. According to the results of the analysis, a significant positive correlation was found between the dimension of career adaptability (anxiety, control, curiosity and confidence) and task performance. In addition, it was concluded that the dimension of anxiety and curiosity of career adaptability, has a positive effect on the contextual performance. Yeşiltaş et al. (2014) examined the relationship between the career adaptability of tourism students and their relationship with the sector. According to the results of that research, it is revealed that increasing anxiety levels of individuals decreases loyalty to tourism sector. Researchers state that career adaptability skills can be differentiated according to demographic characteristics. Eryılmaz and Kara (2018), who examines the career compliance levels of students in the Psychological Counselling Program, concluded that the career compliance program developed on the basis of Savickas’ career-constructivist theory contributes positively to the career compatibility levels of the guidance and psychological counselling program. In this study, it was stated that career adaptation programs should be developed according to the demographic characteristics of the students.

Moreover, it is also stated that demographic characteristics of individuals may cause differences in the relationship between emotional intelligence and career. Di Fabio et al. (2013) found that high emotional intelligence has a significant impact on the low career indecisiveness of
both males and females. Although the significance of gender is espoused in the relation between career abilities and emotional intelligence, the relationship between gender and emotional intelligence and its relative significance level have never been tested before in the context of tourism.

**METHODOLOGY**

This study aims to test the influence of demographic factors and emotional intelligence in classifying the career adaptabilities of university students as high and low. For this purpose, CHAID (Chi-Squared Automatic Interaction Detection), which is known as the Automatic Interaction Detection Analysis is used. The career adaptabilities of tourism faculty students are categorically (two groups are low and high compared to the average) defined as dependent variables while demographic variables (gender, age, class and type of education) and emotional intelligence are defined as independent variables. The study sample consists of students at Akdeniz University, Tourism Faculty which is located in the city of Antalya in Turkey. Data were collected through questionnaire from 341 out of 1620 active students by employing random sampling method. CHAID method, which is a decision tree application, was used for analysing obtained data.

Decision trees, as one of the data mining methods, are used as a classification method. CHAID analysis was initially developed by Kass (1980) in order to perform an analysis with nominal dependent variables. This type of analysis is a method that can be implemented when the dependent variable is in a nominal or an ordinal scale and the independent variables are continuous, nominal or ordinal (Kayri & Boysan, 2007). In CHAID analysis, the modelling is carried out considering a group of the independent variable that could provide the estimation of the suitable proper value of a dependent variable and the interactions between these variables (Doğan & Özdamar, 2003). CHAID analysis divides the data cluster related to the categorical variables and the dependent variable in detailed homogenous subgroups in order to explain these in the best way. Considering the characteristics and benefits of CHAID analysis, it was considered appropriate to be used for the purpose of the current study.
Measurement tools

Two scales oriented towards the measurement of career adaptabilities and emotional intelligence were used in the current study. All the items in the utilized measurement tools were graded as a five-level Likert as Strongly Agree=5, Agree=4, Neither Agree nor Disagree=3, Disagree=2, and Strongly Disagree=1.

"International Career Adaptabilities Scale" developed by Savickas and Profeli (2012) was translated and adapted to Turkish by Kanten (2012). The scale utilized to measure the career adaptabilities of individuals who participated in this study, consists of 19 items and four factors (concern, control, curiosity and confidence). The reliability coefficient of the scale with 19 items (Cronbach’s Alpha) was determined to be 0.92. Within the scope of validity process of the scale, initially, explanatory factory analysis was applied to the items. Accordingly, the KMO value of the scale was found to be 0.919, and it is seen to be statistically significant as a result of Barlett test ($\chi^2=3876.544$, sd=190, sig. 0.000). According to these obtained results, it was detected that the scale with 19 items has a four-factor structure and 64.99% of total variance is explained by the items of the scale. Afterwards, in order to determine the validity of four-factor structure of the scale, confirmatory factor analysis was applied; and it was concluded that there is strong evidence on the validity of results obtained from the measurement tool according to the model goodness of fit indexes ($\chi^2$/sd=2.57, RMSEA=0.06, NFI=0.98, GFI=0.92) obtained as a result of the analysis (Hair et al., 2006).

In the questionnaire, the scale measuring the emotional intelligence of individuals developed by Schutte et al. (1998) and reformed by Austin et al. (2004) to include 41 items is used. Adaptation of the scale in Turkish was carried out by Tatar et al. (2011). The scale consisting of 19 items in this study has a three-factor structure (optimism/mood regulation, utilization of emotions, appraisal of emotions). In the analyses conducted, the reliability coefficient of emotional intelligence scale (Cronbach’s Alpha) was determined to be 0.73. Within the scope of validity process of the scale, initially, explanatory factory analysis was applied to the items. Accordingly, the KMO value of the scale was found to be 0.85, and it is seen to be statistically significant as a result of Barlett test ($\chi^2=1986.316$, sd=171 sig. 0.000). According to these obtained results, it was detected that the scale with 19 items has a three-factor structure and 49.10% of total variance is explained by the items of the scale. Afterwards, in order to determine the validity of three-factor structure of the scale, confirmatory
factor analysis was applied; and it was concluded that there is a strong evidence on the validity of results obtained from the measurement tool according to the model goodness of fit indexes ($\chi^2/\text{sd}=2.40$, RMSEA=0.05, NFI=0.92, CFI=0.95, GFI=0.92) obtained as a result of the analysis (Hair et al., 2006).

### Data analysis

Before commencing the analyses in the current study, first, loss data were examined. New data were assigned in the place of loss data by way of linear-interpolation method, after it was determined that the loss data were randomly distributed. The study was conducted among 341 students of tourism faculty, who entirely responded to the dependent and independent variables. When demographic characteristics of the participants were examined, 53.7% of the students were female and 46.3% were male. 93.3% of the students participated in the study were between 18-24 years old. When distribution of their level of study was examined, 32.6% of students were studying at their first year, 33.4% at second, and 10.6% at third, while the rest of 23.5%, were at their fourth year of undergraduate studies. 57.8% of students were attending daytime classes, while 42.2% of students attended evening ones.

In line with the purpose of the study, so as to designate the relative effects and significance levels of independent variables on career adaptabilities, which are specified as the dependent variables, CHAID analysis was utilized. The reasons for using CHAID analysis in the study as one of the decision tree methods are to easily observe the ranks of the significance of the predictor variables on the dependent variables in a visual way and to easily carry out the process of classification by observing the visual structure.

General mean of career adaptabilities in the study was calculated to be ($\bar{x}=4.06$), and this value is specified as cut-off score; accordingly, the ones above the mean are categorized as high (1) while the ones below the mean are categorized as low (0), and they are included in the analysis as dependent variables. On the other hand, independent variables in the study were categorically included in the analysis as gender and emotional intelligence ($\bar{x}=4.06$, below the mean, is low, and above the mean is high). Presumptions such as normality, linearity, and homogeneity of variances, which bear significant importance for most statistical methods, are not important for CHAID analysis. In order to obtain valid outcomes from the
data, it is recommended that quality of data and the obtained classification and the validity of decision tree model should be examined (Aksu & Güzeller, 2016). As CHAID analysis is able to divide the entire population into stable nodes with a strong iteration algorithm, a regression equation obtained by way of this analysis is separated from the common classic presumptions (normality, linearity, homogeneity, etc.). The statistical test used in CHAID analysis depends on F if target variable (dependent variable) is continuous. On the other hand, if the target variable is categorical, it depends on the target variable in a way that it should be chi-square ($\chi^2$) (Oğuzlar, 2003). The necessary presumption in CHAID analysis is the specification of types of scales for the utilized variables. Additionally, for categorical variables, it should also be specified into how many categories the target variable is divided and what these categories are. The limitation of the analysis is that the dependent variable is a categorical variable. In this study, the entire dependent and independent variables were categorical ones.

FINDINGS

With the help of CHAID analysis, it is possible to determine how the career adaptabilities of university students are classified in terms of gender and emotional intelligence and the rank of importance of each dependent variable. All other demographic variables were excluded from the analysis by the classification algorithm. Furthermore, information regarding on which stage the classification is to be terminated can be provided as frequency, and percentage values about the classifications of independent variables were obtained from the analysis results. In CHAID analysis, initially, a table including the summary related to the model is given. Accordingly, the dependent variable in the model is career adaptability, and the independent variables are gender and emotional intelligence of the individual. Analysis results demonstrate that independent variables significantly predict the career adaptabilities of students. Results related to the classification are presented in Table 1.
Table 1. *Classification Table for Career Adaptability Status*

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>low</td>
<td>high</td>
</tr>
<tr>
<td>low</td>
<td>61</td>
<td>92</td>
</tr>
<tr>
<td>high</td>
<td>38</td>
<td>150</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage</td>
<td>29%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Growing Method: CHAID
Dependent Variable: careeradap

Classification table of expected and observed values by CHAID analysis are presented in table 1. As it is seen in Table 1, among 188 people whose career adaptability is high, 150 of them (79.78%) are correctly classified by the program; and only 38 people (20.20%) are classified low although they are high. Therefore, it is seen that the general success of the program in classifying the students’ career adaptability (as Low and High) is 61.90%. In the risk value given by the program, in addition to the classification table, the system’s margin of error is given. Accordingly, it is identified that the risk value of the system is approximately 38.10 percent. Which characteristics are determinative in classifying the university students whose career adaptibilities are high and low, and the analysis results regarding the ranks of significance are presented in Figure 1.

Examining Figure 1, among 341 university students, it is seen that career adaptability of 44.9% of them is classified as low and 55.1% of them is classified as high. It is also seen that independent variable that has an effective explanatory characteristic for career adaptability is emotional intelligence consisting of 2 sublevels ($\chi^2=9$, $p=0.002$). Looking at the sublevels of the independent variable that has the highest effect on career adaptability, 174 participants whose emotional intelligence is high (among them 111 is high, 63 is low) constitute Node1. Evaluating chi-square value ($\chi^2=2$, $p=0.04$), it is identified that the independent variable that explains the cluster constituted by the first independent variable, which has statistically significant and the highest level of relation with the dependent variable, is gender. Hence, gender constructs two nodes as male and female, and branching is finalized at this stage. On the other hand, the second node is constituted by the group whose emotional intelligence is low. In the second node, in which 167 participants were included (among them 77 is high, 90 is low) in the group, gender has been a determinant for the sub-branching ($\chi^2=7$, $p=0.008$). Considering the chi-square value, the independent variable that explains success in the best way is emotional
intelligence ($\chi^2=9, p<0.05$) and there is gender in the following rank ($\chi^2=4, p<0.05$).

Furthermore, to classify the successful students in the study, gain values regarding the nodes obtained in order to identify which nodes are the best and which of these nodes provide further information are presented in Table 2. According to the values obtained in Table 2, it is identified that the best node to differentiate the students whose career adaptabilities are high and low is the 4th node ($n=58, 30.9\%$). This node is the cluster in which 84 female participants with high emotional intelligence are included, and in which these people are correctly classified at the rate of 69%.

Figure 1. Decision-Tree Model for Career Adaptability Status
Table 2. *Gains Values Career Adaptability Status*

<table>
<thead>
<tr>
<th>Node</th>
<th>Node</th>
<th>Gain</th>
<th>Response</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Percent</td>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>4</td>
<td>84</td>
<td>24.6%</td>
<td>58</td>
<td>30.9%</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>26.4%</td>
<td>53</td>
<td>28.2%</td>
</tr>
<tr>
<td>5</td>
<td>68</td>
<td>19.9%</td>
<td>39</td>
<td>20.7%</td>
</tr>
<tr>
<td>6</td>
<td>99</td>
<td>29.0%</td>
<td>38</td>
<td>20.2%</td>
</tr>
</tbody>
</table>

Growing Method: CHAID
Dependent Variable: careeradap

Gain values are examined in order to identify the second-best node in the study, and it is specified that the 3rd node (n=53, 28.2%) is rather effective in predicting career adaptability. This node is the cluster of 90 male participants with high emotional intelligence, who were correctly classified at the rate of 58.6%. Finally, the node that provides the least information in differentiating the students in terms of career adaptabilities is the 6th node (n=38, 20.2%). This node is the cluster with 99 male participants with low emotional intelligence, with the correct classification rate of 38.4%.

**CONCLUSION AND RECOMMENDATIONS**

Career adaptability is regarded as a psycho-social meta capacity in positively dealing with complex employment conditions (Johnston et al., 2013). In today’s business life, it is important for the career adaptabilities of individuals to be high, in order to overcome career uncertainty. The emotional intelligence of people is vitally important for individuals to be successful in various areas of life, including career adaptability.

The results of this study demonstrate that emotional intelligence levels of university students are important in their career adaptabilities. It is identified that female students with high emotional intelligence have better career adaptabilities. Another important result is that gender variable is important in classifying the student in terms of their career adaptabilities, regardless whether their emotional intelligence levels are high or low. It is observed that females have high levels of emotional intelligence and career adaptabilities compared to males. It is also concluded that males with low emotional intelligence may possess relatively low career adaptabilities.
Similarly, Extremera et al. (2006), in their study in which they analysed the validity of emotional intelligence scale in Spanish, demonstrate that females had significantly higher emotional intelligence scores compared to males. Moreover, other studies related to this issue, support the notion that females have higher emotional intelligence levels compared to males (Ciarrochi et al., 2000; Kafetsios, 2004; Brackett et al., 2004). It is revealed that females are more successful in perceiving emotions and they may demonstrate better job performance (Dhania & Sharma, 2017).

Despite the fact that there are studies discovering that gender differences are not significant for emotional intelligence (Fernández-Berrocal et al., 2004), a great number of studies show that there are differences between emotional intelligence and gender (Bar-On et al., 2000; Brackett & Mayer, 2003; Ciarrochi et al., 2001; Mandell & Pherwani, 2003; Mayer et al., 1999; Palmer et al., 2005; Petrides & Furhman, 2000; Schutte et al., 1998). It is identified that gender has an indirect effect on career adaptabilities and this effect is stronger among females rather than males (Jiang, 2016). In a similar vein, the results of this study also empirically demonstrate that emotional intelligence and gender are significant in classifying students based on their career adaptabilities.

Another important contribution of this article is that CHAID method, as a decision tree application, can be used as an alternative method for predicting the effects of independent variables on dependent variable. This new methodology could be a significant innovation for the related literature. However, the limitation of the analysis is that the dependent variable is a categorical one.

The findings of the study reveal that female students with high emotional intelligence may be able to cope with challenges in today’s business world in a better way. With further studies in this field, the effects of other effective and demographic characteristics influencing career adaptabilities can be scrutinized. The fundamental limitation of this study is that it is conducted with participants consisting of university students. It may provide important contributions if similar studies are conducted with individuals that are active in business life. They can demonstrate important findings for academicians and practitioners studying and working in this field.

The separation of students according to gender and emotional intelligence in career adaptation programs in both universities and in tourism organizations can increase the benefit of efforts to improve career
adaptation skills. Tourism organizations need to consider their career adaptability skills so that their employees are ready for their current and future tasks and responsibilities. The career success of the individuals with a high level of career adaptability is also high. The performance levels of individuals are among the factors that determine the competitiveness of enterprises. The ability to adapt to careers will reduce the adaptation problems that individuals will experience from both educational lives to business life and occupational transitions, as well as the ability to combat the changes they will face.

In this study, the determinants of emotional adaptation factors such as demographic variables and emotional intelligence were examined. Organizations have many employees from different generations. Differences between generations shape their beliefs, values, desires and needs. Therefore, in the future studies, analysing generation differences and examining their impact on career adaptability skills can provide significant benefits for both practitioners and researchers.

REFERENCES


