Examining the Effect of Five-Factor Personality Traits on Cultural Intelligence[1]

Beş Faktör Kişilik Özelliklerinin Kültürel Zekâ Üzerindeki Etkisinin İncelenmesi

Gazi Kurnaz[a]   Rifat İraz[b]

[a] Arş.Gör.Dr., Mardin Artuklu Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, Mardin/Türkiye, gazikurnaz89@gmail.com, ORCID: 0000-0002-9871-5359 *(Sorumlu Yazar/Corresponding Author)*
[b] Prof.Dr., Selçuk Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, Konya/Türkiye, rifat@selcuk.edu.tr, ORCID: 0000-0002-6484-876X

ARTICLE INFO	ABSTRACT
Article Type Research Article **Keywords** Five-Factor Personality Trait Cultural Intelligence International Students **Receive:** Dec, 11, 2023 **Accepted:** Apr, 15, 2024	With the impact of globalization in the field of education as in every area, the tendency of individuals to prefer other countries and cultures for education has increased. Individuals who move to different cultural environments for educational purposes face different cultural challenges. In this regard, cultural intelligence (CI) emerges, which contributes to managing cultural differences in the best way, using them in the most appropriate way for the benefit of individuals and organizations, and exhibiting appropriate behaviors in different cultural environments. This study aims to determine the effect of five-factor personality traits (FFPT) on the cultural intelligence (CI) of international university students through an experimental research design. Further, the effect of five factor personality trait dimensions on cultural intelligence was examined. Valid responses were obtained from 585 international students continuing their education in different faculties and departments of Mardin Artuklu University. The data were analyzed with the structural equation modelling (SEM) AMOS package program. Result of the analysis, it was seen that FFPT have a positive and significant effect on CI. In addition, positive significant effects of the FFPT dimensions (extraversion, agreeableness, conscientiousness, openness, and neuroticism) on the dimensions of CI (cognitive, meta-cognitive, behavioral, and motivational) were observed.

MAKALE BİLGİSİ	ÖZ
Makale Türü Araştırma Makalesi **Anahtar Kelimeler** Beş Faktör Kişilik Özelikleri Kültürel Zekâ Uluslararası Öğrenciler **Geliş Tarihi:** 11 Aralık 2023 **Kabul Tarihi:** 15 Nisan 2024	Küreselleşmenin, her alanda olduğu gibi eğitim alanında da etkisini göstermesi ile birlikte bireylerin eğitim için başka ülke ve kültürleri tercih etme eğilimleri giderek artmaktadır. Farklı kültürel ortamlara eğitim amacıyla geçiş yapan bireyler, farklı kültürel zorluklarla karşılaşmaktadırlar. Bu doğrultuda kültürel farklılıkların en iyi biçimde yönetilmesine bireylerin ve örgütlerin yararlarına en uygun şekilde kullanılmasına farklı kültürel ortamlara uygun davranışlar sergilemesine katkı sağlayan kültürel zekâ kavramı karşımıza çıkmaktadır. Bu çalışmada, uluslararası üniversite öğrencilerinin beş faktör kişilik özeliklerinin kültürel zekâ üzerine etkisi ampirik bir araştırma deseninde açıklanmaya çalışılmıştır. Ayrıca beş faktör kişilik özellikleri boyutlarının kültürel zekâ üzerindeki etkisi incelenmiştir. Anket tekniği ile Mardin Artuklu Üniversitesi'nin farklı fakülte ve bölümlerinde eğitimlerine devam eden 585 uluslararası öğrenciden geçerli geri dönüş sağlanmıştır. Araştırma neticesinde, beş faktör kişilik özelliklerinin kültürel zekâyı pozitif ve anlamlı bir şekilde etkilediği saptanmıştır. Ayrıca beş faktör kişilik özellikleri boyutlarının (dışadönüklük, uyumluluk, sorumluluk, açıklık ve nevrotiklik) kültürel zekânın boyutlarının (bilişsel, üstbilişsel, motivasyonel ve davranışsal) üzerinde anlamlı etkileri olduğu tespit edilmiştir.

---

[1] This study was produced from the doctoral thesis of the first author.

1. Introduction

With globalization and technological developments, national and international barriers have almost disappeared. In this context, distances and barriers no longer seem important for individuals and society (Ang et al., 2007; Kebabcı, 2016). Consequently, as a result of globalization and technological development, intercultural interaction has increased and the characteristics of individuals and cultures have started to resemble each other (Livermore, 2011: 25; Kebabcı, 2016; Huff and Gresch, 2014). Through globalization, cultural intelligence skills, which are expressed as the ability of individuals to adapt to different cultural environments, have also been affected (Earley and Ang, 2015; Ott and Michailova, 2018). Individuals should have high levels of CI in order to adapt to environments where cultural differences are experienced intensely and to eliminate problems that may occur in intercultural environments (Livermore, 2015; Thomas and Inkson, 2017). Literature in general examined that FFPT positively affect CI (Ang et al., 2006; Kement et al. 2019; Chedru and Ostapchuk, 2023; Kumar et al., 2008; Şahin et al., 2014; Ng et al., 2012; Butkoviç et al., 2019; Huff and Gresch, 2014).

CI is about the attitude of individuals toward each other within the framework of tolerance and understanding, without resorting to distinctions such as culture, language, religion, etc. Thanks to CI, individuals can interact with individuals from different cultures and have the opportunity to understand and interpret their thoughts and opinions (Ang et al., 2006; Ng et al., 2009; Earley and Peterson, 2004; Early ve Ang, 2003; Thomas ve Inkson, 2017). Thus, CI enables skills for individuals to behave and adapt effectively in different cultural environments. An individual's skill in adapting to different cultural settings requires an advanced level of CI. CI concept helps to successfully manage cultural differences and facilitates adaptation to different cultures. Furthermore, CI is related to the ability to understand the behavior of societies in intercultural settings (Early and Mosakowski, 2004; Early et al., 2006: 20; Jyoti and Kour, 2015; Early ve Ang, 2003; Earley and Peterson, 2004).

Technological developments have increased cultural interaction. Thus, individuals have increased their preferences for different countries and cultures for different activities such as work, travel, education, etc. One of the most important of these activities is students' traveling to different countries and cultures for education. Students have to interact with people from different countries and cultures when they choose other countries and cultures for their investigations. Thus, they are aware of many cultural differences both during their education and in their daily lives. These cultural differences allow international students to learn about other civilizations and practices. The fact that there is currently almost no study directly examining the effect of FFPT on the CI levels of international university students makes this study unique. It is important for cultural adaptation to be examined the FFPT and CI levels of university students who are planning to study abroad or who are considering studying abroad. Based on this importance, this paper examines the effect of FFPT of Artuklu University students from different nations and civilizations on their CI levels. The first section gives the theoretical framework of the study, followed by a brief literature research and formulation of hypotheses. The next section describes the research methodology, followed by the results and discussion.

2. Conceptual Framework

2.1. Five-Factor Personality Traits (FFPT)

Personality as a part of the social life of individuals, has been an area of research interest for centuries. Personality emerged in the 1930s as a discipline distinct from other disciplines of personality psychology (Yelboğa, 2006: 198; Soysal, 2008: 6; Mount et al., 2005). Personality is a difficult concept to define as it involves different combinations. Personality is characterized as a set of interpersonal, emotional, motivational, and experiential interactions that explain an individual's behavior in different situations (McCrae and Costa, 1989: 25; Doğan, 2013: 57; Turhan, 2019:

11). When the literature is examined, many theorists (McCrae & Costa, 1982, 1985, 1991, 1992, 2006; Borgatta, 1964; Goldberg, 1981; Somer and Goldberg, 1999; Norman, 1963; Galton, 1884; Allport and Odbert, 957) have different views on the definition and measurement of personality. In psychoanalytic theory, personality was evaluated based on introversion and extraversion traits based on individual's relationships with other people. In evolutionary theories, personality is explained as the behavioral patterns that an individual develops over time. Extraverted relationships, repressed structures, and certain states of fear and anxiety are emphasized (Baltacı, 2017: 60). Studies on personality have generally revealed that there are five-factor structures of personality (Goldberg, 1990; Norman, 1963).

Warren Norman is the one who put forward the FFPT as it is used today. In his study, Norman applied factor analysis to rate a scale with twenty items. As a result of the analyzed scale, he obtained five factors. Most personality researchers believe the individual's basic structure consists of five dimensions (Deniz and Erciş, 2010: 143). The reasons for the adoption of the FFPT by researchers and their widespread use in personality-related research are (a) the model is based on empirical and longitudinal studies, (b) prescribed characteristics persist over time, (c) it has a biological basis, (d) validity proven in different cultures, (e) the model is easy to use and psychometrically evaluate (McCrae and Costa, 1992; Doğan, 2013: 58). FFPT is significant in that it integrates different personality constructs and thus facilitates communication between studies with different outputs; it enables the systematic examination of the relationships between personality traits and behaviors and provides a general definition of personality (Mount et al., 1998: 849, Solmuş, 2004: 199-200).

FFPT of personality is considered to represent the most widely used theory in the literature on the evaluation of individuality and generally agreed upon literature (Robbins and Judge, 2013). The FFPT use adjectives that an individual use to describe themselves and others to gauge personality, and consists of five dimensions. Today, the basic dimensions of the universally accepted FFPT are known as *"OCEAN"* with its English initials. "O" 'stands for "*Openness' - Openness to Experience*", "C" for "*Conscientiousness*" "E" for "*Extraversion*", "A" for "*Agreeableness*" and "N" for "*Neuroticism - Emotional Instability*" (Yıldırım, 2014: 27-28; Çetin and Şahin, 2019: 421).

Costa and McCrae (1992) explained the dimensions of the FFPT as following: The extraversion dimension defines a person as active, assertive, energetic, enthusiastic, open-hearted, positive, and social. The responsibility dimension represents competence, organization, sense of responsibility, achievement orientation, self-discipline, and caution. The agreeableness dimension is used to assess the quality of interpersonal adjustment along a continuum from compassion to hostility in a person's emotions, opinions, and behaviors. The openness to experience dimension includes new ideas, imagination, intelligence and social comfort, innovation, creativity, appreciation of aesthetics, broad interests, unconventional values, etc. The neuroticism dimension is defined by personality traits such as being anxious, insecure, self-absorbed, irritable, bored, fragile, depressed, and sad, experiencing frequent emotional ups and downs, restlessness, and impatience.

2.2. Cultural Intelligence (CI)

CI was first introduced by Soon Ang and Christopher Early as a product of research that brought together cross-cultural research and intelligence studies (Aksoy, 2015: 87). In early 2000, Ang and Early from Singapore's Nanyang Technological University were consulting companies that were afraid of facing a computer problem. In the course of this consultancy, they observed that computer programmers from different cultures around the world, despite being highly intelligent and talented, were struggling to find a solution (Aksoy, 2015: 86). Ang and Early, who were looking for different solutions to the fact that employees from different cultures agreed on a program but

could not implement it, brought together cross-cultural studies and intelligence research and developed the concept of CI (Early and Ang, 2003: 21).

CI is the skill to understand cultural differences and manage them more effectively. Different strategies have been proposed in the literature to understand cultural differences and develop different management strategies. One of these strategies is the concept of CI, which is the ability to manage cultural differences and adapt to new cultural environments. CI emerges as the linchpin for effectively overseeing work teams originating from diverse cultural backgrounds, facilitating the adept recognition, comprehension, and collaboration with individuals spanning various professional groups (Compton, 2021; Kement et al. 2019; Chedru and Ostapchuk, 2023; Şahin et al., 2014; Butkoviç et al., 2019; Huff and Gresch, 2014). Culturally intelligent people are able to communicate effectively with individuals belonging to different cultural background. They can detect, assimilate reason and act on cultural cues appropriately in situations characterized by cultural diversity (Jyoti and Kour, 2015). "*CI captures a person's capability to adapt effectively to new cultural context further; it has both process and content features. CI is a new and growing concept with limited research on this. It has become one of the most important capability to function effectively in cross-cultural settings*". Different definitions of CI have been made so far. Some of these definitions can be expressed as follows (Kour and Sharma, 2017: 77; Earley and Ang, 2003).

Early and Ang (2003) explained CI as an individual's ability to adapt to intercultural environments. After Ang & Early, many researchers have done research on CI an? made different definitions of CI. Earley (2002) defined CI as a cognitive ability that guides individuals on how to adapt to the differences they encounter when they enter a different social environment. Mosakowski (2004) defined CI as a natural ability that enables a person to interpret the unusual and ambiguous body movements (gestures, tone, voice, behavior, movement) of a person from different cultures. Thomas and Inkson (2005) defined CI as being flexible and skilled in understanding a culture and having more and more knowledge about that culture. They also explained CI as adapting 'when interacting with different cultures and restructuring one's opinion in a culturally appropriate way. Thomas et al. (2008) defined CI as a system of knowledge and skills linked to metacognition that enables individuals 'to adapt to and shape the cultural conditions in their environment.

Ang et al. (2007) defined CI as the ability to adapt to different cultural environments' or new cultures where cultural interaction is very high. In general, CI is defined as a set of abilities that enable a person to function effectively and succeed in a new cultural environment both in daily life and in business life (Şahin and Gürbüz, 2012: 126*)*. To summarize, CI is that individuals 'with a high level of CI have a high level of' ability to understand and interpret differences when interacting between cultures. In addition, it can be expressed as the ability of individuals to realize the universal or unique qualities of the individual or group they are in contact with by observing, understanding, and interpreting them (Earley and Mosakowski, 2004: 140). It has been seen that there are few studies on personality and CI variables in the literature. Studies on personality traits and CI (Ang et al., 2006; Kement et al., 2019; Shu et al., 2017; Bezirgan et al., 2015; Kurnaz and İraz, 2021; Yılmaz and Kaya, 2015) examined the effect of FFPT on CI levels of business students, and tourism sector employees. In general, when the literature was examined, it has been found that FFPT positively affect CI. Kement et al. (2015) investigated the effect of FFPT on CI levels in a sample of tourism students. In this study, it has been seen that personality traits positively affect CI.

The research by İşleyen and Doğan (2020) focused on CI in the context of the FFPT. As a result of the research, the dimension that most influence CI is openness to experience among the FFPT. Bezirgan et al. (2015) examined the effect of FFPT on CI in a sample of tourism employees. In this paper, it was found that the FFPT of tourism employees had a significant effect on CI. Kebabcı (2016) examined the relationship between personality and CI. The correlation between personality and CI was considered to be weak. Ang et al. (2006) examined CI with the FFPT. According to the research findings, a significant relationship was found between the FFPT CI. In another study by Li

et. al. (2016) examined the effects of openness to experience and agreeableness, which are subcomponents of FFPT, on CI. According to the research findings, openness to experience and agreeableness measurements were found to significantly affect CI.

Thomas and Inkson (2003) examined that FFPT have a considerable effect on the development of CI. Finally, Evans (2012) examined CI and personality as determinants of intercultural adaptation. The research found that CI and personality have a significant relationship in cultural adaptation. In the literature review, few studies examined FFPT of international university students and their effects on their CI levels. Based on this information, it is thought that personality and CI is an important and necessary topic to be studied in the education sector. From this perspective, the conceptual model is presented in the next section.

Figure 1: Conceptual Model

2.3. Literature Review and Hypothesis Building

2.3.1. Five-Factor Personality Traits and Cultural Intelligence

CI refers to an individual's ability to effectively navigate and function in culturally diverse settings. It encompasses the capacity to understand, appreciate, and adapt to cultural differences and interact and collaborate with people from diverse cultural backgrounds. CI involves cultural awareness, empathy, communication, and flexibility, enabling individuals to successfully engage in intercultural interactions and achieve positive outcomes in various personal and professional contexts. It is regarded as a crucial competency in today's globalized world, facilitating successful cross-cultural communication, cooperation, and problem-solving (Early and Mosakowski, 2004; Chedru and Ostapchuk, 2023; Pelit et al., 2020; Butkoviç et al., 2019). Ang et al. (2006) examined the impact of the FFPT on CI among business students. The study revealed that the FFPT significantly influenced CI. Specifically, the findings indicated significant associations between conscientiousness and metacognitive, cognitive, motivational, and behavioral CI; between agreeableness and emotional stability and behavioral CI; between extraversion and cognitive, metacognitive, motivational, and behavioral CI; and between openness and cognitive, metacognitive, behavioral, and motivational CI.

Kumar and Subramaniam (2008) explored the relationship between employee effectiveness, CI, and the performance of university students. As a result of the research, CI positively affects employee effectiveness in multicultural environments. Thomas and Inkson (2003) found that FFPT has a major role in the development of CI. The shows research that FFPT has a significant positive effect on CI. For example, FFPT such as extraversion, conscientiousness, neuroticism, agreeableness and openness to experience have a significant effect on CI and its dimensions (Ang et al., 2015; Compton, 2021; Kement et al. 2019; Ang et al., 2006; Kour and Sharma, 2017; Pelit et al., 2020; MacDonald, 1998; Bezirgan et al., 2015; Yılmaz and Kaya 2015; Shu et al., 2017). Nel et al., (2015) examined a study to determine the relationship between personality, identity, and CI among 252 students studying in South Africa. As a result of the study, it was determined that FFPT positively affects CI. Li et al. (2016) examined the association of personality with CI in the context of openness and agreeableness. As a result of the research, it was determined that individuals with high levels of agreeableness and openness FFPT have a positive effect on CI. Kement et al., (2019)

examined the effect of FFPT on CI in a sample of tourism students. As a result of the study, it was found that FFPT significantly affects the level of CI. Previous research has shown that FFPT has a significant positive effect on CI. Based on the literature reviewed above, the hypotheses formulated in this study are as follows:

H1: FFPT positively and significantly affect CI.

H1a: The extraversion dimension positively and significantly affects CI.

H1b: The agreeableness positively and significantly affects CI.

H1c: The conscientiousness positively and significantly affects CI.

H1d: The openness positively and significantly affects CI.

H1e: The neuroticism positively and significantly affects CI.

3. Research Methodology

In this study, the effect of FFPT on the CI of international students studying at Mardin Artuklu University was examined. Questionnaire technique was used as a data collection tool. The questionnaire consists of three parts. The first part consists of statements to measure students' FFPT, the second part consists of statements to determine students' CI levels, and the third part consists of statements to determine the demographic characteristics of the participants. Based on the decision dated 08.09.2021 and numbered 2021/8-5 taken by Mardin Artuklu University Ethical Evaluation Board, the questionnaire used within the scope of the study was accepted as appropriate in terms of scientific research and publication ethics.

The FFPT scale developed by Benet-Martinez & John (1998) was used in the study. The scale consists of 44 items and 5 dimensions. The statements in the scale are a 5-point Likert-type scale ranging from (1) strongly disagree to (5) strongly agree. The CI scale developed by Ang et al. (2007) was used. The scale consists of 20 statements and 4 dimensions. The statements in the scale is a 5-point Likert-type scale that ranges from (1) strongly disagree to (5) strongly agree.

The population of this study consists of international students studying at Mardin Artuklu University. The sample of the research consists of international students whom continue their education in different faculties of this university. In this research, 700 questionnaires were distributed and 585 returnable questionnaires were obtained. The return rate of the questionnaires existed calculated as 83.57%. This rate and number are considered sufficient for sampling adequacy (Altunışık et al., 2007; Hair et al., 2016). The data obtained in the study were analyzed using structural equation modeling (SEM) techniques. SEM is regarded as a multivariate statistical approach defined as a multivariate statistical approach used to test models in which causal and reciprocal relationships between observed and latent variables coexist based on a specific theory (Byrne, 2016).

3.1. Reliability and Validity Analyses of the Scales

Confirmatory factor analysis was conducted through the AMOS program to evaluate the reliability of the FFPT and CI scales used in the study. The results of the confirmatory factor analysis are given in detail in Table 1 below. When Table 1 is examined, the values related to the scales are within the acceptable standards expressed in the literature (X^2/sd=2.723; RMR=0.022; GFI=0.91; CFI=0.92; AGFI=0.94; RMSEA=0.077). These values show that the scales fit well (Cole, 1987; Hair et al., 2016).

Table 1: Confirmatory Factor Analysis Results of the Scales

Scales	X²/sd	RMR	GFI	CFI	AGFI	RMSEA
FFPT	2.723	0.022	0.91	0.92	0.94	0.077
CI	2.365	0.025	0.92	0.94	0.90	0.061

The Average Variance Extracted (AVE) and Composite Reliability (CR) values are utilized to assess the structural validity of the scales. An AVE value exceeding 0.50 and a CR value surpassing 0.70 are anticipated. The reliability of the scales in the questionnaire was evaluated using Cronbach's Alpha value (Hair et al., 2016). To evaluate the reliability of the scales, Cronbach's alpha coefficients were computed using the SPSS software. The coefficients for the scales were determined to be 0.88 for the FFPT and 0.91 for CI. These coefficients suggest a high level of reliability for the scales. Table 2 shows the calculated values for the relevant criteria (Gürbüz and Şahin, 2016).

Table 2: Reliability, AVE, CR

Scales	Items	Cronbach's Alpha	AVE	CR
FFPT	44	0.88	0.73	0.78
CI	20	0.91	0.84	0.81

4. Findings

The demographic attributes of the participants were analyzed using descriptive statistical techniques. When the gender of the university students is analyzed, it is seen that the majority of the students are female (55.7%). When the average age of the students is analyzed, it is seen that they are predominantly between the ages of 18-24 (43.4%). According to the variable of being married, it is seen that the great majority of the students are single (83.6%). When the monthly expenditure status of the students is analyzed, it is seen that most of them have monthly expenditures (35.5%). When examined on the basis of faculties, it is seen that the students mostly study in 'the faculty of economics and administrative sciences (40.9%), and the faculty of letters (34%). When examined on the basis of departments and classes, students are mostly in international relations (17.8%), economics (13.7%), and business (12.6%); most of the students are in the fourth grade (36.8%). When we look at the settlements where the students grew up, it is seen that a high number of them live in villages (46.0%). Finally, the students were asked how often they attended the classes. When the answers given to the question 'are examined, it is seen that the majority (35%) attended all the courses.

The reliability of the scales used in the study was evaluated by looking at Cronbach's alpha value. Cronbach's alpha values were found to be higher than the acceptable value of α=0.60 (İslamoğlu and Alnıaçık, 2019) (shown in Table 1 in parentheses). Subsequently, the mean and standard deviation values of the scales are also provided. International university students' personality and CI characteristics were found to be at a medium level. Pearson correlation analysis was applied to determine the relationship between dependent and independent variables. According to the results of the correlation analysis, there was a moderate relationship between all other components. In the study, normality analysis was conducted to assess the suitability of the data for a normal distribution. Skewness and kurtosis values were examined for normality. According to Mayers (2013), skewness and kurtosis values falling within the range of -3 to +3 suggest that the data adhere to a normal distribution. The calculated skewness values for the research scales ranged from -1.523 to -0.557. Given that the kurtosis values ranged from 0.418 to 0.674, it was concluded that the data exhibited a normal distribution (Tabachnick ve Fidell, 2013). According to Table 2, SEM can be applied between the research variables.

Table 2: Correlational and Descriptive Statistics

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. EXT	3.63	0.57	1(0.72)								
2. CON	3.53	0.59	0.87**	1(0.74)							
3. AGR	3.50	0.60	0.70**	0.79**	1(0.75)						
4. OPE	3.67	0.54	0.72**	0.80**	0.25*	1(0.81)					
5. NEU	3.34	0.75	0.65**	0.67**	-0.52*	-0.23**	1(0.78)				
6. MET	3.54	0.52	0.23**	0.43**	0.60*	0.56**	-0.29**	1(0.71)			
7. COG	3.34	0.78	0.53**	0.55**	0.62*	0.63**	0.48**	0.61**	1(0.72)		
8. MOT	3.72	0.64	0.42**	0.29**	0.36*	0.75**	0.35**	0.46**	0.53**	1(0.82)	
9. BEH	3.75	0.65	0.45**	0.39**	0.45*	0.54**	0.57**	0.52**	0.58**	0.51**	1(0.80)

Notes: **$p < 0.01$; *$p < 0.05$; N = 585; Values in parentheses are cronbach's alpha reliability measures.

According to the descriptive statistics of the research scales, openness to development (3.67) received the highest score among the sub-dimensions of the FFPT (Table 2). From this point of view, it can be said that the students are individuals who care about cultural diversity, are creative, accessible, innovative, open-minded, and like change. Neuroticism (3.34) received the lowest score. In this dimension in Table 2, it can be said that students exhibit emotionally fluctuating behaviors. The motivation dimension (3.75), which is a sub-dimension of cultural intelligence, received the highest mean score. Thus, it can be said that students have high intrinsic motivation and self-efficacy to have experiences and adapt to different cultural environments. The cognitive dimension has the lowest mean score (3.34). In the cognitive dimension, it can be said that students have a low perception of the norms, practices and traditions of different cultures that they have acquired through education and experience.

SEM path analysis was applied to determine the influence of FFPT on CI. SEM is an extension of general regression analysis that allows multiple regression analyses to be performed together and can be used to analyze traditional regression models (Arbuckle & Wothke, 1999). In SEM, how well the proposed theoretical model explains the data obtained is determined by goodness of fit indices, and it is decided to accept or reject the model (Karagöz, 2016; Meydan and Şeşen, 2015).

Figure 2 shows the model path analysis findings of the structural equation model showing the effect of FFPT on cultural intelligence. The values in the model are standardized parameters that can be accepted. The theoretical model fitness level was evaluated according to the results of chi-square goodness (X^2/df), goodness of fit index (GFI), comparative fit index (CFI), incremental fit index (IFI), root mean square error of approximation (RMSEA). As can also be seen in (Figure-2) the model fit indices are within acceptable limits as the model is a complete fit with the available data (GFI=0.940, IFI=0.950, CFI=0.910, RMSEA=0.072, x^2/df=145, df=58; p = 0.000).

Figure 2: Structural Equation Modelling Path Analysis

Demonstrating the Effect of FFPT on CI
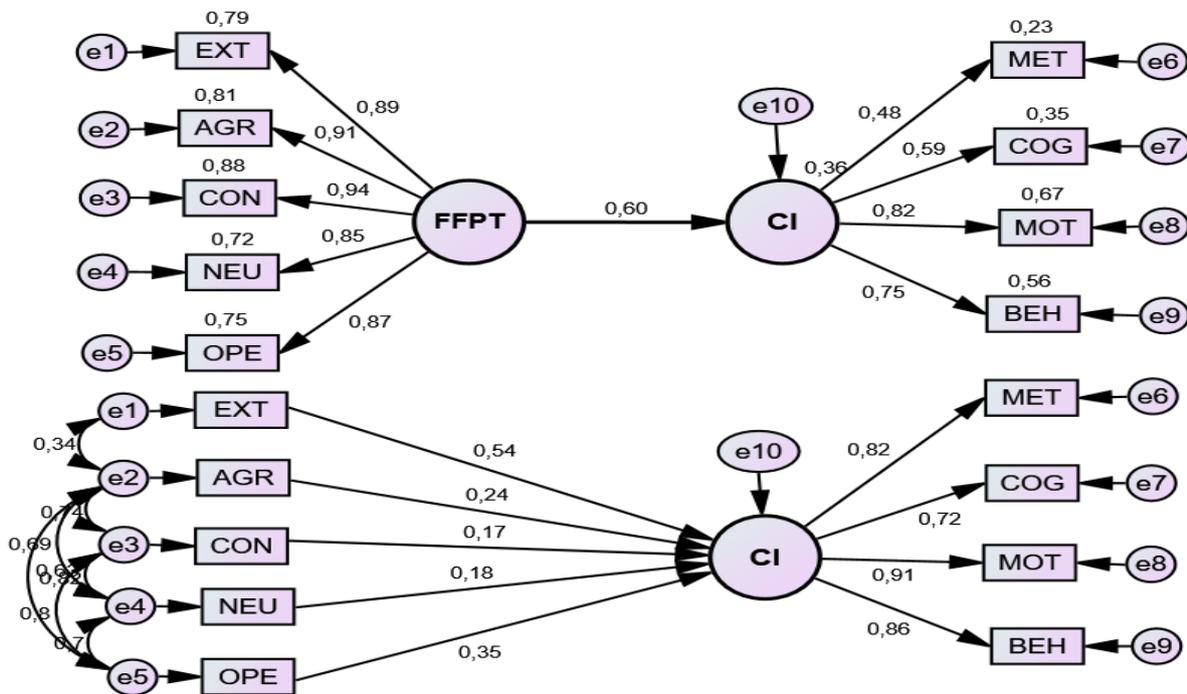
When the findings in are examined (Figure 2 & Table 3), it is seen that the coefficient of the effect of FFPT on CI is at the level of (0.60). In this case, it can be said that the effect of FFPT on CI is positive, and significant ($\beta=0.60$; $p<0.001$). Hence, H1 stands accepted. Extraversion (EXT→CI=0.54**), agreeableness (AGR→CI=0.24**), neuroticism (NEU→CI=0.18**), openness (OPE→CI=0.35**), and conscientiousness (CON→CI=0.17**) have a significant, and positive effect on CI. Hence, hypotheses, H1a, H1b, H1c, H1d and H1e are accepted (Figure-2). In addition, the effects of all dimensions of the FFPT on CI were also tested. As a result of the analysis that is the figure above at, it was determined that all dimensions of FFPT positively affect CI. The results of the standardized regression weights, showing the impact of FFPT dimensions on CI, are presented in Table 4.

Table 3: Model Goodness of Fit Results

Model Fit Index	Reference Values	Research Findings
GFI (Goodness of fit Index)	≥ 0.90	0.940
IFI (Incremental fit Index)	≥ 0.90	0.950
CFI (Comparative fit Index)	≥ 0.90	0.910
RMSEA (Root Mean Square Error of Approximation) X^2/df (Chi-Square Goodness of Fit)	≤ 0.08 ≤ 3	0.720 1.654

Table 4: The Standardized Regression Weights

Path	β	Estimate	S.E	C.R	p
EXT→CI	0.54	0.151	0.035	3.452	***
AGR→CI	0.24	0.284	0.032	1.385	***
CON→CI	0.17	0.442	0.038	5.138	***
NEU→CI	0.18	0.135	0.029	3.627	***
OPE→CI	0.35	0.162	0.037	3.576	***

Notes: * p< 0.05; **p< 0.01, S.E: Standard Error, C.R: Critical Ratio.

5. Conclusion

The research was conducted to examine the impact of CI levels on international students studying at Mardin Artuklu University. Consistent with the research aim, an effort was made to determine the influence of FFPT on the CI levels of international university students. According to the research findings, it was observed that the FFPT exert a positive influence on CI levels. Additionally, the impact of the sub-dimensions of the FFPT scale on the sub-dimensions of the CI scale was analyzed. The analysis revealed that each dimension of the FFPT (extraversion, agreeableness, conscientiousness, openness, neuroticism) significantly influenced CI dimensions (cognitive, metacognitive, motivational, and behavioral).

A review of the literature reveals that numerous studies have been conducted on personality and cultural intelligence. The findings from these literature studies align with the results of our study (Ang et al., 2006; Kour and Sharma, 2017; Chedru and Ostapchuk, 2023; Thomas and Inkson, 2003; Yeke and Semerciöz, 2016; Li et al., 2016; Kababcı, 2016; Kement et al., 2018; Pelit et al., 2020). In the study conducted by Ang et al. (2006) it was shown that there were significant relationships between the FFPT and the dimensions of CI. Kour and Sharma (2017) investigated the effect of FFPT on CI. It was found that FFPT have a significant impact on CI. In a study conducted by Chedru and Ostapchuk (2023), it was observed that the personality traits (extraversion and openness) of university students who studied abroad had higher levels of CI than students who did not study abroad. Thomas and Inkson (2003) concluded that openness to development has a significant impact on CI. Their findings indicated that both emotional instability and openness to development influence CI. Similarly, the present study determined that both variables play a role in shaping CI.

Yeke and Semerciöz (2016) addressed automotive sector managers in their study. As a result of their study, they concluded that all 'sub-dimensions of FFPT positively affect CI sub-dimensions. Kebabcı (2016) investigated the relationship between personality and CI in airline employees. He found a significant correlation between personality and CI. Pelit et al. (2020) examined the FFPT, levels of CI, and professional attitudes of students. The study found that the students exhibited the highest levels of openness and the lowest levels of neuroticism in terms of FFPT. Additionally, their cultural intelligence levels, specifically their cultural adaptation, were assessed to be at a good level, while their professional attitudes were rated slightly above the mid-level. Li et al. (2016) examined the effects of openness to experience, and adaptability on CI. It was found that opening to experience has positive effects on meta-cognitive, cognitive, and behavioral dimensions of CI. As a result of all these research and results, it has been considered necessary to create an educational system and an application area where international university students can adapt to different cultures. In this way, it can be ensured that students focus on their education through their FFPT and that their CI levels can be raised to a higher level. When evaluated in this context, it has been revealed that for students to adapt to the city and university they live in, they must have high FFPT and intelligence.

Thus, students from different countries and cultures should be aware that Turkey's language, religion, culture and customs, and traditions are very similar to their own countries. In addition, it can be said that students who are aware of cultural differences and can manage them successfully are more successful in intercultural environments. This research has some limitations. First of all,

there is a geographical limitation in the study. The research sample used in this study is limited to international students at Mardin Artuklu University. Therefore, further research with a more comprehensive and diverse sample of students from different cultural backgrounds can be considered to test whether the personality traits of students from different cultures affect their CI levels.

This situation may help the emergence of different studies and provide new researchers with helpful perspectives. In addition, the findings of this study also provide valuable information for those who research issues affecting international students studying in Turkey. Finally, since this study is one of the few studies examining the five-factor personality traits and CI variables in a sample of international university students, it is thought to contribute to the related literature. In further studies, individual and organizational variables affecting CI can be added to provide a multidimensional approach to the effect of CI in intercultural environments.

References

Aksoy, Z. (2015). *Kültürel Zekâ-CQ-Kültürlerarası İletişim ve Yönetimde Çağdaş Bir Yaklaşım.* İstanbul: Beta Yayıncılık.

Altunişik, R., Coşkun, R., Bayraktaroğlu, S. and Yildirim, E. (2007). *Sosyal Bilimlerde Araştırma Yöntemleri.* Sakarya: Sakarya Yayıncılık.

Ang, S., and Van Dyne, L. (2015). Conceptualization of Cultural Intelligence: Definition, Distinctiveness, and Nomological Network Handbook of Cultural Intelligence (pp. 21-33), Routledge.

Ang, S., Van Dyne, L. and Rockstuhl, T. (2015). Cultural Intelligence: Origins, Conceptualization, Evolution, And Methodological Diversity. In Gelfand, M.J., Chiu, C.Y. and Hong, Y.Y. (eds), *Handbook of Advances in Culture and Psychology*. New York: Oxford University Press.

Ang, S., Van Dyne, L., and Koh (2006). Personality Correlates of the Four Factor Model of Cultural Intelligence. *Group and Organization Management*, 31(1), 100-123.

Ang, S., Van Dyne, L., Koh, C., Ng, K.Y., Templer, K.J., Tay, C., and C, N.A. (2007). Cultural Intelligence: Its Measurement and Effects On Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance. *Management and Organization Review,* 3(3), 335-371.

Arbuckle, J. L., and Wothke, W. (1999). *Amos 4.0 User's Guide.* Chicago, IL, USA: Marketing Department, SPSS Incorporated.

Aslan, S., and Aslan, Ö. (2015). İstanbul'daki 5 Yıldızlı Otellerde Kültürel Zekâ Ölçeğine İlişkin Bir Uygulama. *Ekonometri Ve İstatistik Dergisi*, 23, 34-61.

Atkinson, R.L., Atkinson, R. C., Smith, E.E., Bem, D.J., and Hoeksema, S.N. (2006). *Psikolojiye Giriş.* Ankara: Arkadaş Yayınları

Baltacı, A. (2017). Erteleme Davranışı Eğilimi Ve Beş Faktörlü Kişilik Özellikleri Arasındaki İlişkiler: Okul Yöneticileri Üzerine Bir Araştırma. *Uluslararası Güncel Eğitim Araştırmaları Dergisi*, 3(1), 56-80.

Benet-Martinez, V., and John, O. P. (1998). Los Cinco Grandes Across Cultures and Ethnic Groups: Multitrait-Multimethod Analyses of the Big-Five in Spanish and English. *Journal of Personality and Social Psychology*, 75(3), 729-750.

Bezirgan, M., Mercan, N., and Alamur, B. (2015). Turizm Çalışanlarının Kişilik Özelliklerinin Kültürel Zekâları Üzerindeki Etkisi: Edremit Körfezi Örneği. *Organizasyon ve Yönetim Bilimleri Dergisi*, 7(1), 16-29.

Borgatta, E. F. (1964). The Structure of Personality Characteristics. *Behavioral Science,* 9(1), 8-17.

Butkovic, A., Brkovic, I., and Buretic, I. (2024). The Role of Openness and Cultural Intelligence in Students' Intention to Study Abroad. *Journal of Applied Research in Higher Education*, 16(1), 236-245.

Byrne, B. M. (2016). *Structural Equation Modelling with AMOS: Basic Concepts, Applications, And Programming.* UK: Routledge.

Çetin, Ç. K. (2014). Kültürel Zekâ: Uzakyol Kaptanları ve Uzakyol Birinci Zabitleri Üzerinde Bir Araştırma. *Gazi Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi*, 16(2), 134-155.

Çetin, S. A. and Şahin, B. (2019). Aşçıların Beş Faktör Kişilik Özellikleri, Bireysel İnovasyon Algıları Ve Bireysel İnovasyon Davranışları Arasındaki İlişkiler. *İşletme Araştırmaları Dergisi*, 11(1), 706-719.

Chedru, M., and Ostapchuk, M. (2023). The Effect of Study Abroad and Personality On Cultural Intelligence: A Deeper Understanding Using the Expanded Model of Cultural Intelligence. *International Journal of Intercultural Relations*, 92, 101737.

Compton, D. M. (2021). Effects of Perceived Racism, Cultural Intelligence, And Personality: Student Characteristics and Views at an Evangelical Christian University, *Psychology*, 12(10), 1642-1677.

Costa Jr, P. T., and McCrae, R. (1992). The Five-Factor Model of Personality and Its Relevance to Personality Disorders. *Journal of Personality Disorders*, 6(4), 343-359.

Deniz, A. and Erciş A. (2010). Kişilik Özellikleri, Hedonik Ve Rasyonel Fayda, Marka Duygusu Ve Marka Bağlılığı Arasındaki İlişkilerin Belirlenmesine Yönelik Bir Araştırma, *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 24(2), 141-165.

Doğan, T. (2013). Beş Faktör Kişilik Özellikleri Ve Öznel İyi Oluş. *Doğuş Üniversitesi Dergisi*, 14(1), 56-64.

Earley, P. C., and Peterson, R. S. (2004). The Elusive Cultural Chameleon: Cultural Intelligence as A New Approach to Intercultural Training for The Global Manager. *Academy of Management Learning & Education,* 3(1), 100-115.

Earley, P. C., and Ang, S. (2003). *Cultural Intelligence: Individual Interactions Across Cultures*. USA: Stanford University Press.

Earley, P. C., and Mosakowski, E. (2004). Cultural Intelligence. *Harvard Business Review*, 82(10), 139-146.

Earley, P. C., and Peterson, R. S. (2004). The Elusive Cultural Chameleon: Cultural Intelligence as A New Approach to Intercultural Training for The Global Manager. *Academy of Management Learning & Education,* 3(1), 100-115.

Earley, P.C., Ang, S., and Tan, J.S. (2006). *Developing Cultural Intelligence at Work.* USA: Stanford University Press.

Evans, E. H. (2012). Expatriate Success: Cultural Intelligence and Personality as Predictors for Cross-Cultural Adjustment. (Unpublished Master's Thesis). The University of Tennessee at Chattanooga, USA.

Girgin, B. (2007). Beş Faktör Kişilik Modelinin İşyerinde Duygusal Tacize (Mobbing) Etkileri. (Unpublished Master's Thesis). Dumlupınar University, Kütahya.

Goldberg, L. R. (1990). An Alternative Description of Personality: The Big-Five Factor Structure. *Journal of Personality and Social Psychology*, 59, 1216-1229.

Gürbüz, S. and Şahin, F. (2016). *Sosyal Bilimlerde Araştırma Yöntemleri Felsefe-Yönetim-Analiz.* Ankara: Seçkin Yayıncılık.

Hair, J., Anderson, R., Black, B. and Babin, B. (2016). *Multivariate Data Analysis.* Pearson Education.

Huff, K. C., Song, P., and Gresch, E. B. (2014). Cultural Intelligence, Personality, And Cross-Cultural Adjustment: A Study of Expatriates in Japan. *International Journal of Intercultural Relations*, 38, 151-157.

İslamoğlu, A. H. and Alnıaçık, Ü. (2019). *Sosyal Bilimlerde Araştırma Yöntemleri, (6. Baskı).* İstanbul: Beta Yayıncılık.

İşleyen, F., and Doğan, E. (2020). Kültürel Zekâ: Beş Büyük Kişilik Modeli Bağlamında Bir Araştırma. *Ekoist: Journal of Econometrics and Statistics,* 33, 65-82.

John, O. P., and Srivastava, S. (1999). The big-five trait Taxonomy: History, measurement, and theoretical perspectives, L. Pervin and O. John (Ed.), Handbook of Personality: Theory and Research içinde (Second Ed., ss. 101-138). Guilford Publications.

Jyoti, J., and Kour, S. (2015). Assessing The Cultural Intelligence and Task Performance Equation: Mediating Role of Cultural Adjustment. *Cross-cultural Management: An International Journal*, 22 (2), 236-258.

Karagöz, Y. (2016). *SPSS ve AMOS23 Uygulamalı İstatistiksel Analizler.* Ankara: Nobel Yayıncılık.

Kebabcı, V. (2016). Kişilik Ve Kültürel Zekâ Arasındaki İlişki: Havayolu Çalışanları Üzerine Bir Çalışma. (Unpublished Master's Thesis). Beykent University, İstanbul.

Kement, Ü., Çavuşoğlu, S. and Uslu, A. (2019). Turizm Eğitimi Gören Öğrencilerin Kişilik Özelliklerinin Kültürel Zekâ Düzeylerine Etkisi. *Anatolia: Turizm Araştırmaları Dergisi*, 30(1), 57-58.

Kour, S., and Sharma, S. (2017). Examining The Impact of Personality Traits On Cultural Intelligence. *Pacific Business Review International,* 10(6), 77-84.

Kumar, N., Rose, R.C., and Subramaniam, R. (2008). The Effects of Personality and Cultural Intelligence On International Assignment Effectiveness: A Review. *Journal of Social Science,* 4(4), 320-328.

Kurnaz, G. and İraz, R. (2021). Kültürel Zeka. Sağır, M., Erat, L., Aydın, A.U. (Ed.) *Örgüt içi Davranışsal Psikoloji.* Ankara: Beta yayınları.

Li, M., Mobley, W. H. and Kelly, A. (2016). Linking Personality to Cultural Intelligence: An Interactive Effect of Openness and Agreeableness, *Personality and Individual Differences*, 89, 105-110.

Livermore, D. (2011). The Cultural Intelligence Difference: Master The One Skill You Can't Do Without in Today's Global Economy. American Management Association. Access address: https://culturalq.com/wp-content/uploads/2016/06/CQ-Difference-Chapter-1.pdf

Livermore, D. (2015). *Leading with Cultural Intelligence: The Real Secret to Success*. AMACOM. Access address: https://davidlivermore.com/wp-content/uploads/2015/02/Chapter-1_Leading-with-CQ_Livermore.pdf

Mayers, A. (2013). *Introduction to Statistics and SPSS in Psychology.* NJ: Pearson.

McCrae, R., and Costa, P. T. (1985). Updating Norman's "Adequacy Taxonomy": Intelligence and Personality Dimensions in Natural Language and in Questionnaire. *Journal of Personality and Social Psychology*, 49(3), 710.

McCrae, R., and Costa, P. T. (1989). The Structure of Interpersonal Traits: Wiggins's Circumplex and The Five-Factor Model. *Journal of Personality and Social Psychology*, 56(4), 586.

McCrae, R., and Costa, P. T. (2006). A Five-Factor Theory Perspective On Traits and Culture. *Psychologie Française*, 51, 227-244.

McCrae, R., and Costa, P.T. (1992). Four Ways Five Factors Are Basics. *Personality and Individual Differences*, 13(6), 653-665.

Mercan, N. (2016). Çok Kültürlü Ortamlarda Kültürel Zekânın Kültürler Arası Duyarlılık İle İlişkisine Yönelik Bir Araştırma. *Niğde Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi,* 9(1), 1-13.

Meydan, C, H. and Şeşen, H. (2015). *Yapısal Eşitlik Modellemesi AMOS Uygulamaları.* Ankara: Detay Yayıncılık.

Mount, M. K., and Barrick, M. R. (1998). Five Reasons Why The "Big Five" Article Has Been Frequently Cited: The Big Five Personality Dimensions and Job Performance: A Meta-Analysis. *Personnel Psychology*, 51(4), 849-857.

Mount, M. K.Barrick, M. R.Scullen, S. M., and Rounds, J. (2005). Higher Order Dimensions of the Big Five Personality Traits and The Big Six Vocational Interest Types. *Personnel Psychology*, 58(2), 447-478.

Ng, K. Y., Van Dyne, L., and Ang, S. (2009). From Experience to Experiential Learning: Cultural Intelligence as A Learning Capability for Global Leader Development. *Academy of Management Learning & Education*, 8(4), 511-526.

Ng, K. Y., Van Dyne, L., and Ang, S. (2012). *Cultural Intelligence: A Review, Reflections, And Recommendations for Future Research.* In Ryan, A. M., F. T. L. Leong, & F. Oswald (Eds.), Conducting Multinational Research Projects in Organizational Psychology (pp. 29–58). Washington, DC: American Psychological Association.

Norman, W. T. (1963). Toward an Adequate Taxonomy of Personality Attributes. *Journal of Abnormal and Social Psychology*, 6(66), 574-583.

Ott, D. L., and Michailova, S. (2018). Cultural Intelligence: A Review and New Research Avenues. *International Journal of Management Reviews*, 20(1), 99-119.

Pelit, E., Kabakulak, A., and Ateş, M. (2020). Turist Rehberi Adaylarının Kişilik Özellikleri İle Kültürel Zekâ Düzeyleri Ve Mesleki Tutumları Arasındaki İlişki: Afyon Kocatepe Üniversitesi Öğrencilerin Üzerine Bir Araştırma, *Journal Of Tourism & Gastronomy Studies*, 8, (Special Issue 4), 30-50.

Robbins, S. P., and Judge, T. A. (2013). *Örgütsel Davranış.* (Çev. Ed.: İnci ERDEM). Ankara: Nobel Yayıncılık.

Şahin, F., and Gürbüz, Y. D. D. S. (2012). Kültürel Zekâ Ve Öz-Yeterliliğin Görev Performansı Ve Örgütsel Vatandaşlık Davranışı Üzerinde Etkisi: Çokuluslu Örgüt Üzerinde Bir Uygulama. *ISGUC The Journal of Industrial Relations and Human Resources,* 14(2), 123-140.

Şahin, F., Gurbuz, S., and Koksal, O. (2013). Cultural Intelligence (CQ) In Action: The Effects of Personality and International Assignment On the Development of CQ. *International Journal of Intercultural Relations,* 39, 152-163.

Shu, F., McAbee, S. T., and Ayman, R. (2017). The HEXACO Personality Traits, Cultural Intelligence, and International Student Adjustment, Personality and Individual Differences, 106, 21-25.

Solmuş T. (2004). İş Yaşamı, Denetim Odağı Ve Beş Faktör Kişilik Modeli, *Türk Psikoloji Bülteni.* 10(34), 196-205.

Somer, O., and Goldberg, L. R. (1999). The Structure of Turkish Trait-Descriptive Adjectives. *Journal of Personality and Social Psychology*, 76(3), 431-450.

Soysal, A. (2008). Çalışma Yaşamında Kişilik Tipleri: Bir Literatür Taraması. *Çimento İşveren Dergisi*, 22(1), 4-19.

Tabachnick, B.G., and Fidell L.S (2013). *Using Multivariate Statistics (Sixth Ed.).* Boston: Pearson.

Thomas, D. C., and Inkson, K. C. (2017). *Cultural Intelligence: Surviving and Thriving in the Global Village. (3d edition).* Berrett-Koehler Publishers, Inc.

Thomas, D. C., Elron, E., Stahl, G., Ekelund, B. Z., Ravlin, E. C., Cerdin, J. L., and Lazarova, M. B. (2008). Cultural intelligence: Domain and assessment. *International Journal of Cross Cultural Management,* 8(2), 123-143.

Thomas, D.C., and Inkson, K. (2003). *People Skills for Global Business: Cultural Intelligence. San Francisco.* CA: Berrett-Koehler.

Turhan, Ö. (2019). Beş Faktör Kişilik Özelliklerinin İş Tatmini Üzerindeki Etkisinde Depresyonun Aracılık Rolü, IBAD *Sosyal Bilimler Dergisi*, 4(3), 468-480.

Van Dyne, L. Ang, S., and Livermore, D. (2010). Cultural Intelligence: A Pathway for Leading in A Rapidly Globalizing World. Leading Across Differences, 131-138. Access address: https://soonang.com/wp-content/uploads/2011/04/2010_VanDyne_CCL-CQ.pdf

Van Dyne, L., Ang, S., Ng, K. Y., Rockstuhl, T., Tan, M. L., and Koh, C. (2012). Sub-Dimensions of the Four Factor Model of Cultural Intelligence: Expanding the Conceptualization and Measurement of Cultural Intelligence. *Social and Personality Psychology Compass*, 6(4), 295–313.

Yeke, S., and Semerciöz, F. (2016). Relationships Between Personality Traits, Cultural Intelligence and Intercultural Communication Competence. *Procedia-Social and Behavioral Sciences*, 23(5), 313-319.

Yelboğa, A. (2006). Kişilik Özellikleri Ve İş Performansı Arasındaki İlişkinin İncelenmesi. *ISGUC the Journal of Industrial Relations and Human Resources,* 8(2), 196-217.

Yıldırım, B.I. (2014). Çalışanların Beş Faktör Kişilik Özellikleri İle İş Tatminleri Arasındaki İlişki: Alanya'daki Beş Yıldızlı Oteller Üzerine Bir Uygulama. (Unpublished Doctoral Thesis). Akdeniz University, Antalya.

Yılmaz, G. Ö. and Kaya, G. D. (2015). Turizm Sektöründe Kültürel Zekânın Önemi: Konaklama İşletmelerinde Bir Araştırma. *Turizm Akademik Dergisi*, 2(2), 29-44.