

## Total Wellness of Turkish International Students: Perceptions and Inherent Growth Tendencies

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### ABSTRACT

*Research on the international students primarily focuses on adjustment and acculturation issues rather than building and maintaining the wellness of specific cultural groups of international students. This study used basic psychological needs involved in self-determination theory to investigate the relationship between autonomy, competence, and relatedness needs, self-determined way of functioning, and wellness of Turkish international students in the U.S. Data was collected before Covid-19 pandemic using a self-administered survey from 179 (71 females) Turkish international students with a mean age of 29.7 years. The results indicated that the perceived total wellness of Turkish international students was slightly low. The results of regression analyses revealed that autonomy, competence, and relatedness are positive and significant predictors of Turkish international students' wellness. Furthermore, Turkish international students with a greater self-determined way of functioning report a higher level of wellness. We recommend culture specific implications and further research to maintain international students' wellness in their sojourn.*

**Keywords:** basic psychological needs, self-determined functioning, Turkish international students, wellness

## **INTRODUCTION**

Studying abroad has become an essential element of our society's texture owing to the countries' developing interconnection and shifts in present day's social consciousness about the importance of the higher education. Consequently, the number of international students attending U.S. universities has increased over the past decade. Institute of International Education (IIE, 2019) claimed the number of international students enrolled to U.S institutions of higher education throughout the 2018-2019 academic years as 1,095,299, making up 5.5% of the total US student body. However, the number of enrolled international students at colleges and universities decreased from 2016 to 2019 (IIE, 2019). Colleges and universities aim to improve the quality of university by increasing the number of international students. Thus, it is crucial to understand current international students' wellness in order to augment the enrollment rate.

### **Definition of Wellness**

Wellness ranks first among human goals (WHO, 1967). There is a general agreement on the definition of wellness in the literature that it is not only the state of having no illness but also regarded as the balance of body, mind and spirit (Adams et al., 1997; Harari et al., 2005). According to The World Health Organization (WHO, 1967) the definition of wellness is an optimal state of health for each individual or a group of people. Variety of existential aspects such as physical, social, psychological, spiritual, relational, and community involvement determine the consideration of a person's wellness (Smith et al., 2006).

### **Dimensions of Wellness**

This study uses the Perceived Wellness Model developed by Adams et al. (1997) to assess the relationship between basic psychological needs and wellness. It is efficient and useful for assessing wellness of college students that the model integrates social, emotional, physical, intellectual, spiritual, and psychological dimensions of wellness. Social wellness is vital and corresponds to the person's contentment with their social role (Hettler, 1980). Adams et al. (1997) resolved social wellness by concentrating on mutual relationships among people and their level of support. Durlak (2008) indicated certain positive outcomes of social wellness in individuals' lives such as higher senses of altruism, belongingness, and assertiveness, as well as decreases in violence, social isolation, and social anxiety. Moreover, social contact with locals had a positive impact on students' psychological wellbeing (Szabo et al., 2020). Adams et al.'s (1997) definition of emotional wellness puts self-esteem in the centre inasmuch as people who can maintain a good sense of emotional wellness are more comfortable with their identity and have a positive view of self. Those individuals who have emotional wellbeing tend to be more content and optimistic about the future, whereas others do not as much as them. Physical wellness is regarded as a person's capacity of maintaining good flexibility, strength and overall health within regular physical activity. Sustaining a healthy diet to keep body balanced and in harmony is also a part of it. According to Adams et al. (1997), physical wellbeing is a positive sense of overall physical health. Intellectual wellness is explained as the capacity of individual's engaging his/her mind in activities that provide productivity and arouse eagerness to enrich his/her intellectuality and develop abilities that he/she already has (Hettler, 1980). Parallel to Hettler's definition, Adams et al. (1997) expressed that maintaining intellectual wellness requires engaging intellectually stimulating activity at an optimum level. Hettler (1980) explained spiritual wellness as an individual's view of the world which presents him/her harmony, consciousness of one's place in society and reason to exist. Furthermore, the author highlighted that individual's inner balance and interrelation balance with others and even with the entire universe is an essential component of spiritual wellness. The Perceived Wellness model pointed out the psychological aspect as a key to wellness. Adams et al. (1997) conceptualized psychological wellness as the person's positive perception that causes him/her to have positive experience as a consequence of the incidents happen in his/her life. The scholars share the opinion that principal cause of why psychology exists is to enrich individuals' sense of psychological wellness and develop their skills to recognize it (Walsh & Shapiro, 1983).

### **Wellness Research on International Students**

Students who go abroad for higher education face many challenges and difficulties that ultimately result in a decline of wellness level. International students mostly experienced problems

related English proficiency, financial issues, adjustment in social life, loneliness, and homesickness (Shih & Brown, 2000). The authors also pointed out that these adjustment problems influence the wellness of international students in areas such as academic performance, mental and physical health, level of life satisfaction, and attitudes toward the host culture and environment. Congruently, Banjong (2015) found that English proficiency, feeling of loneliness, and lack of social support were negatively correlated to academic success. In a comparison study, anxiety, stress due to being apart from family, school adjustment problems, and language barriers had been experienced by international students much more than domestic students in the United States. Besides all these, cultural characteristics and challenges directly affected wellness of international students that they showed physical, biological, and psychological symptoms such as fatigue, headaches, lethargy, depression, feelings of isolation compared to domestic students (Misra & Castillo 2004). Also, studying in an unfamiliar country had hazardous effects on wellbeing that international students reported risky health behaviors such as drug and alcohol use, smoking increased after they came to the host country (Rosenthal et al., 2008). In addition to psychological and physical wellbeing, studying abroad affected social wellbeing, which is a strong predictor of success in the adjustment process (Poyrazli et al., 2001; Yeh & Inose, 2003). In collectivistic cultures like Turkey, the number, quality and balance of in relationships mattered that Turkish students maintain high level of wellness through connection with the social environment (Aygun, 2004).

Some nominal research has been completed on Turkish international students in the United States. Tansel and Gungor (2003) reported that Turkish international students' described less satisfaction in the social aspects of their lives than anticipated. On the other hand, Kilinc and Granello (2003) found that life satisfaction of Turkish international students is high, while homesickness is one of the most common psychological problems among Turkish international students. In order to obtain better understanding of international students' wellness, evaluation of peers in their home country is crucial. Aygun (2004) examined Turkish students' self, identity, and emotional wellbeing at a large Turkish University. The study also investigated the importance of cultural characteristics on students' life such as independence, interdependence, relatedness, individualism, collectivism, and gender roles and stereotypes. In addition, socioeconomic status and parents' education level were included to examine students' self, identity, and wellbeing that high education level of parents was correlated with high level of wellbeing. Relational concern, inner-outer harmony, achievement, openness and creativity, social influenciability, and traditionalism were identified as descriptors of self. Results revealed that female Turkish students had higher negative emotional experiences than male students. Results also indicated a significant positive correlation between positive feelings and personal, social, and collective identity. This data indicates balance and quality in relationships mattered in a Turkish setting. Additionally, this study showed that there is a shift from collectivistic characteristics of culture to individualistic characteristics of culture among Turkish students.

### **Self-Determination Theory**

The literature showed how remarkable is the self-determined way of functioning and behaviors on wellness. Self-determination theory emphasizes that humans' reaction to environment is not passive, in reality; they adapt themselves to the circumstances. According to SDT, competence, autonomy and relatedness are the three fundamental psychological needs that are innate and universal. Individual's development and functioning in healthy or optimal ways depend on these three needs' continuous satisfaction (Deci & Ryan 2000). SDT comprehends components that put individual's internal resources and behavioral management to the centre and inspires him/her, which are crucial for human improvement (Deci & Ryan, 1991; Ryan & Deci, 2000). Since it is more based on the inclusion of principal psychological human needs, there is a distinction between SDT and other theories of motivation. SDT describes the level of individual's motivation as the needs for autonomy, competence, and relatedness are the essential variables (Deci & Ryan, 1985). From self-determination theory perspective, motivation for studying abroad predicted lower culture shock and greater wellbeing among international students (Chirkov et al., 2007).

Research indicated that international students do not ask for help from counseling services because of unfamiliarity and negative misunderstanding of the term "counseling" in the host culture (Misra & Castillo, 2004; Olivas & Li, 2006). Correspondingly, it is expected that the social, emotional, psychological, and intellectual dimensions of wellness might be lower than domestic students. Thus, it is important to examine wellness holistically in terms of contributing factors that

basic psychological needs are one of the key variables to examine total wellness of different populations. In a cross-cultural study, Eroglu (2012) investigated the subjective wellbeing of Turkish and international students in Turkey. The main objective of the study was to compare subjective wellbeing of international and Turkish students and how subjective wellbeing differentiated in terms of gender. Result revealed that subjective wellbeing of international students was reported as being higher compared to Turkish students in Turkey. Regarding gender differences, female international students reported higher level of subjective wellbeing than male students. Eroglu (2012) discussed the results of study from the perspective of socioeconomic status of students. He argued that foreign students were mostly coming from rich countries. Also, in western cultures, males and females have equal and extensive freedom compared to males and females in eastern cultures. Therefore, their sense of comfort had an impact on international students' subjective wellbeing (Eroglu, 2012).

The need for competence was defined as the need for individuals to feel confident and productive in their activities (Deci & Ryan, 2000). This definition of competence can be interpreted for students that it is a desire to feel confident in the knowledge and skills which are required for academic achievement. Lau and Roeser (2002) reported that when students believed that they are successful, they are more likely to do better in their work compared to students who did not believe that they are unsuccessful. Research also indicated that level of competence and cognitive ability were the strongest predictors of achievement, ambition, class engagement, and test scores (Lau & Roeser, 2002).

The need for autonomy defined as that people are the authors of their own behavior, desires, and intentions (Deci & Ryan, 2000). Researchers investigated the relationship between being autonomous and its effects on people's positive functioning that more autonomous people reported high levels of functioning in areas such as engagement, learning, and performance (Deci & Ryan, 2000). The positive effects of autonomy can be seen in all areas of life, whether social, economic, psychological, or academic (Chirkov et al., 2008). Miquelon and Vallerand (2008) examined the influence of autonomous goals in academic life that when academic life became stressful, autonomous goals increased the level of happiness and self-realization of the students. Autonomous behavior is regarded differently cultures. Especially in eastern cultures, autonomy is not valued, and being autonomous has not been embraced. Vansteenkiste and colleagues (2005) examined the optimal functioning, wellbeing, and autonomy in eastern collectivistic cultures. Studies were conducted on Chinese students and found that, despite cultural pressures to the contrary, autonomy was a strong predictor of academic success, adaptive learning attitudes, and high levels wellbeing. In addition, Chinese students with greater levels of autonomy in their lives reported greater levels of vitality and psychological wellness (Vansteenkiste et al., 2005). Hence, autonomy is an essential psychological need in students' academic life both in individualistic and collectivistic cultures.

Self-determination theory described relatedness as the feeling the individual experiences when finding social connection with family members, friends, and any other people who care about that individual (Baumeister & Leary, 1995). If higher levels of functioning and connectedness were experienced, the need for relatedness was fulfilled that the quality of significant relationships in students' lives remarkably increased wellness (Ryan & Deci, 2000). In student's life, supportive and caring relationship with the instructor predicted motivation and success in academic studies (Elmore & Huebner, 2010; Larose et al., 2005). Furthermore, the relationship between professors and students had an impact on wellness and emotional adjustment during the learning process in university years that having a good quality of relationship with professors enhanced the level of self-efficacy, motivation, and sense of social acceptance. Additionally, the peer relationship also another factor for students who reported having supportive friends and good quality of relationship with their peers had better self-regulation, higher ambition and increased perceptions of competence (Nelson & De Backer, 2008).

### **Current Study**

Nowadays, colleges and universities desire more international students' enrollment. However, there is a growing international student population that experienced more problems than native students (Poyrazli & Lopez, 2007). Hence, understanding current international students' wellness in particular life areas and supporting their academic achievement and success is crucial (McCormack, 2007). Because of developmental and behavioral threats of being abroad to health, professors and

administrators of school have worries about how to reinforce their students' wellness in academic life (Adams et al., 2000).

The main focus of the research on international students mostly covers adjustment and acculturation issues instead of wellbeing of specific cultural groups of students. Furthermore, no research is conducted on perceived total wellness of international students focused on their self-determined attitudes, feelings and behaviors. It is seen that international students' stress level is higher in the United States when it is compared to time in their home countries due to number of factors like diverse teaching methods, two-way interaction with professors in the classrooms, more classroom and group activities, more assignments, more speech requirements, and more after class studying (Zhai, 2002). Students may be affected adversely by these factors. For this reason, studying international students' wellness adequately is required. Healthy society is composed by individuals with wellness. In spite of wide range of research on wellness, there is still lack of wellness-based study about culturally different international students.

The following research questions were used to shape the current study:

RQ1: What is the total perceived wellness of Turkish international students in the United States as relates to gender, age, length of stay, level of degree?

RQ2: To what extent Turkish international students' basic psychological needs (autonomy, competence, and relatedness) related to their perceived total wellness?

## METHOD

### Participants

The study initially intended to include a sample of Turkish international students in the U.S. Convenience sampling method (also known as availability sampling) was used to reach international students who are eligible and suit the purpose of the study (Gall et al., 2007). Based on power analysis, Tabachnick and Fidell (2007) advised a rule to have the power in the regression analysis that one hundred and four cases plus number of predictor and criterion variables needed. A total of 325 Turkish students began the online survey but participants withdrew from the study and participants with extreme missing data were excluded before starting to analyses. The final sample ( $n=179$ ) included 108 (60.3 %) males and 71 (39.7%) females. Participants ranged in age from 19 to 57 ( $M=29.72$ ,  $SD=4.53$ ). In terms of education level, the sample contained 86 doctoral students (48%), 79 master's level students (44.1 %), and 14 students in bachelors (7.8%). The socioeconomic statuses of participants were low (25.7%), intermediate (70.4%) and high (3.9%). Only 3.9% of the participants were engaged, 48% percent were married, 10.1 % percent were in a relationship, and 37.4% were single. The length of stay of the participants in the U.S. ranged from one year to 25 years, with an average of 5 years.

### Procedure

The study used an Internet-based survey questionnaire to collect data. Approval from the St. Mary's University's Institutional Review Board (IRB) was obtained before starting the data collection procedures. Participants of the study were recruited through Turkish Students Associations of various colleges in U.S. Researcher also contacted with the Turkish Educational Attaché of Houston that the attaché was asked to announce the study to the Turkish students. Participants were informed about the study. Data collected based on the instruments, namely a demographic variable questionnaire prepared by the researcher, Perceived Wellness Scale (Adams et al., 1997), Self-Determination Scale (Sheldon & Deci, 1996), Basic Psychological Needs Survey (Deci & Ryan, 1991). Before collecting any data, the authors' permission to use each instruments were obtained.

### Measures

Demographic questionnaire was created to gather participants' basic demographic characteristics of gender, age, degree, length of stay in the U.S., relationship status, spirituality and religious involvement, and socioeconomic status.

#### *Perceived Wellness Scale*

Wellness of the international students was measured with the Perceived Wellness Scale. The scale is a 36-item scale with six factors: Physical, emotional, social, intellectual, spiritual, and psychological. The rating of this scale is a 6-point range from 1 = very strongly disagree to 6 = very strongly agree.

The total score for the whole survey is 216, which represents the highest wellness score. Lower score in any of the six dimensions is generally seen as an indication of a low sense of perceived wellness in that area. In addition, sum of all the six dimensions' scores indicates the total wellness. In his study (Adams et al., 1997), the reliability score for the Perceived Wellness Survey ranged from .73 to .81 with an internal consistency reliability alpha ( $r = .91$ ). Harari and Colleagues (2005) conducted confirmatory factor analysis to measure construct validity of the wellness scale for each of the six subscales of the wellness scale. The determinants of general sense of perceived wellness ranked psychological wellness ( $r = .70$ ), emotional wellness ( $r = .67$ ), spiritual wellness ( $r = .61$ ), physical wellness ( $r = .61$ ), spiritual wellness ( $r = .61$ ), social wellness ( $r = .56$ ), intellectual wellness ( $r = .53$ ), respectively. The current study's reliability score for the Perceived Wellness Survey was .89.

### ***Self-Determination Scale***

The Self-Determination scale (Sheldon & Deci, 1996) measures individual differences in how people tend to function in a self-determined way. The 10-item survey was basically created to measure self-contact and perceived choice in actions. Participants indicate which of two statements feels more true for them. For example, "I feel that I am rarely myself" versus "I feel like I am always completely myself" are self-contact items and "I am free to do whatever I decide to do" versus "What I do is often not what I'd choose to do" are perceived choice in actions items. Self-Determination Scale showed good internal consistency (alphas range from .85 to .93). The reliability score for the Self-Determination scale was .80 in the current study.

### ***Basic Psychological Needs Survey***

The 21-item survey assesses the satisfaction of basic psychological needs in general. In this survey, participants indicate how true they feel each statement is of their life and respond on a scale of 1 (Not at all true) to 7 (Very true). Higher scores indicate of a higher level of satisfaction of needs. Basic Psychological Needs Satisfaction Scale includes autonomy, relatedness, and competence factors. A sample autonomy item is: 'I feel like I am free to decide for myself how to live my life'; a sample relatedness item is: 'I get along with people I get in contact with'; and a sample competence item is: 'In my life I do not get much of a chance to show how capable I am (reverse-scored). The dimensions have good levels of internal consistency (alpha 0.74 for relatedness, 0.75 for competence, 0.63 for autonomy), and the overall need satisfaction scale with the alpha 0.84 averaged across all 21 items. The reliability score for the Basic Psychological Needs survey was .86 in the present study.

### **Data Analysis**

The information collected by the surveys was entered into an SPSS database. Before starting the analysis data, individual cases were evaluated based on the completion of survey, extreme missing data, and IP address. Respondents with extreme missing data were eliminated using listwise deletion method. Also, assumptions for regression analyses were met. After the evaluation of data, 146 cases were excluded. A total of 179 cases were included for final analysis. Descriptive statistics were conducted to look for themes for each variable and subscales. Inferential statistics were used in order to answer research questions.

## **RESULTS**

### **Primary Analyses**

Table 1 presents the descriptive statistics for total wellness and six dimensions. Regarding research question one, total wellness for the participants was calculated by dividing the individual's wellness magnitude by their wellness balance. The mean score for total wellness was 14.78 ( $SD=2.50$ ). In addition to total wellness, the current study showed the highest mean scores in the dimensions of spiritual ( $M = 4.64, SD = .90$ ), social ( $M=4.55, SD = .80$ ), and physical wellness ( $M = 4.41, SD = .79$ ). The mean scores of emotional ( $M = 4.32, SD = .77$ ), intellectual ( $M = 4.21, SD = .70$ ), and psychological dimensions ( $M = 4.20, SD = .70$ ) were slightly lower.

**Table 1: Descriptive Statistics for Total Wellness and Six Dimensions**

Variable	Mean	SD	Minimum	Maximum	Range	Cronbach's Alpha ( $\alpha$ )
Total Wellness	14.78	2.49	8.88	23.10	14.22	.890
Psychological Wellness	4.20	.690	2.50	6.00	3.50	.514
Social Wellness	4.55	.803	2.50	6.00	3.50	.603
Physical Wellness	4.41	.787	2.00	6.00	4.00	.676
Spiritual Wellness	4.64	.904	2.00	6.00	4.00	.815
Intellectual Wellness	4.21	.699	2.67	6.00	3.33	.602
Emotional Wellness	4.32	.772	2.67	6.00	3.33	.614

**Table 2: Analysis of Variance Comparing Wellness by Demographics**

Demographic	Response	Sample N	Mean	SD	F (df)	p-value
Gender					1,07(1,177)	.303
	Male	108	14.62	2.23		
	Female	71	15.01	2.85		
Age					11.93(2,176)	.000
	18-24	9	14.22	2.37		
	25-34	158	14.57	2.32		
	35 and above	12	17.98	2.81		
Length of Stay					6.39(2,176)	.002
	1-5	115	14.51	2.30		
	6-10	52	14.81	2.60		
	11 and above	12	17.14	2.77		
Degree					.64(2,176)	.529
	Bachelors	14	15.34	3.44		
	Masters	79	14.88	2.30		
	Doctorate	86	14.60	2.50		
Major					9.66(2,176)	.199
	Science and Engineering	121	14.63	2.42		
	Business	21	15.14	2.57		
	Education	29	14.65	2.43		
	Arts, Humanities, and Others	8	16.48	3.27		
Relationship					.64(2,176)	.635
	Single	67	14.52	2.40		
	In a relationship	18	14.32	2.55		
	Engaged	7	14.72	2.55		
	Married/partnered	86	15.07	2.58		
	Divorced	1	15.22			
Socio-Economic Status					3.70(2,176)	.027
	Low	46	13.96	1.91		
	Intermediate	126	15.02	2.58		
	High	7	15.74	3.22		
Spirituality and Religious					.136(2,176)	.873
	Low	41	14.66	2.75		
	Intermediate	109	14.77	2.46		
	High	29	14.98	2.30		

Results regarding the relationship between wellness and demographic variables are shown in Table 2. Results indicated that there were no significant differences in the total wellness across gender  $F(1, 177) = 1.07, p = 0.303$ , relationship status  $F(4, 174) = .64, p = .645$ , and degrees  $F(2, 176) = .64, p = .529$ . However, the results revealed that there were significant differences in the perceived wellness across age groups ( $F = 11.938, p < .05$ ). The Tukey, multiple comparison tests, showed age group 35+ is significantly different than age groups 25-34, and age group 18-24. The one-way analysis of variance (ANOVA) showed that there were significant differences in perceived wellness across the number of years lived in the US ( $F(2, 176) = 6.388, p < .05$ ). Post hoc tests revealed that perceived wellness was significantly different for participants who lived in the US 11+ years ( $M = 17.14$ ) than those who lived in the US less than 10 ( $M = 14.81$ ) years. Results indicated that there were significant differences in perceived overall wellness across socioeconomic status levels ( $F(2, 176) = 3.70, p = .027$ ). The following groups were found to be significantly different ( $p < .05$ ): groups 1 (low;  $M = 13.96, SD = 1.91$ ), 2 (intermediate;  $M = 15.02, SD = 2.58$ ), 3 (high;  $M = 15.74, SD = 3.22$ ).



Multiple regression and correlation analyses were used to find out the extent to how basic psychological needs (autonomy, competence, and relatedness) predict wellness among international students. Before analyzing the data, outliers, collinearity, independent errors, homogeneity of variance and linearity, and non-zero variances assumptions were met for regression analyses. The results indicated that there is a moderate linear relationship between perceived total wellness and autonomy ( $r = .571, p < .001$ ), competence ( $r = .562, p < .001$ ), and relatedness ( $r = .449, p < .001$ ), respectively. The multiple regression model with all three predictors produced ( $F(3, 175) = 38.289, p < .001$ ) with an  $R^2$  of .396. In other words, at least one variable has explanatory power and 39.6% of the variation in total perceived wellness can be explained by autonomy, competence, and relatedness. To determine which independent variables are significantly predicting the total perceived wellness, a model was structured. For the model assumption, normal and linear assumptions met and standardized residuals were uncorrelated with each of the predictor variables. Results revealed that autonomy and competence were found significant predictors of total perceived wellness ( $p < .05$ ) (Table 3).

Simple linear regression was calculated for autonomy, competence, and relatedness, individually that autonomy was the strongest predictor of high level of wellness ( $F(1, 177) = 85.834, p < .001$ ) with an  $R^2$  .327. Both competence ( $F(1, 177) = 81.922, p < .001$ ) with an  $R^2$  .316, and relatedness ( $F(1, 177) = 44.817, p < .001$ ) with an  $R^2$  .202 were also found significant predictors (Table 4). All three needs were independently found significantly predicted overall wellness that Autonomy was found the strongest predictor of total wellness of Turkish international students among basic psychological needs; however, relatedness was not a significant predictor when autonomy and competence were included in the model (Table 3).

**Table 3: Multiple Linear Regression Analyses of Basic Psychological Needs on Perceived Total Wellness**

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>T</i>	<i>p</i>
Autonomy	1.018	.250	.33*	4.071	.000
Competence	.803	.215	.30*	3.730	.000
Relatedness	.233	.212	.08	1.098	.274

Note.  $R^2 = .396$  ( $p < .05$ )

**Table 4: Summary of Simple Regression Analyses for Autonomy, Competence, and Relatedness Predicting Perceived Total Wellness**

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>	$R^2$	F
Autonomy	1.768	.191	.571*	.327	85.834
Competence	1.490	.165	.562*	.316	81.922
Relatedness	1.248	.186	.449*	.202	44.817

Note. \* $p < .05$

## DISCUSSION

In this study, it is aimed to understand perception of total wellness and its relation to basic psychological needs and self-determined way of functioning which is mentioned in Deci and Ryan's Self Determination theory (1985, 1991) through a sample that consists of 179 Turkish international students studying in the United States. In the light of the recent study's findings, the role of basic psychological needs had a vital role on wellness of international students. Our first major finding was about the total wellness of Turkish international students. In the perceived wellness scale, there is no cut point to determine high or low level of wellness, specifically. Also, there was no normative population to compare wellness level. However several studies (Adams et al., 1997; Hariri et al., 2005) used same wellness measure that Turkish international students presented lower wellness, when compared to domestic students. An explanation of the results for the Turkish students' low level of wellness might be the fact that other studies included only domestic undergraduates (Adams et al., 1997). The younger undergraduate students might be more physically and socially active as well as not experiencing adjustment problems (Caspersen et al., 2000). As a result, their physical and social wellness scores augment the perceived total wellness statistics. Comparing domestic students with international students' physical-medical reactions, the international students had more symptoms due

to cultural stressors that their position in the host culture has affected international students' wellness level (Misra & Castillo, 2004; Shih & Brown, 2000).

The past adjustment, acculturation, and wellbeing studies on international students provided individual, group, and situational differences based on gender, age, relationship status, degree levels, socioeconomic status, spiritual and religious involvement, length of time in host culture (Aycan & Berry, 1996; Ballentine, 2010; Poyrazli et al., 2001; Poyrazli & Lopez, 2007; Yeh & Inose, 2003). Findings indicated that female students had been slightly higher on the wellness scores than their male counterparts but this difference was not statistically significant. It was obviously seen that there had been sharp gender distinction according to the cultural mindset; while assertiveness, toughness and focusing in material success were regarded as characteristics of men, features such as modesty, tenderness, and responsibility for quality of life were associated with women's character (Hofstede, 2011). In Turkish culture, it is not common for male individuals who are not supposed to mention their feelings. Therefore, it might be assumed that the female Turkish international students were more confident in expressing their emotions about wellness than the male Turkish international students. Social, psychological, and spiritual wellness are associated with age (Keyes, 1998; Myers & Mobley, 2004), as expected, older international students reported a higher level of wellness than younger students in the current study.

Literature suggests that personal income and wealth had an impact on wellness (Kaplan et al., 2008; Woodyard & Grable, 2014). Our findings revealed that there is a significant relationship between socioeconomic status and the perceived wellness of Turkish international students. No significant relationship was found between the perceived wellness of Turkish international students and their level of education. Perhaps Turkish international students are experiencing similar problems, stressors, or living conditions while being in the host country. It was expected that the findings of recent study could have revealed a significant wellness score among international Turkish groups within a relationship status. In the Turkish culture, feelings of belongingness and harmony are key components of a healthy living (Hofstede, 2011). Being a family is the most important part of the Turkish society and most family members are emotionally dependent and supportive of one another (Kağıtçıbaşı & Ataca, 2005). Therefore, married international students and those committed to a relationship were expected to have higher significant wellness scores when compared to single Turkish international students. The number of years lived in the U.S. was found to be a significant predictor of wellness that augmented length of the stay in the host culture increased the level of social engagement with domestic friends, professors and local community. Ingersoll (1998) emphasized that social connectedness was related to a higher level of wellness. In collectivistic Turkish culture, the patterns of relationships, belonging to a group and support from friends are vital elements (Aycan et al., 2000). When Turkish international students have adequate engagement with the host society, their overall perceived wellness has increased.

It was pointed in the results that the overall wellness of Turkish international students is immensely predicted by all three basic psychological needs, autonomy, competence, and relatedness. In the literature, the significance of basic psychological needs for wellbeing, academic success, interpersonal relationships, mental and physical health has been determined broadly (Chirkov et al., 2003; Deci & Ryan, 2000; Yang et al., 2017).

Autonomy does not imply total freedom/independence, however, it refers to the internal approval of, as well as involvement with the motivated behavior of an individual (Deci & Ryan, 2000). On the contrary, the support of autonomy implies taking the perception of the Turkish international students' perspective, offering choice and useful rationale in instances where choices are not feasible (Molix & Nichols, 2013). This study indicated that, despite collectivistic cultural characteristics, Turkish international students with greater levels of autonomy reported higher perceived wellness in their lives. Consistently, a culture specific study distinguished autonomy from individualism and independence (Chirkov et al., 2003).

Competence was another strong predictor of wellness for Turkish international students in the U.S. In a study conducted by Can et al. (2015), individuals who were socially competent enjoyed studying abroad, and it was mainly the learning the language of their new country which provided them this comfort. Being capable of communicating through the language of the new place enables individual's social skills to improve in a new cultural medium and it is followed by individual's acquiring access to many other aspects of the environment.

Relatedness had been explained as a predictor variable of overall wellness for Turkish international students, however, this variable did not weigh out to be a significant predictor amidst autonomy and competence in a regression model. A possible explanation for this finding may be that balance and quality in relationships mattered in Turkish culture. However, there is a shift from collectivistic characteristics of culture to individualistic characteristics of culture among Turkish students (Aygun, 2004). On the other hand, relatedness individually predicted total wellness of international students. Accordingly, the feeling pertaining to relatedness, between the students and the advisors, were noted to have considerable degrees of positive results for the graduate level learners (Kormas et al., 2014). The results of the present study conform to the results from the investigation conducted by Demir et al. (2012) on significance of friendship between Turkish and American college students, its connection with the feelings of happiness and ultimately the wellness of the college students in international environments. In this context, their results indicated that having a perception of ‘mattering to each other’ mediates friendship for the American students and hence, the happiness and wellness while for the Turkish students, the quality of friendship with their American peers defined the friendship, relatedness and happiness (Demir et al., 2012).

### **Implications**

Examining the definition, conceptualization, dimensions and effects of wellness from an integrated point of view has become inevitable to increase international students’ enrollment rate. Until the year 2013, Turkey was among the top ten countries sending students to the United States, however the number of international Turkish students kept falling after 2013 (IIE, 2019). Acculturation stress and adjustment problems related to language barrier, homesickness, less satisfaction in the social aspect of their lives, financial issues, discrimination they are subjected to, and isolation from the host culture and community are the common difficulties Turkish international students face in the same way the other international students do (Poyrazli et al., 2001). Hence, besides sustained research efforts which put the precise problems of international students to the centre, understanding of Turkish international students’ wellness as a whole was also required. The importance of the current study is the fact that it provides us an understanding the current international students’ wellness and the connection with the basic psychological needs in certain life areas to reinforce their academic achievement and success. For example, the more senior figure is responsible for providing guidance and nurturance in collectivistic Turkish culture (Aycaan et al., 2000). As a senior figure, teachers/professors would provide more guidance to increase international students’ autonomous behaviors. To satisfy competence need, self-confidence and self esteem can be promoted through school and class activities. Teachers/professors would include self-enhancement assignments in the curriculum that may enhance their capacity with increasing their own ability to achieve optimal wellness. According to Hofstede (2011), collectivistic cultures’ members have to maintain harmony and feelings of belongingness. As international students spend most of their time at school, this environment became an essential catalyst for creating and learning many skills related to the wellbeing (St. Leger, 2004). Current study findings call for the attention of international and administrative offices, and advisors to satisfy the relatedness needs of Turkish international students in engaging enthusiastically in educational and societal activities in their sojourn.

The findings would also help the Turkish government improve its scholarship policy to ensure that students that join U.S. universities are best prepared to take advantage of the opportunity of joining some of the best universities around the globe. For instance, the findings showed that socioeconomic status of individuals, relatedness, autonomy, and competence contribute to their wellness while in U.S. universities. This is a concept that the Turkish universities can adopt and streamline their programs so that those who are put on scholarships to the U.S. have enough funding to improve their welfare, and are fully prepared to take on an international program of study.

### **Limitations and Future Work**

There had been considerable limitations to this research, yet utilizing online self-reporting data collection procedures was found to be by far the most apparent. In spite of the fact that operational definitions were explained and informed consent was included before starting the survey, researcher’s control on the data collection process was inadequate. Hence insignificant results in several parts of the study could have been affected by incomplete responses and high missing data caused smaller

sample size. On the other hand, this situation raises the question that if participants' responses to questions asked in the questionnaire is consistent with their actual inclination or not.

In addition, even if the study used a good survey that yields reliable and validated scores, measurement errors might limit the tool's usefulness for specific populations. Though Adams et al. (1997) developed wellness scale with US college students, the instrument might show some differences for a study using international students. A mixed method should be conducted to develop a wellness scale for different cultural groups of international students.

Limited research on this subject was another limitation for this study. There is a massive amount of dataset collected from students from different backgrounds in the US; however, Turkish students in those datasets are quite rare. Therefore, the researcher compared the evidence of wellness scale with other cultural backgrounds. To discover more indicators affecting the wellness of Turkish students in colleges/universities in the U.S., there is a need for further research. In addition, future research could consider focusing on important parameters for policy-making in education and international exchange programs.

Despite the limitations, the results provided an understanding of the potential contribution of wellness to international students. Counselors, professors, advisors, and international student offices would benefit from understanding the wellness of international students while they establish pedagogical approaches and curriculum by considering both cultural and universal basic psychological needs.

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