Investigation of Variables Affecting Attitudes of Emerging Adults Towards Older Individuals

Beliren Yetişkinlerin Yaşlı Bireylere Yönelik Tutumlarını Etkileyen Değişkenlerin İncelenmesi

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ABSTRACT

Similar to other countries, the ratio of the older people in the total population and the number of studies in this field is increasing day by day due to the decrease in the fertility rate and the increase in life expectancy in the Turkish culture. The aim of the present study is to examine whether a number of sociodemographic variables and different sub-dimensions of empathy predict the attitudes toward older adults. A total of 143 undergraduate students, 111 (77.6%) of whom were women, who were in emerging adulthood (*M.* = 19.76 *SD.* = 1.37, range 18-24 years) were included in the study. The data was collected using a 'Demographic Information Form', 'The Interpersonal Reactivity Index', and 'Kogan's Attitude Toward Older People Scale' and hierarchical regression analysis was performed. 'Willingness to live with the elderly in the future' (yes; $\beta = 0.42$, $p < .001$, no idea; $\beta = 0.30$, $p < .001$) and 'being a woman' ($\beta = -0.19$, $p = .017$) were associated with a more positive attitude toward older people. Moreover, when "willingness to live with the elderly in the future' and 'being a woman' were controlled in the first step, it was found that high 'empathic concern' positively predicted the attitudes toward older adults ($\beta = .20$, $p = .038$). Partially consistent with the previous studies, these findings indicate that 'gender', 'want to live with an older person in the future', and 'empathic concern' are significantly related to the attitudes toward older adults.

Keywords: Attitude toward elderly, empathy, emerging adults

ÖZ

Diğer ülkelerle benzer olarak, ülkemizde doğurganlık hızının azalması ve yaşam süresinin artması ile yaşlı bireylerin toplam nüfus içerisindeki oranı ve bu alandaki çalışmaların sayısı her geçen gün artmaktadır. Bu çalışmanın amacı, bir dizi sosyodemografik değişken ile empatinin farklı alt boyutlarının yaşlılara yönelik tutumları yordayıp yordamadığını incelemektir. Araştırmaya beliren yetişkinlik döneminde yer alan (*Ort.* = 19.76 *SS.* = 1.37, ranj 18-24 yaş) ve 111'i (%77.6) kadın olan toplam 143 lisans öğrencisi dâhil edilmiştir. Veriler, 'Demografik Bilgi Formu', 'Kişilerarası Tepkisellik Ölçeği' ve 'Kogan Yaşlılara Yönelik Tutum Ölçeği' ile toplanmış ve bulgular hiyerarşik regresyon analizi ile elde edilmiştir. 'Gelecekte yaşlı bir birey ile yaşama isteği' (evet; $\beta = 0.42$, $p < .001$, fikrim yok; $\beta = 0.30$, $p < .001$) ve 'kadın olma' ($\beta = -0.19$, $p = .017$) yaşlılara yönelik pozitif tutum ile ilişkili bulunmuştur. Bununla birlikte, 'gelecekte yaşlı bir birey ile yaşama isteği' ve 'kadın olma' ilk aşamada kontrol edildiğinde, 'empatik düşüncenin' yaşlılara yönelik tutumu pozitif yönde yordadığı bulunmuştur ($\beta = 0.20$, $p = .038$). Elde edilen bu bulgular, önceki çalışmalar ile kısmen tutarlı olmakla birlikte, cinsiyet, yaşlılar ile birlikte yaşama isteği ve empatik düşüncenin yaşlı bireylere yönelik tutum ile anlamlı bir şekilde ilişkili olduğunu göstermektedir.

Anahtar sözcükler: Yaşlılara yönelik tutum, empati, beliren yetişkinlik

Introduction

According to the data of the Turkish Statistical Institute (TUIK 2021a), while the total fertility rate was 2.38 children in 2001, it decreased to 1.76 in 2020 and the life expectancy at birth increased to 78.6 in the population (TUIK 2021b). These demographic trends have led to an increase in the ratio of the 65 and over age group, which is considered to be the elderly population, compared to the total population. As a matter of fact, the elderly population has increased by 22.5% in the last five years, reaching approximately 8 million people. Its proportion in relation to the total population has increased from 8.2% to 9.5% (TUIK 2021b). Considering these demographic trends, which are almost similar all over the world (United Nations 2019), the issue of how societies will view and treat the elderly has started to attract serious attention (Chu et al. 2020).

Attitude, conceptualized in different ways by different researchers, includes cognitive, affective, and behavioral components (Altmann 2008). Some researchers have suggested that attitude refers to the general evaluations made about individuals (including yourself), places, objects and issues (Petty ve Briñol 2010). Perceptions and attitudes toward older adults have been negative for many years due to the emergence of physical and cognitive losses and health problems in the last years of life (Chu et al. 2020). For example, in a recent qualitative study conducted in China, it was found that individuals aged 17-25 have negative attitudes toward older adults, such as them being lonely, financially disadvantaged, having poor social support, and lacking hobbies (Zhang et al. 2021). Recently, a similar study was conducted among university students studying in different departments in Austria using the cross-sectional method, and it was found that the participants displayed mostly negative attitudes toward older individuals, describing them as being dependent on others, unhealthy, and insecure (Schüttengruber et al. 2022). In short, the attitude toward older people has been negative in almost all societies (Erdemir et al. 2011). On the other hand, recent studies have also revealed that these negative attitudes toward older adults can be improved through some training programs (Gholamzadeh et al. 2018, Bamakan et al. 2021). Therefore, it becomes even more important to reveal which factors affect the negative attitudes toward the elderly.

In the literature, many researchers have focused on the factors affecting the attitude toward older adults in different cultures using different methods. Sociodemographic factors have been examined in many of these studies. The findings obtained from these studies suggested that many factors such as age (Söderhamn et al. 2001, Liu et al. 2013), education level (Zampieron et al. 2012, Fita et al. 2021), the presence of older people in the family and close relatives (Zampieron et al. 2012, Türgay et al. 2015, Sağır and Özkaptan 2016), ethnicity (Lee 2009), religion (Ghimire et al. 2019), regular communication with older adults (Lee 2009), and knowledge about aging and ageism (Ghimire et al. 2019, Schüttengruber et al. 2022) may have an effect on the attitude toward older adults. In addition, although a limited number of studies suggest that gender is not associated with the attitudes toward older adults (Darling et al. 2018), studies conducted in many countries such as Turkey (Türgay et al. 2015, Sağır and Özkaptan 2016), Ethiopia (Fita et al. 2021), Spain (López-Hernández et al. 2021) and Greece (Lambrinou et al. 2009) have shown that women have a more positive attitude toward older adults than men.

Some researchers, on the other hand, have argued that empathy may impact the attitudes toward older adults along with select sociodemographic characteristics. For example, Yao et al. (2021) revealed that empathy is positively related to positive attitudes toward the elderly and that low empathy has a moderating role in the relationship between the knowledge about aging and the negative attitudes toward older adults among Chinese nursing students. In a similar study conducted in Turkey, it was suggested that there is a significant negative correlation between the level of empathy and ageism, and that empathic approach skills should be increased in order to develop positive attitudes toward the elderly (Serin and Tülüce 2021). Furthermore, a recent comprehensive meta-analysis study has highlighted the importance of empathy by showing that empathy-based intervention methods are the most effective intervention methods in terms of increasing the positive attitudes toward older adults (Martínez-Arnau et al. 2022).

Most of the studies conducted in the literature to examine the factors affecting the attitudes toward older adults have mainly focused on sociodemographic variables. However, there are limited number of studies dealing with the effect of empathy on the attitudes toward older adults in a more specific age group such as emerging adulthood (Arnett, 2000), which covers the 18-25 age group, especially in Turkey. Therefore, the aim of this study is to examine whether the sociodemographic variables and empathy are related to the attitudes toward older adults among individuals in emerging adulthood.

Method

Sample and Procedure

The population of this consists of individuals between the ages of 18-25 in the emerging adulthood, and the sample further consists of undergraduate students in this age group at a public university. The characteristics of the participants included in the current study are given in the 'Results' section. The ethics committee permission required for the research was obtained from the Ege University Research and Publication Ethics Board on 28.11.2019 (Approval number = 15/07, 414). Afterwards, in the lessons where permission was taken from the teacher, all students were informed about why and how the research would be done before the lessons started. It was emphasized that participation was on a voluntary basis and that any participant could stop filling out the scales at any time. In addition, the participants were assured that the information would only be used for the research. The 'Informed Consent' form was distributed to the voluntary participants and the necessary consent were obtained from all participants. All scales were administered in a single session, lasting approximately 20 minutes. To answer any questions that

may come from the students, the researcher(s) waited in the classroom while the aforementioned scales were filled in.

Measures

Demographic Information Form

This was used to obtain the participant's information such as their age, gender, where they lived, whether they cared for their grandparents in childhood, whether there was the presence of an older adult in the family, and their family structure. All of these questions were measured using one question based on the participants' self-reporting.

The Interpersonal Reactivity Index:

This scale was developed by Davis (1980) and consists of 28 items in total. The scale is a Likert-type scale with 5 rating points ranging from '1 = Doesn't describe me well' to '5 = Describes me very well'. The scale has four sub-dimensions, specifically 'fantasy', 'perspective taking', 'empathic concern' and 'personal distress', each of which is evaluated using 7 items. Higher scores indicate that the sub-dimension skill is high. The psychometric properties of the Turkish version of the scale were examined by Akça (2014) and it was stated that it had sufficient psychometric properties. Akça (2014) stated that the Cronbach's alpha internal consistency values for the scale's of 'fantasy', 'perspective taking', 'empathic concern' and 'personal distress' sub-dimensions were 0.81, 0.82, 0.70 and 0.62, respectively. In the present study, the Cronbach's alpha internal consistency values were found to be 0.81 for 'fantasy', 0.77 for 'perspective taking', 0.79 for 'empathic concern', and finally 0.78 for 'personal distress'.

Kogan's Attitude Toward Older People Scale

This scale was developed by Kogan (1961) to evaluate the attitudes toward old people. The scale includes a total of 34 items, 17 of which are negative and 17 of which are positive. It is a Likert-type scale with items ranging from '1 = Strongly disagree' to '6 = Strongly agree'. The score range of the scale varies between 34 and 204, and a high score indicates that the individual has a positive attitude towards the elderly. The reliability and validity study of the Turkish version of the scale was carried out by Erdemir et al. (2011) and it was stated that the Cronbach's alpha internal consistency coefficient was 0.84. In the present study, the Cronbach's alpha internal consistency coefficient was found to be 0.79.

Statistical Analysis

Before the analyses, all data were examined in terms of normality assumptions and missing value analyses (Tabachnick and Fidell 2013). 6 participants who dropped out of the study and 3 participants whose data were determined as univariate and/ or multiple multivariate outlier were excluded from the data. All analyzes were evaluated based on the responses of 143 participants. In order to determine variables related to attitudes toward older adults, Pearson correlation analysis, independent samples t-test and one-way ANOVA were used. In case of a significant difference in the one-way ANOVA analysis, Tukey or Games-Howell Post-Hoc tests were performed considering the homogeneity of variance in determining the difference between the groups. Hierarchical regression analysis was performed to determine the variables that predicted the attitude score toward the elderly. 'SPSS.25' and 'R (3.3.2)' programs were used in all analyses.

Results

A total of 143 emerging adults were included in the study whose age range was between 18 and 24 ($M = 19.76$ $SD = 1.37$), and 111 (77.6%) of them were female. Additionally, 76 (53.1%) of the participants stated that they are currently staying in a dormitory and 116 (81.1%) of them stated that their family structure was that of a nuclear family. Among the participants, 97 (67.8%) stated that they were single or did not have a partner, 58 (40.6%) had received care from their grandparents during their childhood, and 89 (62.2%) stated that there were no older adults in their family. To the question "Would you like to live with an older adult in the future?", 79 (55.2%) participants answered "I have no idea", 53 (37.1%) participants answered "no", and 11 (7.7%) participants answered "yes". The sociodemographic characteristics of the participants included in the study are shown in Table 1.

As shown in Table 1, it was found that the attitudes score of women toward older adult ($M = 121.22$, $SD = 13.75$) was significantly higher than that of men ($M = 115.50$, $SD = 16.06$) $t(141) = 1.993$, $p = .048$. In addition, it was observed that the attitudes score toward older adults differed significantly according to the participants' desire to live with an elderly individual in the future $F(2, 140) = 15.437$, $p < .001$. Post-Hoc analysis using the Games-Howell test showed that participants who stated that they wanted to live with an older adult in the future ($M = 134.64$, $SD = 13.19$) had a higher mean score than participants who did not want to live ($M = 113.11$, $SD = 15.39$) ($p = .001$). Despite these findings, the attitudes score toward older adults did not differ significantly compared to the other variables shown in Table 1 ($p > .05$).

The correlation coefficients among study variables are shown in Table 2. As shown in Table 2, the attitudes toward older adults was posittively related to perspective taking ($r = 0.195$, $p = .019$) and empathic concern ($r = 0.337$, $p < .001$). However, the attitudes toward older adults was not related to fantasy ($r = 0.098$, $p = .243$) and personal distress ($r = 0.101$, $p = .229$).

Table 3 shows the hierarchical regression analysis results. In the step 1, 'gender' and 'willingness to live with the elderly in the future' were entered into the model as control variables and both variables significantly predicted the attitudes towards older adults, $F(3, 139) = 12.59$, p < .001 and explained 21% of the variance. In the step 2, when 'perspective taking' and 'empathic concern' are added to the model, the model becomes significantly improved $F(5, 137) = 9.97$, p < .001, and both variables explained 5% of the variance. Furthermore, it was found that 'perspective taking' didn't significantly predicted the attitudes score toward older adults ($\beta = 0.07$, $p = .457$), whereas 'empathic concern' significantly predicted ($\beta = 0.20$, $p = .038$) .

Discussion

In some of the studies conducted in Turkey, it was stated that women have a more positive attitude toward older adults than men due to the cultural values and social roles because men are considered to be the breadwinner of the family, whereas caring roles are generally attributed to women (Ayoğlu et al. 2014, Türgay et al. 2015). Consistent with these studies, it was found that the women had more positive attitudes towards older adults than men in our study. Although this finding indicates that both men and women internalize traditional gender roles, because the same results have been obtained in studies conducted in different countries, it may also be due to the personality traits of the women participating such as self-control/responsibility or a higher sense of empathy rather than cultural values (Lambrinou et al. 2009, Fita et al. 2021, López-Hernández et al. 2021).

Table 1. Determining the variables related to the attitude toward older adults					
	n	M	SD	t / F	p
Gender				1.993	.048
Female	111	121.22	13.75		
Male	32	115.50	16.06		
Marital status				-.419	.676
Single or without a partner	97	119.59	14.56		
Married or with a partner	46	120.67	14.32		
Whether they cared for their grandparents in childhood*				-1.225	.223
No	85	118.72	15.24		
Yes	58	121.72	13.11		
Presence of an older adult in the family				-1.020	.309
No	89	118.98	15.70		
Yes	54	121.52	12.06		
Willingness to live with the elderly in the future				15.437	<.001
No	53	113.11	15.39		
Yes	11	134.64	13.19		
No idea	79	122.47	11.44		
Current living situation				1.004	.393
In dormitory	76	119.05	15.08		
Together with their friends	27	119.44	12.07		
Together with their family	32	123.53	15.88		
Others**	8	115.63	6.72		
Family structure				.044	.957
Core	116	119.92	14.95		
Extended	11	119.00	10.86		
Single parent family	16	120.69	13.46		
*It was measured based on participants' self-reports. **It includes options such as alone and with relatives.					

Table 2. Correlation coefficients among age, the attitude toward older adults and sub-dimensions of empathy								
	M	SD	1	2	3	4	5	6
1. Age	19.76	1.37	-					
2. Kogan score	119.94	14.44	.083	-				
3. Fantasy	26.71	5.14	-.157	.098	-			
4. Perspective taking	25.22	4.70	-.058	.195*	.237**	-		
5. Empathic concern	27.52	4.69	-.059	.337***	.331***	.530***	-	
6. Personal distress	23.68	5.27	-.148	.101	.308***	-.054	.482***	-
*p<.05, **p<.01,***p<.001								

Table 3. Results of hierarchical regression analysis to determine the variables that predict the attitude toward older adults

Variables	B	%95 CI		SE B	β	R²	∆R²
		LL	UL				
Step 1						.21	.21***
Constant	114.80	111.03	118.58	1.91			
Gender[a]	-6.40*	-11.63	-1.16	2.65	-.19*		
Willingness to live with an elderly (ref.=No)[b]							
Yes	22.74***	14.20	31.28	4.32	.42***		
No idea	8.72***	4.14	13.29	2.31	.30***		
Step 2						.27	.05**
Constant	92.99	78.76	107.21	7.19			
Gender[a]	-4.33	-9.88	1.21	2.80	-.13		
Willingness to live with an elderly (ref.=No)[b]							
Yes	20.91***	12.50	29.32	4.25	.39***		
No idea	7.61**	3.09	12.13	2.28	.26**		
Perspective taking	.20	-.34	.75	.27	.07		
Empathic concern	.62*	.03	1.20	.29	.20*		

Note. CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit. [a]0 = Female, 1= Male. [b]It is entered as a dummy variable by 'no' as a reference value.
*p < .05. **p < .01. ***p < .001.

Recently, different studies conducted among nursing students have found there to be a positive and significant relationship between empathy and the attitudes toward older adults and aged discrimination (Yao et al. 2021, Serin and Tülüce 2021). Martínez-Arnau et al. (2022), in a comprehensive meta-analysis study, emphasized the role of empathy by stating that intervention techniques involving empathy are the most effective methods when it comes to increasing positive attitudes toward the elderly. Consistent with these findings, in the current study, it was found that empathic concern positively predicted the attitude towards older adults when 'gender' and the 'willingness to live with the elderly in the future' were controlled. In this respect, it was revealed that having a high sense of empathic concern is an important factor shaping positive attitudes towards the elderly. Therefore, especially considering that empathy is improvable (Gholamzadeh et al. 2018), it is thought that the inclusion of both theoretical and practical courses on empathy in the education system will be effective at increasing positive attitude toward the elderly.

In a study conducted in Nepal, Ghimire et al. (2019) focused on a range of variables related to attitudes toward older adults and stated that the attitudes toward older adults did not differ according to family type. A similar finding was revealed in the study by Elbi et al. (2015) among medical school students in Turkey. It was stated that there was no significant relationship found between family structure (i.e., core, extended, and other) and attitudes toward older adults. A similar study was conducted in the same country among nursing students and it was found that the attitudes toward the elderly did not differ according to family structure (Darling et al. 2018). In line with these findings,

our findings show that the attitude score toward the elderly did not differ significantly according to family type. This consistent finding obtained from the different studies indicates that the attitude toward the elderly in Turkey is learned at the community level or on an individual basis rather than through the family. On the other hand, this finding may be due to the changes in family structure due to many reasons such as economic difficulties, rapid internal migration caused by industrialization, and the participation of women in working life.

Although this has changed in recent years, traditionally older adults are seen as a source of guidance in the family and are considered to be strong people. Children are expected to take care of their parents in the Turkish culture. As expected in this study, it was found that the participants who stated that they wanted to live with an elderly individual in the future had a more positive attitude toward the elderly than those who stated that they did not want to live together. This finding is consistent with the study by Güven et al. (2012) conducted in Turkey. Future studies using longitudinal and experimental methods should be conducted to reveal whether a positive attitude towards the elderly leads to the desire to live with the elderly or vice versa.

Liu et al. (2013) examined the variables related to attitudes toward older adults in a review study and they stated that there was no positive relationship between age and the attitudes toward older adults in 8 of 11 studies. On the other hand, in a study conducted among nursing students in Jordan, it was suggested that as age increases, the positive attitudes toward older individuals increase (Hweidi and Al-Obeisat 2006). Consistent with the study by Liu et al. (2013), no significant relationship was found between age

and attitude in our study. This result may be due to the very narrow age range of the participants and the very low standard deviation. It is obviously an expected result that the attitudes toward the elderly of the participants did not change over such a narrow age range.

In a study by Zampieron et al. (2012), in which more than a thousand participants from 12 different countries were included, it was found that individuals with an older adult in the family showed a more positive attitude toward older adults than those who did not. A similar finding was also stated in a study conducted in Turkey, and the participants with an older adult relative showed more positive attitudes toward the elderly than those who did not (Türgay et al. 2015). Obviously, similar to these studies, although it is expected that the participants with an elderly person in the family will communicate more with the elderly and develop a more positive attitude due to the breaking of stereotypes and myths about the elderly, such a result has not been found. This finding shows that blood ties or more frequent communication with the elderly do not affect attitude. Future research can reveal the contexts in which this possible relationship is significant.

This study contributes to the previous studies and has revealed that empathic concern significantly predicted the attitudes toward older adults in the specific sample group of emerging adulthood, even after controlling for 'gender' and 'willingness to live with the elderly in the future'. However, there are some limitations that should be considered. First, because a cross-sectional method was used in this study, a cause-effect relationship should not be inferred between the variables. Second, a limited number of variables such as sociodemographic characteristics and empathy were taken as independent variables in the present study, therefore more variables such as personality traits should be addressed. Third, the use of qualitative methods in conjunction with quantitative measurements in future research may reveal more detailed findings about what meanings and qualifications emerging adults attribute to older adults. Fourth, since the sample group was selected from university students and no information was obtained regarding to their psychiatric history, the sample does not represent all emerging adults. Future research can be conducted involving participants living in different contexts. Finally, considering how the attitudes toward the elderly differ across countries and continents (Zampieron et al. 2012), it is very important that future studies are conducted in a way that includes a cross-cultural comparison.

Conclusion

In conclusion, the results of this study, which included a group of university students in emerging adulthood, showed that the 'willingness to live with the elderly in the future' and 'being a woman' were associated with a positive attitude towards the elderly. However, as an even more important and new finding, this study revealed that even when 'gender' and 'willingness to live with the elderly in the future' were statistically controlled, empathic concern positively predicted the attitudes toward the elderly.

References

Akça E (2014) Personality and cultural predictors of the quiet ego: Comparing Turkey and the United States (Yüksek lisans tezi). Ankara, Orta Doğu Teknik Üniversitesi.

Altmann TK (2008) Attitude: a concept analysis. Nurs Forum, 43:144-150.

Arnett JJ (2010) Emerging adulthood: A theory of development from the late teens through the twenties. Am Psychol, 55:469-480.

Ayoğlu FN, Kulakçı H, Ayyıldız TK, Aslan GK, Veren F (2014) Attitudes of Turkish nursing and medical students toward elderly people. J Transcult Nurs, 25:241-248.

Bamakan MZ, Nasiriani K, Madadizadeh F, Keshmiri F (2021) Effect of an aged wearing suit on nursing student's knowledge and attitude. BMC Nurs, 20:145.

Chu L, Lay JC, Tsang VHL, Fung HH (2020) Attitudes toward aging: a glance back at research developments over the past 75 years. J Gerontol B Psychol Sci Soc Sci, 75:1125-1129.

Darling R, Sendir M, Atav S, Buyukyilmaz F (2018) Undergraduate nursing students and the elderly: an assessment of attitudes in a Turkish university. Gerontol Geriatr Educ, 39:283-294.

Davis MH (1980) A multidimensional approach to individual differences in empathy. JSAS Catalog of Selected Documents in Psychology, 10:85.

Elbi H, Altan S, Rahman S, Özyurt CB, Şahin S, Çam FS (2015) The attitudes of medical students toward the elderly. Turk Geriatri Derg, 18:299-304.

Erdemir F, Kav S, Citak EA, Hanoglu Z, Karahan AA (2011) Turkish version of Kogan's attitude toward older people (KAOP) scale: Reliability and validity assessment. Arch Gerontol Geriatr, 52:162-165.

Fita F, Mekonnen HS, Endalew HL, Azagew AW (2021) Knowledge, attitude, and associated factors towards older people care among nurses working at public hospitals in West Shoa zone, Oromia region, Ethiopia. BMC Nurs, 20:248.

Ghimire S, Shrestha N, Callahan KE, Nath D, Baral BK, Lekhak N, et al. (2019) Undergraduate nursing students' knowledge of aging, attitudes toward and perceptions of working with older adults in Kathmandu Nepal. Int J Nurs Sci, 6:204-210.

Gholamzadeh S, Khastavaneh M, Khademian Z, Ghadakpour S (2018) The effects of empathy skills training on nursing students' empathy and attitudes toward elderly people. BMC Med Educ, 18:198.

Güven Ş, Muz GU, Ertürk NE (2012) The attitudes of university students towards elderly discrimination and the relation of these attitudes with some variables. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi, 15:99-105.

Hweidi IM, Al-Obeisat SM (2006) Jordanian nursing students' attitudes toward the elderly. Nurse Educ Today, 26:23-30.

Kogan N (1961) Attitudes toward old people: the development of a scale and an examination of correlates. J Abnorm Soc Psychol, 62:44-54.

Lambrinou E, Sourtzi P, Kalokerinou A, Lemonidou C (2009) Attitudes and knowledge of the Greek nursing students towards older people. Nurse Educ Today, 29:617-622.

Lee YS (2009) Measures of student attitudes on aging. Educ Gerontol, 35:121-134.

Liu YE, Norman IJ, While AE (2013) Nurses' attitudes towards older people: a systematic review. Int J Nurs Stud, 50:1271-1282.

López-Hernández L, Martínez-Arnau FM, Castellano-Rioja E, Botella-Navas M, Pérez-Ros P (2021) Factors affecting attitudes towards older people in undergraduate nursing students. Healthcare, 9:1231.

Martínez-Arnau FM, López-Hernández L, Castellano-Rioja E, Botella-Navas M, Pérez-Ros P (2022) Interventions to improve attitudes toward older people in undergraduate health and social sciences students. A systematic review and meta-analysis. Nurse Educ Today, 110:105269.

Petty RE, Briñol P (2010) Attitude change. In Advanced social psychology: The state of the science (Eds RF Baumeister, EJ Finkel): 217–259. New York, Oxford University Press.

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.

Sağır D, Özkaptan BB (2016) Attitudes of nursing students towards older people with their empathic tendency in Sinop having the oldest population in Turkey. Int J Adv Res, 4:1138-1143.

Schüttengruber G, Stolz E, Lohrmann C, Kriebernegg U, Halfens R, Großschädl F (2022) Attitudes towards older adults (80 years and older): a measurement with the ageing semantic differential-a cross-sectional study of Austrian students. Int J Older People Nurs, 17:e12430..

Serin EK, Tülüce D (2021) Determining nursing students' attitudes and empathic tendencies regarding aged discrimination. Perspect Psychiatr Care, 57:380-389.

Söderhamn O, Lindencrona C, Gustavsson SM (2001) Attitudes toward older people among nursing students and registered nurses in Sweden. Nurse Educ Today, 21:225-229.

Tabachnick BG, Fidell LS (2013) Cleaning up your Act: screening data prior to analysis. In Using Multivariate Statistics, 6th ed. (Eds Tabachnick BG, Fidell LS):60-117. New Jersey, Pearson Education.

TUIK (2021a) Türkiye İstatistik Kurumu Doğum İstatistikleri, 2020. https:// data.tuik.gov.tr/Bulten/Index?p=Dogum-Istatistikleri-2020-37229. (Access date:01.02.2022).

TUIK (2021b). Türkiye İstatistik Kurumu İstatistiklerle Yaşlılar, 2020. https:// data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2020-37227. (Access date:01.02.2022).

Türgay AS, Şahin S, Aykar FŞ, Sari D, Badir A, Özer ZC (2015) Attitudes of Turkish nursing students toward elderly people. Eur Geriatr Med, 6:267-270.

United Nations (2019) World Population Prospects, 2019. https:// population.un.org/wpp/. (Access date:01.02.2022).

Yao GY, Luo YY, Zhao ZM, Zhu B, Gao M (2021) The moderating role of empathy profiles in the relationship between knowledge about aging and attitudes toward older adults among nursing students. Front Psychol, 12:713271.

Zampieron A, Saraiva M, Corso M, Buja A (2012) An international survey on attitudes of renal nurses towards older people. J Ren Care, 38:213-221.

Zhang Y, Wang J, Zu Y, Hu Q (2021) Attitudes of chinese college students toward aging and living independently in the context of China's modernization: a qualitative study. Front Psychol, 2:1798.