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Consanguineous Marriage, Health Literacy and Fatalism Levels of Different Generations: A Descriptive-Correlational Study in A Sample from Turkey

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ABSTRACT

Objective: This research was conducted to determine consanguineous marriage, health literacy, and fatalism levels of different generations and examine their relationship.

Materials and Methods: This descriptive-correlational study was conducted with 463 individuals living in Ağrı between October 2021-March 2022.

Results: Significant differences were found between the individuals' Consanguineous Marriage Attitude Scale, Health Literacy Scale, and Fatalism Tendency Scale total score means and their generation ($p<0.05$). A significant negative correlation was found between the total score mean of the Individual's Consanguineous Marriage Attitude Scale and the total and all sub-dimensions of the Health Literacy Scale ($p<0.05$). A significant positive correlation was found between the total score mean of the Consanguineous Marriage Attitude Scale and the total score mean of the Fatalism Tendency Scale ($p<0.05$).

Conclusion: In our study, it was found that the attitude of the baby boom generation towards consanguineous marriage was higher, the health literacy level of the Z generation was higher, and the fatalism tendency of the X generation was found to be higher.

Keywords: Consanguineous marriage, Fatalism, Generations, Health literacy, Turkey.

Farklı Kuşakların Akraba Evliliği, Sağlık Okuryazarlığı ve Kadercilik Düzeyleri: Tanımlayıcı-Korelasyonel Çalışma Türkiye Örneği

ÖZET

Amaç: Bu araştırma, farklı kuşakların akraba evliliği, sağlık okuryazarlığı ve kadercilik düzeylerinin belirlenmesi ve aralarındaki ilişkisinin incelenmesi amacıyla yapılmıştır.

Materyal ve Yöntem: Tanımlayıcı ve ilişki arayıcı tipte yürütülen bu araştırma, Ekim 2021-Mart 2022 tarihleri arasında, Ağrı ilinde yaşayan 463 bireyle yürütülmüştür.

Bulgular: Bireylerin Akraba Evliliği Tutum Ölçeği, Sağlık okuryazarlığı Ölçeği ve Kadercilik Ölçeği toplam puan ortalaması ile bulunduğu kuşak arasında anlamlı farklılık saptanmıştır ($p<0.05$). Bireylerin Akraba Evliliği Tutum Ölçeği toplam puan ortalaması ile Sağlık okuryazarlığı ölçeği toplam ve tüm alt boyutları arasında negatif yönde anlamlı bir ilişki bulunmuştur ($p<0.05$). Akraba Evliliği Tutum Ölçeği toplam puan ortalaması ile Kadercilik eğilimi ölçeği toplam puan ortalaması arasında pozitif yönde anlamlı bir ilişki bulunmuştur ($p<0.05$).

Sonuç: Çalışmamızda kuşaklardan bebek patlaması kuşağının akraba evliliğine yönelik tutumunun daha yüksek, Z kuşağının sağlık okuryazarlık düzeyinin daha yüksek ve X kuşağının kadercilik eğilimlerinin daha yüksek olduğu saptanmıştır.

Anahtar Sözcükler: Akraba evliliği, Kadercilik, Kuşaklar, Sağlık okuryazarlık,Türkiye.

Consanguineous marriage has been done since the day human beings existed and is practiced in most places in the world. It has been observed that more than 1.2 billion of the world's population are in consanguineous marriages (1). "Relative" is defined as having a common ancestor, and the marriage of two individuals with a common ancestor is defined as "consanguineous marriage." It is expressed as a form of marriage between children of cousins or cousins who come from the same ancestry and have a blood relationship (2).

Traditions, social values, religious beliefs, and factors such as strengthening consanguinity ties are among the reasons for consanguineous marriages. For this reason, their rates vary from society to society. The rate of consanguineous marriages is expressed as higher in developing countries and less in developed countries. Although this rate varies according to the regions in Turkey, it is generally seen as 20-40% (3). Consanguineous marriage constitutes the basis of sociocultural life as the most common type of marriage today and is an important area of public health (4). The prevalence of genetic disorders is high in children born as a result of consanguineous marriage. Therefore, the prevention of consanguineous marriage is of medical importance. In the relevant field research, effective genetic counseling opportunities and determination of families at high risk, learning of risks by families, and having health literacy skills can effectively prevent such marriages (3, 5).

Health literacy is important in seeking, understanding, using, and making decisions about health information. Information about health issues, self-care, and disease prevention can increase understanding of personal risk factors, thereby helping individuals improve their health (6,7). Health literacy is "reaching a level of knowledge, personal skills and confidence to act to improve personal and public health by changing personal lifestyles and living conditions. It improves people's access to health information and their capacity to use it effectively" (8). The individual's demographic characteristics, abilities, illness and illness experiences, religious, social values, and cultural environment directly or indirectly affect the individual's level of improving and using their health positively or negatively (9-11). Diseases, injuries, and deaths preventable in the understanding of fatalism are met as "normal" in individuals and expressed as "destiny." The perception of health problems as fate negatively affects the development, improvement, and use of the health of the society, that is, health literacy (12).

When the literature is examined, consanguineous marriage, health literacy, and fatalism are indirectly linked to each other and affect each other positively or negatively (13). However, the relationship between the three concepts was not encountered in the literature. Therefore, this research, it is aimed to compare the effects of these concepts on individuals and their connections with each other. It is anticipated that the results of this research will contribute to the literature.

Research Questions

1. Is there a relationship between the level of Consanguineous Marriage, Health Literacy and Fatalism?

2. Do the levels of Consanguineous Marriage, Health Literacy and Fatalism differ significantly by generation?

METHODS

Study Design

This descriptive-correlational study was conducted with individuals living in Ağrı between October 2021-March 2022. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline (Vandenbroucke et al., 2007) was used for the report of this study paper. The population of the study consisted of individuals in the province of Ağrı located in the east of Turkey. In the study, it was determined that 384 individuals should be reached in the calculation made with the sampling method whose population is known. No sampling method was used in the study, and all individuals who agreed to participate in the study were included. At the end of the study, the data of 463 participants were analyzed. As a result of the study, in the post hoc power analysis conducted in line with the results obtained from 463 participants, the power of our study was calculated to be 99% at a 95% confidence level at medium effect size.

Data Collection Tools

Introductory Information Form, Consanguineous Marriage Attitude Scale, Health Literacy Scale, and Fatalism Tendency Scale were used to collect research data.

Introductory Information Form

It consists of questions created by researchers and including the introductory characteristics of individuals.

Consanguineous Marriage Attitude Scale

As a result of the validity and reliability analysis of the scale, the draft scale consisting of 33 items was reduced to 30 items, and the final scale was created. Six sub-dimensions of the scale were determined as a result of the factor analysis. These sub-dimensions; "Acceptive Attitude (1-2-3-4-5-6-7)", "Social Values (8-9-10-11-12-14-15)", "Social Pressure (13-16-17) -18) "," Perception of Risk (19-20-21) "," Perception of Health (22-23-24) "," Legitimating Myths (25-26-27-28-29-30) ". Items 2-16-19-20-21-27-29 in the scale are reverse coded. The lowest score obtained from the scale is 30, and the highest score is 150. Getting a higher score on the scale indicates a positive attitude towards consanguineous marriage (14). In our study, the Cronbach Alpha value was found 0.87.

Health Literacy Scale

The 47-item Health Literacy Survey in Europe (HLS-E.U) scale, developed by Sorensen, was simplified by Toc, Bruzar, and Sorenson. The validity and reliability of its Turkish form were carried out by Aras and Bayik Temel. The Cronbach's alpha value of the scale is 0.92 and consists of 25 items and four sub-dimensions. "Access to Information" contains five items (items 1-5). The minimum score to be obtained from this subscale is 5, the maximum score is 25. "Understanding Information" contains seven items (items 6-12), the minimum score to be obtained from this subscale is 7, and the maximum score is 35. The "Appraisal / Assessment" subscale includes eight items (13th-20th items). The minimum score to be obtained from this subscale is eight, and the maximum score is 40. The "Application / Use" subscale also includes five items (items 21.-25). The minimum score to be obtained from this subscale is five, and the maximum score is 25. The minimum score for the whole scale is 25, and the maximum score is 125. The items in the 5-choice Likert-type scale are answered as "5: I have no difficulty, 4: I have little difficulty, 3: I have some difficulty, 2: I have very difficulty, 1: I am unable to do it / I have no skills / impossible." All items on the scale are positive. Low scores indicate insufficient health literacy, and high scores indicate sufficient. As the score increases, the health literacy level of the individual increases (15). In our study, the Cronbach Alpha value was found to be 0.94.

Fatalism Tendency Scale (FTS)

The scale was developed by Kaya and Bozkur (2015) (16). The scale consists of four sub-dimensions, Predetermined, Personal-Control, Superstition, and Chance, and a total of 24 items. The scale is Likert type with five options. It consists of 1: Strongly Disagree, 2: Disagree, 3: Undecided, 4: Agree, 5: Strongly Agree. Predetermination Sub-Dimension: This dimension (1st, 4th, 12th, 15th, 18th, 19th, 22nd, and 24th items) is eight items, the items are scored directly the highest score that can be obtained is 40, and the lowest score is 8. The higher the score from this dimension, the higher the perception that everything is predetermined.

Personal Control Sub-Dimension: This dimension (2nd, 6th, 8th, 11th, 14th, and 21st items) consists of 6 items, and the highest score that can be obtained from this dimension is 30, and the lowest score is 6; items are scored in reverse. High scores in this dimension indicate that there is a poor sense of personal control.

Superstition Sub-Dimension: This dimension (3rd, 5th, 10th, 17th, 20th, and 23rd items) consists of 6 items, the items are scored directly, and the highest score that can be obtained is 30, and the lowest score is 6. The higher the score on the superstition dimension, the higher the tendency towards superstitions.

Chance Sub-Dimension: This dimension (items 7, 9, 13, and 16) consists of 4 items. The items are scored directly, and the highest score that can be obtained is 20, and the lowest score is 4. As the score obtained from this sub-dimension increases, the tendency to believe in the chance factor increases.

Predetermination: The Cronbach's alpha coefficient of the sub-dimension of the scale was 0.86, the Personal Control sub-dimension was 0.78, the Superstition sub-dimension was 0.81, and the Chance sub-dimension was 0.71. The Cronbach Alpha coefficient of the scale is 0.86, and the test-retest reliability coefficient is 0.72. A maximum of 120 and a minimum of 24 points can be obtained on the scale. The total fatalism tendency score is formed by the sum of the scores obtained from all sub-dimensions. As the score increases, the fatalism tendency also increases (16). In our study, the Cronbach Alpha value was found 0.83.

Data Analysis

IBM SPSS V-25 program was used in the statistical analysis of the study. Analyzed is made with SPSS-25 program installed in a university in Turkey. In the research, descriptive features are presented with the number (n) and percentage (%). Continuous variables are specified with their mean, standard deviation, minimum and maximum values. Necessary normality tests were performed to analyze the data, and it was understood that the data showed normal distribution (kurtosis and skewness -1.5 to +1.5) (17).

Independent Samples t-test was used for binary groups in normally distributed data. The One Way Variance (ANOVA) test was also used for data with more than two continuous variables and normally distributed. In paired comparisons of multiple groups, one of the post-hoc tests, the Bonferroni test, was used for homogeneous distribution and Games-Howell for non-homogeneous data. Pearson correlation test was used to determine the linear relationship between variables and severity of the relationship. A p-value of <0.05 was considered statistically significant.

Ethical Principles

Ethical approval was obtained from University Scientific Research Ethics Committee. Necessary explanations were made to the individuals included in the study, and written permission was obtained from those who wanted to participate in the study.

Limitations

The conduct of the study in a single city was the major limitation. The results are largely limited to the individuals who participated in the study and their responses to the scales.

RESULTS

It has been determined that 53.3% of the individuals participating in the study are Generation Z, 54.8% are women, 66.3% are single, 66.7% are graduates of higher education, 73.0% of them are equal to the expenses of their income, and 54.0% of them have lived the longest time in the province, 72.4% of them belong to nuclear family type, 63.0% of them are not related to their parents, 92.4% of them have a relative who is a consanguineous marriage, 69.8% of them stated that consanguineous marriage is religiously appropriate, and 50.3% of them stated that their devotion to religion is at a moderate level. The mean age was found to be 28.49 ± 12.61 (years) (Table 1).

Table 1. Descriptive characteristics of individuals (n = 463)

Demographic features		n	%
Generation	Baby Boom	13	2.8
	Generation X	82	17.7
	Generation Y	121	26.1
	Generation Z	247	53.3
Gender	Female	323	54.8
	Male	140	45.2
Marital status	Single	307	66.3
	Married	156	33.7
Education status	Primary education	76	16.4
	Secondary education	62	13.4
	Higher education	309	66.7
	Master / Doctorate	16	3.5
Monthly income	My income is less than my expenses	101	21.8
	My income is equal to my expense	338	73.0
	My income is more than my expenses	24	5.2
Longest lived place	Province	250	54.0
	District	112	24.2
	Village	101	21.8
Family Type	Nuclear family	335	72.4
	Extended family	117	25.3
	Broken family	11	2.4
Are the parents consanguineous marriage?	Yes	125	27.0
	No	338	73.0
Any acquaintances who are consanguineous?	Yes	428	92.4
	No	35	7.6
Do you think consanguineous marriage is religiously appropriate?	Yes	323	69.8
	No	140	30.2
What is your level of devotion to religion?	Low	25	5.4
	Middle	233	50.3
	High	463	44.3
	Ẋ ±SD (Min-Max)		
Age	28.49±12.61 (18-72)		

In our study, it was found that individuals' Consanguineous Marriage Attitude Scale Total Score Mean 68.07 ± 14.03, Accepting Attitude Sub-dimension 15.49 ± 6.20, Social Values Sub-Dimension 11.66 ± 4.66, Social Pressure Sub-Dimension 11.15 ± 2.42, Risk Perception Sub-Dimension 8.22 ± 2.15, Health Perception Sub-Dimension 5.12 ± 2.35, Legitimizing Myths Sub-Dimension was 16.41 ± 2.69. The Health Literacy Scale Total Score Mean was 103.58 ± 17.42, the Access to Information Sub-dimension was 20.94 ± 4.18, the Understanding Information Sub-dimension was 28.90 ± 5.74, the Appraisal / Assessment Sub-dimension was 33.09 ± 6.02, the Application / Use Sub-dimension was 20.66 ± 3.70. Fatalism Tendency Scale Total Score Mean 77.84 ± 13.90 sub-dimensions Predetermination Sub-dimension 27.63 ± 7.53, Personal Control Sub-Dimension 24.90 ± 4.09, Superstition Sub-Dimension 13.79 ± 5.94, Chance Sub-dimension 11.50 ± 4.19 (Table 2).

Table 2. Total and sub-dimension mean scores of individuals in consanguineous marriage attitude scale, health literacy scale and fatalism tendency scale (n = 463)

Scales	±SD	Min	Max
Consanguineous Marriage Attitude Scale Total Score Mean	68.07 ± 14.03	44.0	116.0
Accepting Attitude Sub-Dimension Mean Score	15.49 ± 6.20	8.0	29.0
Social Values Sub-Dimension Mean Score	11.66 ± 4.66	7.0	28.0
Social Pressure Sub-Dimension Mean Score	11.15 ± 2.42	5.0	17.0
Risk Perception Sub-Dimension Mean Score	8.22 ± 2.15	6.0	15.0
Perception of Health Sub-Dimension Mean Score	5.12 ± 2.35	3.0	12.0
Legitimating Myths Sub-Dimension Mean Score	16.41 ± 2.69	8.0	26.0
Health Literacy Scale Total Score Mean	103.58 ± 17.42	32.0	125.0
Access to Information Sub-dimension Mean Score	20.94 ± 4.18	5.0	25.0
Understanding Information Sub-Dimension Mean Score	28.90 ± 5.74	8.0	35.0
Appraisal / Evaluation Sub-Dimension Mean Score	33.09 ± 6.02	8.0	40.0
Application / Use Sub-Dimension Mean Score	20.66 ± 3.70	7.0	25.0
Fatalism Tendency Scale Total Score Mean	77.84 ± 13.90	39.0	120.0
Predetermination Sub-dimension	27.63 ± 7.53	8.0	40.0
Personal Control Sub-Dimension	24.90 ± 4.09	12.0	30.0
Superstition Sub-Dimension	13.79 ± 5.94	6.0	30.0
Chance Sub-dimension	11.50 ± 4.19	4.0	20.0

A significant difference was found between the total mean score of the Consanguineous Marriage Attitude Scale and the generation, gender, marital status, educational status, the place where they lived for the longest time, and consanguineous marriage status of the parents, statements regarding the status of the acquaintance of individuals who are consanguineous marriages, their views on the state of conformity to the consanguineous marriage and their level of devotion to religion ($p < 0.05$) (Table 3).

In the post-hoc (Games Howell) analysis conducted to determine the origin of the difference between the Consanguineous Marriage Attitude Scale total score mean and the generation they belong to, it was determined that the mean score of generation X was higher than the average score of Generation Z.

In the post-hoc (Games Howell) analysis conducted to determine the group originating from the difference between the total score mean of the Consanguineous Marriage Attitude Scale and the educational level, it was found that the mean score of individuals with primary education is higher than the mean score of individuals with higher education.

In the post-hoc (Bonferroni) analysis, which was conducted to determine the group that caused the difference between the total score mean of the Consanguineous Marriage Attitude Scale and the place where they lived the longest, it was found that the mean score of the individuals who lived in the village for the longest time was higher than the mean score of all groups.

In the post-hoc (Bonferroni) analysis conducted to determine the origin of the difference between the total score mean of the Consanguineous Marriage Attitude Scale and their expressions regarding the level of devotion to religion, it was found that the mean score of the individuals who stated that they were high was higher than the mean score of the individuals who stated that they were low.

A significant negative correlation was found between the total mean score of the Consanguineous Marriage Attitude Scale and the total and all sub-dimensions of the Health Literacy Scale ($p < 0.05$). A significant positive relationship was found between the total score mean of the Consanguineous Marriage Attitude Scale, and the total score mean of the Fatalism Tendency Scale and age ($p < 0.05$). A significant negative correlation was found between the Health Literacy Scale Total Score Mean and age ($p < 0.05$) (Table 4).

Table 3. Comparison of demographic characteristics of individuals' total score of consanguineous marriage attitude scale, health literacy scale and fatalism tendency scale (n = 463)

Demographic features			Consanguineous Marriage Attitude Scale		Health Literacy Scale		Fatalism Tendency Scale	
		n	Ẋ ±SD	Test and Significance	Ẋ ±SD	Test and Significance	Ẋ ±SD	Test and Significance
Generation	Baby Boom	13	81.46± 20.61	F=6.759 **p=0.001**	82.15±23.36	F=14.453 **p=0.001**	77.01±15.85	F=3.159 **p=0.025**
	Generation X	82	71.50± 15.45		97.09±19.75		81.98±15.54	
	Generation Y	121	66.72±13.89		103.57±18.91		76.23±13.87	
	Generation Z	247	66.89±12.68		106.87±13.83		77.29±15.85	
Gender	Female	323	66.18±13.13	t=-4.503 **p=0.001**	103.72±17.96	t=0.258 p=0.797	78.84±14.09	t=2.375 p=0.018
	Male	140	72.45±15.08		103.27±16.16		75.52±13.21	
Marital status	Single	307	66.39±12.81	t=-3.661 **p=0.001**	107.09±14.04	t=6.340 **p=0.001**	76.94 ±13.10	t=-1.943 p=0.053
	Married	156	71.38±15.69		96.64±21.06		79.59±15.24	
Education status	Primary education	76	74.88±16.99	F=8.528 **p=0.001**	91.15±21.29	F=21.671 **p=0.001**	82.76±15.14	F=4.007 **p=0.008**
	Secondary education	62	69.35±13.45		100.17±20.01		77.51±15.30	
	Higher education	309	66.36±12.73		106.79±14.23		76.66±12.89	
	Master / Doctorate	16	63.87±15.55		114.06±11.15		8.37±16.92	
Monthly income	My income is less than my expenses	101	68.49±13.88	F=2.259 p=0.106	101.73±17.30	F=1.554 p=0.212	79.01±15.14	F=0.577 p=0.562
	My income is equal to my expense	338	68.37±13.99		103.79±17.53		77.61±13.58	
	My income is more than my expenses	24	62.16±14.63		108.50±15.85		76.12±13.08	
Longest lived place	Province	250	67.08±13.69	F=5.548 **p=0.004**	104.85±17.12	F=3.748 **p=0.024**	78.44±13.60	F=0.609 p=0.544
	District	112	66.64±13.80		104.52±15.17		76.72±13.86	
	Village	101	72.13±14.50		99.42±19.83		77.59±14.71	
Family Type	Nuclear family	335	67.55±13.84	F=1.191 p=0.305	104.70±16.99	F=3.771 **p=0.024**	77.61±13.37	F=2.290 p=0.102
	Extended family	117	69.76±14.01		99.92±18.26		79.20±15.31	
	Broken family	11	66.01±19.69		108.54±16.83		70.18±12.15	
Are the parents consanguineous marriage?	Yes	125	73.24±14.07	t=4.939 **p=0.001**	103.16±18.06	t=-0.322 p=0.748	78.43±15.01	t=0.557 p=0.578
	No	338	66.16±13.55		103.74±17.20		77.62±13.48	
Any acquaintances who are consanguineous?	Yes	428	68.59±14.05	t=2.784 **p=0.006**	103.33±17.54	t=-1.094 p=0.274	77.92±13.93	t=0.485 p=0.628
	No	35	61.77±12.31		106.68±15.73		76.74±13.58	
Do you think consanguineous marriage is religiously appropriate?	Yes	323	72.36±13.65	t=11.268 **p=0.001**	102.96±18.17	t=-1.160 p=0.247	78.34±13.65	t=1.191 p=0.234
	No	140	58.17±9.04		105.01±15.50		76.67±14.43	
What is your level of devotion to religion?	Low	25	63.24±13.05	F=3.115 **p=0.045**	104.80±17.81	F=0.503 p=0.605	69.60±16.47	F=11.764 **p=0.001**
	Middle	233	67.25±14.01		102.78±16.49		76.04±13.70	
	High	463	69.60±14.03		104.35±18.41		80.88±13.06	

** Independent Samples t test, † One Way ANOVA*

Table 4. The relationship between individuals' age, consanguineous marriage attitude scale, health literacy scale, and fatalism tendency scale total and sub-dimension mean scores (n = 463)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
(1) Consanguineous Marriage Attitude Scale Total Score Mean	r	-																	
	p	-																	
(2) Accepting Attitude Sub-Dimension	r	.879																	
	p	.001																	
(3) Social Values Sub-Dimension	r	.798	.577																
	p	**.001**	**.001**																
(4) Social Pressure Sub-Dimension	r	.106	-.137	.160															
	p	**.022**	**.003**	**.001**															
(5) Risk Perception Sub-Dimension	r	.556	.476	.233	-.166														
	p	**.001**	**.001**	**.001**	**.001**														
(6) Perception of Health Sub-Dimension	r	.626	.486	.331	-.071	.441													
	p	**.001**	**.001**	**.001**	.128	**.001**													
(7) Legitimating Myths Sub-Dimension	r	.718	.595	.479	-.113	.365	.406												
	p	**.001**	**.001**	**.001**	**.015**	**.001**	**.001**												
(8) Health Literacy Scale Total Score Mean	r	-.233	-.185	-.222	.010	-.273	-.132	-.078											
	p	**.001**	**.001**	**.001**	.833	**.001**	**.005**	.094											
(9) Access to Information Sub-Dimension	r	-.192	-.183	-.143	.064	-.266	-.102	-.086	.866										
	p	**.001**	**.001**	**.002**	.171	**.001**	**.028**	.063	**.001**										
(10) Understanding Information Sub-Dimension	r	-.241	-.186	-.240	.018	-.243	-.167	-.091	.912	.769									
	p	**.001**	**.001**	**.001**	.695	**.001**	**.001**	.051	**.001**	**.001**									
(11) Appraisal / Evaluation Sub-Dimension	r	-.221	-.160	-.239	-.026	-.235	-.100	-.068	.929	.716	.783								
	p	**.001**	**.001**	**.001**	.580	**.001**	**.031**	.145	**.001**	**.001**	**.001**								
(12) Application / Use Sub-Dimension	r	-.149	-.114	-.124	.001	-.229	-.091	-.034	.799	.589	.596	.721							
	p	**.001**	**.014**	**.007**	.984	**.001**	.050	.461	**.001**	**.001**	**.001**	**.001**							
(13) Fatalism Tendency Scale Total Score Mean	r	.182	.134	.265	.115	-.060	.036	.096	-.013	-.016	-.050	.009	.016						
	p	**.001**	**.004**	**.001**	**.014**	.194	.442	**.039**	.773	.738	.283	.855	.725						
(14) Predetermination Sub-dimension	r	.244	.206	.241	.071	.106	.139	.106	-.133	-.135	-.170	-.092	-.060	.753					
	p	**.001**	**.001**	**.001**	.125	**.022**	**.003**	**.023**	**.004**	**.004**	**.001**	**.049**	**.196**	**.001**					
(15) Personal Control Sub-Dimension	r	-.104	-.080	-.075	.061	-.173	-.134	-.030	.429	.380	.358	.386	.404	.214	-.058				
	p	**.025**	.087	.108	.187	**.001**	**.004**	.524	**.001**	**.001**	**.001**	**.001**	**.001**	**.001**	.216				
(16) Superstition Sub-Dimension	r	.149	.109	.227	.070	-.041	.036	.073	-.103	-.068	-.107	-.077	-.117	.752	.333	-.093			
	p	**.001**	**.019**	**.001**	.135	.382	.439	.118	**.027**	.143	**.022**	**.099**	**.012**	**.001**	**.001**	**.047**			
(17) Chance Sub-Dimension	r	.055	-.005	.194	.093	-.164	-.051	.055	-.079	-.084	-.059	-.076	-.066	.687	.282	-.033	.566		
	p	.235	.921	**.001**	**.046**	**.001**	.277	.242	.091	.070	.204	.103	.154	**.001**	**.001**	.477	**.001**		
Age	r	.168	.138	.173	-.024	.137	.144	.045	-.301	-.294	-.384	-.227	-.119	.097	.217	-.129	.047	-.008	
	p	**.001**	**.003**	**.001**	.599	**.003**	**.002**	.338	**.001**	**.001**	**.001**	**.001**	**.010**	**.036**	**.001**	**.005**	.308	.866	

DISCUSSION

In this section, the findings are discussed in the light of the literature.

This study aims to determine the consanguineous attitude, health literacy, and fatalism tendencies of individuals of different generations, "Baby boom, X, Y, and Z," living in Ağrı province in the east of Turkey the factors affecting them. Findings obtained in the study are discussed in line with the literature.

In our study, individuals' total mean score of the Consanguineous Marriage Attitude Scale was found to be 68.07 ± 14.03. The lowest possible score on the scale is 30, and the highest score is 150. The higher the score to be obtained in the scale, the higher the attitude towards consanguineous marriage. However, according to the score obtained in our study, it can be said that there is a low level of consanguinity attitude. In these studies in the literature, it was found that attitudes towards consanguineous marriage were positive (18-20). The low attitude towards consanguineous marriage in our study can be associated with the fact that more than half of the individuals in our study were in the Z generation. The higher education levels and health literacy levels of the individuals in generation Z compared to the individuals in the other generation lead to a low attitude towards consanguineous marriage.

Our study determined that individuals in the X generation have a higher consanguineous marriage attitude than the individuals in the Z generation. According to Middle, the general prevalence of consanguinity in Saudi Arabia is 56%, and 33.6% of these are first cousin consanguineous marriages (21). In addition to a high rate of consanguinity, the Saudi Arabian population is also characterized by extended families and people of advanced maternal or paternal age (21, 22). According to Anvar et al., most of those who were positive towards consanguineous marriages were older age groups, men, those married to their relatives, and had a family history of consanguineous marriage (23). These results are consistent with the results of our study.

In our study, consanguineous marriage was found to be higher in males than females. In any male-dominated Muslim culture, most marriage decisions are patriarchal, and a strong patriarchal marriage pattern is usually present (24, 25). Anvar et al. stated that most of those who approach consanguineous marriage positively are men (23). These results are consistent with the results of our study.

Our study found that married individuals had a higher consanguineous marriage attitude than single individuals. According to Anvar et al., Most of those who are positive about consanguineous marriage are older age groups, men, married to their relatives, and those with a family history of consanguineous marriage (23). These results are consistent with the results of our study.

In our study, significance was found between education level and consanguineous marriage attitude. As a result of advanced analysis, it was determined that individuals with primary education graduates have a higher consanguineous marriage attitude than higher education graduates. In a study conducted in the province of Aydin, it was found that the rate of consanguineous marriage decreased as the education level of women and men increased (26). In a study conducted in the province of Afyonkarahisar, it was determined that individuals preferring consanguineous marriages decreased because the increase in the education level of individuals caused them to become more conscious about consanguineous marriages and medical consequences (27). At the same time, the study of Anvar et al. Is compatible with our study (23). It can be explained by the awareness of the health problems that may occur in the children born due to the consanguineous marriage of individuals with a high level of education. Our study is compatible with the studies in the literature.

Our study found that individuals living in villages had more consanguineous marriage attitudes than individuals living in provinces and districts. Studies in countries where consanguineous marriages are common have been observed that consanguineous marriages are more common among first-degree relatives in rural areas (28). While the rate of consanguineous marriage is 50% in Pakistan, this rate has reached 62% in rural areas (24). These results are consistent with the results of our study.

It was found that individuals whose parents are relatives and those who have a consanguineous marriage acquaintance have a more consanguineous marriage attitude. According to Anvar et al., Most of those who are positive about consanguineous marriage are older age groups, men, married to their relatives, and those with a family history of consanguineous marriage (23). People with consanguineous marriages were more likely to have a positive attitude than unrelated marriages (29). This finding

has been reported similarly in Western society, which shows the important relationship between positive attitude and consanguineous marriage. A positive attitude may be reflected in the decision to marry a relative (30). These results are consistent with the results of our study.

It has been determined that individuals who find consanguineous marriage religiously appropriate have more attitudes towards consanguineous marriage. This study in the literature is compatible with our study (31).

It has been found that individuals with a high level of devotion to religion have a higher consanguineous marriage attitude. Anvar et al.'s study point to a strong religious prejudice of consanguineous marriage, as 3693 of 3694 consanguineous marriage cases are followers of Islam. This result is consistent with the results of our study (23).

When we look at the health literacy levels of different generations in our study, it was found that the total score average of the Health Literacy Scale was 103.58 ± 17.42. The lowest possible score on the scale is 25, and the highest score is 125. A high score on the scale indicates a high level of health literacy. If we look at the score obtained in our study, it can be said that the health literacy levels of the individuals in our study are high. Cho et al. Concluded in their study that those with high health literacy attach importance to the use of preventive health services (32). In their study, Altsitsiadis et al. Observed that as literacy increased, their behavior of taking sun-protective measures against skin cancer also increased (33). Our study is compatible with the literature.

In our study, it was found that individuals in generation Z have higher levels of health literacy compared to other generations. At the same time, we see that health literacy increases as we move from the baby boom to the Z generation. These studies in the literature support our study (32, 34). Developments in technology can be associated with the ease of access to information and the prevalence of health services.

In our study, it was found that single individuals have higher health literacy levels. The study of Bicer et al. Is parallel to our study (35).

In our study, it was found that individuals with a high level of education have high levels of health literacy. These studies in the literature also found that individuals with low education levels have low levels of health literacy (6, 34). This result supports our study.

In our study, it was determined that individuals living in villages have lower health literacy levels than individuals living in provinces and districts. In the study conducted by Temel et al., It was determined that individuals living in villages had lower health literacy levels than those living in urban and big cities (36). This result is in parallel with our study.

In our study, it was found that individuals living in broken families have higher health literacy levels than individuals living in extended families. This study in the literature is in parallel with our study (37).

When we look at the Fatalism Tendency of different generations in our study, the Fatalism Tendency scale's total score mean was 77.84 ± 13.90. The lowest possible score on the scale is 24, and the highest score is 120. The higher the score to be obtained on the scale, the higher the level of Fatalism Tendency. If we look at the score obtained in our study, it can be said that the levels of Fatalism Tendency of the individuals in our study are at the above middle level. Similar mean scores were found in Selvi's study on women with acquaintances with breast cancer (38). In a study conducted by Carkoglu and Kalaycioglu (2009) in Turkey, 50% of the participants in the study agreed that they could do little to change the course of their life, while 18% were undecided on this issue and only 28% believed that it could change (39). The findings of our study are compatible with the literature. Individuals in the province of Ağrı, where our study was conducted, are members of the Islamic religion. One of the conditions of Islam is "to believe in accident and destiny." This situation can be associated with a moderate level of fatalism in individuals.

In our study, it was found that individuals in the X generation have a higher fatalism tendency compared to other generations. In the validity and reliability study of Orhan's Fatalism Tendency Scale in 2017, it was determined that the fatalism tendency increased as the age increased (40). This result supports our study. It can be said that the reason for this situation is the increase in the education level due to the increase in the number of literate individuals, the increase in transportation facilities, and the developments in the field of technology.

It has been determined that the higher the education level, the lower the fatalism tendency. This study in the literature is equivalent to our study (40). As education increases, people can be associated with questioning, researching, analyzing, and learning the truth.

It has been found that individuals with a high level of devotion to religion have a higher fatalism tendency. Charkazi and others have shown that Iranian Turkmen women have a firm belief in fatalism. They stated that fatalism is an important belief that can be considered as an obstacle to breast cancer screening behaviors in that society (41). This result is consistent with the result of our study.

In our study, we found that the fatalism score of the individuals increased due to the increase in the consanguineous marriage attitude score, but their health literacy scores decreased. Society's attitude towards consanguineous marriages and awareness of the health consequences of consanguineous marriages are largely ignored (23). This result supports the relationship between consanguineous marriage attitude and health literacy of our study. It can be explained by the fact that individuals with a high level of health literacy are aware that children born as a result of consanguineous marriage will have more congenital anomalies, unwanted abortions, and stillbirths. Cultural norms and religious beliefs were an obstacle to early diagnosis and treatment (42, 43). Individuals with a high level of health literacy can be explained by the high level of awareness of health and disease, benefiting from early diagnosis and treatment programs, being aware of the way to follow in case of any disease, taking responsibility for their health, and not perceiving existing problems as fatalism.

In our study, we found that as the age increased, consanguineous marriage attitude and tendency to fatalism increased, but the level of health literacy decreased. Powe et al., In a study comparing cancer fatalism and cancer knowledge level of African American women by age groups, determined that older women had higher cancer fatalism and lower cancer knowledge (44). This situation shows that as the age of individuals increases, their perception levels decrease, and they see any problems they may have as a symptom of aging. In the study conducted by Kirac et al., They found that as age increases, the level of health literacy decreases (45). Anvar et al. Stated that individuals in the older age group had more positive attitudes towards consanguineous marriage (23). The reason for this situation can be explained as adherence to traditions and customs and cultural norms. These results are consistent with the results obtained in our study.

CONCLUSION

In our study, we found that individuals in different generations have low attitudes towards consanguineous marriage, have a moderate fatalism tendency, and have high levels of health literacy. In our study, we found a positive relationship between consanguineous marriage and fatalism. In addition, we found a significant negative relationship between health literacy and consanguineous marriage and fatalism. Based on these results, one should be aware of the negative effects of consanguineous marriage and fatalism on the health of individuals in their future lives, and consultancy services should be provided to society on these issues.

DECLARATIONS

Statement of Contribution

M.Y., MSY, AE, YS, MAA, TKS, GD (writing and preparing original draft); M.Y., MSY, AE, (review, visualization); M.Y., YS, MAA, TKS (resources supervision, review and editing); MAA, TKS, GD (data collection, validation, project administration); M.Y., MSY, AE, (conceptualization, methodology); M.Y., AE, MAA (review and editing, data curation); M.Y., MSY, AE, YS, (writing, visualization, formating).

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