

The Relationship Between the Intolerance to Uncertainty and the Well-Being Conditions of University Students Who Experienced the Turkey-Syria Earthquake - Turkey Example

Türkiye-Suriye Depremi Yaşamış Üniversite Öğrencilerinin Belirsizliğe Tahammülsüzlükleri İle İyi Hali Arasındaki İlişki-Türkiye Örneği

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ABSTRACT

Background: Having a healthy youth period is a great importance in taking a healthy step into adulthood. Experiencing a trauma such as an earthquake during this period is a serious importance for the mental health of younger.

Objective: This research was conducted in a descriptive and cross-sectional style to determine intolerance of uncertainty and well-being of university students who experienced the Turkey-Syria earthquake.

Methods: The population of the study consists of students studying at the Vocational School of Health Services at a state university who have experienced the Kahramanmaraş earthquake. The sample size was determined using the G-Power program, and the sample size was set at 112. However, 193 individuals who met the inclusion criteria from the existing population constituted the study sample. Data were collected online using the "Descriptive Information Form," the "Intolerance of Uncertainty Scale (IUS-12)," and the "Well-Being Scale (WBS)."

Results: WBS total score average was 35.78 ± 9.55 ; IUS total score average was determined as 40.18 ± 8.21 . The relationship between the students' WBS and IUS total scores was found to be statistically negative significant ($p < 0.05$).

Conclusions: It has been determined that as the intolerance of uncertainty levels of the participants included in the study increase, their well-being decreases. This result is expected to serve as a guide in planning earthquake-related training and contribute to being prepared by identifying initiatives for young people in advance.

Keywords: Earthquake, Intolerance of uncertainty, Psychiatric nursing, Well-being

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ÖZ

Giriş: Sağlıklı bir gençlik dönemi geçirmek, yetişkinliğe sağlıklı bir adım atmak açısından büyük önem taşımaktadır. Bu dönemde deprem gibi bir travma yaşamak, gençlerin ruh sağlığı açısından ciddi bir öneme sahiptir.

Amaç: Bu araştırma, Türkiye-Suriye depremine maruz kalan üniversite öğrencilerinin belirsizliğe tahammülsüzlük ve iyilik hâli düzeylerini belirlemek amacıyla tanımlayıcı ve kesitsel bir tasarımda gerçekleştirilmiştir.

Yöntem: Araştırmanın evrenini bir devlet üniversitesinde yer alan Sağlık Hizmetleri Meslek Yüksek Okulu'nda eğitim gören ve Kahramanmaraş depremini yaşamış olan öğrenciler oluşturmuştur. Örneklem büyüklüğünün hesaplanmasında G-Power programı kullanılmış ve örneklem sayısı 112 olarak belirlenmiştir. Mevcut evrenden çalışmaya alınma ölçütlerini karşılayan 193 birey araştırmanın örneklemini oluşturmuştur. Veriler "Tanıtıcı Bilgi Formu", "Belirsizliğe Tahammülsüzlük Ölçeği (BTÖ-12)" ve "İyilik Hâli Ölçeği (İHÖ)" ile çevrimiçi toplanmıştır.

Bulgular: İHÖ toplam puan ortalaması 35.78 ± 9.55 ; BTÖ toplam puan ortalaması 40.18 ± 8.21 olarak belirlenmiştir. Öğrencilerin İHÖ ve BTÖ toplam puanları arasındaki ilişki negatif yönde istatistiksel olarak anlamlı bulunmuştur ($p < 0.05$).

Sonuç: Araştırmaya dahil edilen katılımcıların belirsizliğe tahammülsüzlük düzeyleri arttıkça iyilik hâllerinin azaldığı belirlenmiştir. Bu sonucun depreme ilişkin planlanacak eğitimlerde yol gösterici olacağı düşünülmekte, gençlere yönelik girişimlerin önceden belirlenerek hazırlıklı olunmasına katkı sağlayacağı düşünülmektedir.

Anahtar Sözcükler: Deprem, Belirsizliğe tahammülsüzlük, Psikiyatri hemşireliği, İyilik hâli

INTRODUCTION

Earthquake, the way it occurs is unexpected and unpredictable; it is a special natural disaster that can directly threaten people's lives and safety, depending on its severity (Prizmić-Larsen et al., 2025). Severe earthquakes destroy buildings, cause many deaths and financial losses, and often trigger secondary disasters such as fire, flood, and toxic gas leaks (Ding et al., 2022). Among all natural disasters, earthquakes are considered to be one of the major disasters that result in the most damage, not only physically but also spiritually (Bhandari et al., 2023; Kwon et al., 2023). Two major earthquakes occurred on February 6 and 7, 2023, affecting the south and southeast of Turkey (about 11 provinces) and neighboring Syrian provinces (Ergen et al., 2022; Çaksen, 2023; Ateş & Erdem, 2023). The magnitudes of the earthquakes were 7.8 and 7 on the Richter scale 6 and the United Nations health agency classified this earthquake as "3". It was declared as "Degree Emergency" (Ateş & Erdem, 2023). Turkey faced the biggest disaster of this century, with approximately 150,000 buildings collapsing, 50,000 people losing their lives and more than 100,000 people injured in this Kahramanmaraş-centered earthquake (Ateş & Erdem, 2023; Hussain et al., 2023; Düzova et al., 2023; Villasana, 2023).

The unpredictability of the earthquake causes intense uncertainty for the affected society (Ding et al., 2022). This uncertainty affects all areas of human life (Oral & Karakurt, 2022). Tolerating uncertainty can become an important problem, especially for some individuals, and related difficulties may occur. The concept of "intolerance of uncertainty" emerged to express individual differences in people's tolerance levels regarding uncertain situations (Oral & Karakurt, 2022). The concept of intolerance of uncertainty was evaluated in the context of anxiety by Freeston et al. They stated that gaining control over circumstances in order to avoid possible negative consequences is the main reason why people worry Freeston et

al., 1994). Intolerance of uncertainty, which has since been defined in various ways, is a trait characterized by the tendency to respond to uncertain events and situations through negative cognitive, behavioral and physiological reactions (Korte et al., 2021). Emotional and cognitive reactions to the situation direct behaviors that reduce uncertainty. This situation is a vicious circle that supports the emergence and continuity of intolerance to uncertainty and causes many psychological problems such as generalized anxiety disorder, obsessive-compulsive disorder, social anxiety disorder, panic disorder, depression, post-traumatic stress disorder, eating disorders, and substance use disorders (Lauriola et al., 2023). When individuals with a high level of intolerance to uncertainty are faced with uncertainty, their anxiety levels increase and their likelihood of resorting to inappropriate coping methods to reduce uncertainty increases (Lauriola et al., 2023; Panchyshyn et al., 2023). Coping ability is one of the determining factors of psychological well-being (Chan et al., 2022). Psychological well-being is a person's It refers to optimal psychological functioning and the perception and evaluation process of one's life.^{16,17} Psychological well-being includes experiencing positive interaction and quality relationships with others, along with self-approval and positive evaluation (Fernandez et al., 2022).

One of the groups negatively affected by the earthquake is university students. This is because, in addition to the physical, psychological, and economic difficulties experienced by other individuals affected by the earthquake, the uncertainties and disruptions in their education processes, which are crucial for achieving their goals in building their futures, cause them to be affected even more by this adverse situation. Furthermore the university period is a period of time that offers important opportunities for individual development in adulthood, supports independence, and expands intellectual vision by increasing social interaction. At the same time, this period, which is the transition to adulthood, is the period with the highest risk for

the onset of mental disorders (Ferrari et al., 2022). According to studies conducted by the World Health Organization, 20% to 31% of university students experience a diagnosable mental disorder (Auerbach et al., 2016; Auerbach et al., 2018). Students' ability to cope with uncertainty are also a condition that affects their mental health (Oral&Karakurt, 2022).

When individuals are exposed to a traumatic event, their well-being levels are often negatively affected. A traumatic event such as an earthquake is a significant risk factor in terms of creating intolerance to uncertainty and deteriorating mental well-being. In the literature, studies have generally focused on mental illnesses that may arise from experiencing an earthquake, while the effects of uncertainty on mental health have been overlooked. Additionally, previous studies have often focused on specific groups, such as young children and individuals with disabilities, while groups consisting of university students who are transitioning into adulthood have not been studied. This study, which aims to evaluate the intolerance of uncertainty and well-being of university students who experienced the Turkey-Syria earthquake, is thought to contribute to filling this gap in the literature.

METHODS

This descriptive and cross-sectional research was conducted between June 2023 and July 2023 in a state university located in the Southeastern region of Turkey. The population of the research consisted of 250 students studying at the Vocational School of Health Services of this university and who experienced the Turkey-Syria earthquake. Power analysis is conducted to determine the sample size. According to the analysis, the sample size is determined as 112 (Duman, 2020). During the data collection phase, 193 volunteer students have been reached. The data of the study are collected by google scholar forms.

Criteria for Inclusion

- Having experienced the Turkey-Syria earthquake
- Agreeing to participate in the study after being informed.

Data Collection

It is conducted as a single-phase descriptive study. The relevant data are collected with "Personal Information Form", "Intolerance of Uncertainty Scale (IUS-12)" and "Well-Being Scale (WBS)".

Personal Information Form:

This form, prepared by the researchers and consisting of nine questions, includes information about the participants' socio-demographic characteristics and earthquake experiences.

Intolerance of Uncertainty Scale (IUS-12):

Intolerance of Uncertainty Scale (IUS-12) was developed by Carleton et al. (2007) to evaluate intolerance of uncertainty. The Turkish validity and reliability study of the scale was conducted by Sarıçam et al. (2014). The five-point Likert type scale, ranging from "Not at all suitable for me" (1) to "Com-

pletely suitable for me" (5), consists of 12 items. It consists of two subscales: anticipatory anxiety (items 1-7) and inhibiting anxiety (items 8-12). There are no reverse coded items in the scale. The scale is scored both according to sub-dimensions and gives a total score. The score range that can be obtained for the entire scale is 12-60. Rising scores indicate high levels of intolerance of uncertainty. The Cronbach's alpha coefficient of the Turkish form is 0.88 for the whole scale (Şentürk&Bakır, 2021; Carleton et al., 2007). In this study, the Cronbach's alpha coefficient was determined as 0.85.

Well-Being Scale (WBS):

The Well-Being Scale (WBS) was developed by Diener et al. (2009). The scale was adapted to Turkish by Fidan and Usta (2013). The seven-point Likert type scale, ranging from Strongly disagree (1) to Strongly agree (7), consists of 8 items. There are no reverse coded items in the scale. The lowest score that can be obtained from the scale is 8 and the highest score is 56. Rising scores indicate high levels of well-being. The Cronbach alpha coefficient of the Turkish form was determined as 0.83 (Sarıçam et al., 2014; Diener et al., 2009). In this study, the Cronbach alpha coefficient was found to be 0.86.

Data Analysis

Statistical analyzes were provided with the IBM SPSS (Statistics for Windows, Version 22.0, Armonk, NY, IBM Corp) package program. Shapiro-Wilk Test to determine the normality of the data; number and percentage in the evaluation of classified variables; mean, median and standard deviation in calculating scale scores; the relationship between the scales was evaluated with Spearman Correlation Analyzes. Bonferroni analysis was applied for multiple comparisons. Missing data were not present. It was considered significant at $p < 0.05$ level.

Ethical Approval

The required permission was obtained before the study to meet the ethical requirements of clinical research. Ethical approval was obtained from Gaziantep University Clinical Research Ethics Committee (Reference No: E-76062934-044-25176/24.05.2023) and Gaziantep University Vocational School of Health Services Directorate. Detailed information about the aim of the study and what participation would involve was provided on the first page of the questionnaire. Participants were informed that they could withdraw at any time, without providing a reason, and that all information and opinions given would be confidential and anonymous.

RESULTS

86.5% of the students participating in the research are female and 72.5% are between the ages of 20-22. 56.5% stated that their income was less than their expenses. 95.3% of the students do not have a chronic physical disease and 99.5% do not have a mental illness. When we look at the damage to their houses in the earthquake, it was determined that 56.5% of their houses were slightly damaged. 49.2% of the students lost a close relative in the earthquake and 4.1% received psychological support after the earthquake (Table 1).

Table 1: Descriptive Characteristics of the Participants

Features	n=193	%
Gender		
Woman	167	86.5
Male	26	13.5
Age		
17-19 years old	32	16.6
20-22 years old	140	72.5
23-25 years old	11	5.7
26 and over	10	5.2
Monthly Income		
Income is less than expenses	109	56.5
Income equals expenses	74	38.3
Income exceeds expenses	10	5.2
Chronic/Physical Illness		
Yes (Anemia, Arrhythmia, Asthma, Bronchitis, Diabetes)	9	4.7
None	184	95.3
Mental illness (Diagnosed)		
Yes (Depression)	1	0.5
None	192	99.5
Staying Place Damage		
Not Damaged	54	28.0
Slightly Damaged	109	56.5
Moderately Damaged	16	8.3
Heavily Damaged	9	4.7
Destroyed	5	2.6
Loss of a Relative		
Family (Mother, Father, Sibling)	4	2.1
Close relative	95	49.2
Close friend	94	48.7
Psychological support		
Yes	8	4.1
No	185	95.9

In this study, the WBS total score average was found to be 35.78 ± 9.55 (min:8, max:55), and the IUS total score average was 40.18 ± 8.21 (min:12, max:60) (Table 2).

The relationship between the students' WBS and IUS total scores was found to be statistically significant at a low level ($r = -.157$, $p = 0.029$) in a negative direction (Table 3).

There was no significant difference between the gender and age of the students participating in the study and the WBS total score ($p > 0.05$) (Table 4). When the students' WBS total score and income level were examined, it was determined that the well-being level of students whose income was equal to their expenses was higher than other students (Table 4). A signifi-

Table 2: Total Score Averages of the Scales

	$\bar{x} \pm Sd$	Min.	Max .
WBS TOTAL	35.78 ± 9.55	8	55
IUS TOTAL	40.18 ± 8.21	12	60

WBS: Well-Being Scale, **IUS:** Intolerance of Uncertainty Scale, $\bar{x} \pm SD$ = mean \pm Sd.

Table 3: Relationship Between WBS and IUS

		WBS TOTAL	IUS TOTAL
WBS TOTAL	r	one	
	p		
IUS TOTAL	r	-.157*	one
	p	0.029	

Table 4: Comparison of Participants' Descriptive Characteristics and Scale Scores

Features	WBS TOTAL $\bar{x} \pm Sd$	IUS TOTAL $\bar{x} \pm Sd$
Gender		
Woman	36.07 ± 9.10	40.55 ± 7.87
Male	33.96 ± 12.08	37.81 ± 9.96
T test	1.046	1.592
p	0.29	0.19
Income rate		
Income less than ^{expenses}	34.10 ± 9.24	41.01 ± 7.94
equal ^{to} expenses	38.80 ± 9.06	39.01 ± 8.54
Income exceeds expenses ^c	31.80 ± 11.26	39.80 ± 8.28
F	6,613	1,319
p	$p = 0.00^{**}$ $b > ab$	0.27
Staying Place Damage		
^{It} was not damaged	39.24 ± 8.42	39.37 ± 8.62
Slightly damaged ^b	34.81 ± 9.51	39.85 ± 8.24
moderately damaged ^c	30.75 ± 11.60	42.31 ± 7.12
was severely ^{damaged}	35.11 ± 6.72	41.89 ± 8.30
^{It} was demolished	37.00 ± 10.49	46.20 ± 2.49
F	3.354	1.220
p	0.01^{**} $a < bc$	0.30

t test (Student t Test), F= One-Way Analysis of Variance (One-Way ANOVA)

cant difference was detected between the earthquake damage of the house where the students lived and the WBS total score ($p < 0.05$). It was determined that the WBS total score of the students whose houses were destroyed in the earthquake was lower than the students whose houses were slightly damaged and moderately damaged (Table 4). There was no significant

difference between the gender, income level and earthquake damage of the house of the students participating in the study and their IUS total score ($p>0.05$) (Table 4).

DISCUSSION

In the research, the total score average of intolerance of uncertainty of university students who experienced the Turkey-Syria earthquake was determined as 40.18 ± 8.21 . In the study conducted by Şentürk and Bakır (2021) to determine the relationship between intolerance of uncertainty and depression, anxiety and stress levels of university students during the COVID-19 pandemic, the total score average of intolerance of uncertainty was expressed as $37.18 \pm 10.10.26$. Wang et al. (2023) examined the relationship between intolerance of uncertainty, coping style, resilience and anxiety during the recurrence of COVID-19 in university students, the total score average of intolerance of uncertainty was found to be 32.87 ± 9.4127 . When this research is compared with the studies conducted on university students in the literature, it is seen that the total score of intolerance of uncertainty is higher in this research. In the study conducted by Pistoia et al. (2018), it is seen that the total score of intolerance of uncertainty of young people who experienced an earthquake is higher than the control group (Pistosia et al., 2018). It is thought that the fact that the intolerance of uncertainty levels of students who have experienced an earthquake are higher than others is related to the typical feature of earthquakes, namely their unpredictability and untimeliness. Individuals may experience uncertainty due to the impact of the earthquake and the possibility of aftershocks or a new earthquake. In addition, the disruption of daily routines due to the earthquake and the uncertainty experienced by university students, especially regarding the educational process, may have been effective in the high level of intolerance to uncertainty in this study.

It is seen that the total well-being score average of the participants included in the research is at an average value. Earthquakes not only have unexpected and devastating effects on a region or country, but also cause deep and permanent effects that are passed on from generation to generation. It also creates the risk of traumatic grief in survivors due to sudden and terrifying losses. In the case of traumatic grief, the person does not blame himself or herself and does not accept the loss for a long time. With the helplessness, meaninglessness and thoughts that the world is not safe, grief becomes pathological (Yelboğa, 2023). The non-pathological, natural mourning process of individuals can last up to 6 months (Enez, 2017; Çolak&Hocaoğlu, 2021). It has only been a short time since the Turkey-Syria earthquake. It is thought that the fact that time had passed and the research was conducted in the 4th month after the earthquake and the individuals participating in the research were in the recovery process affected the result.

It was determined that there was a negative relationship between the well-being of the participants in the study and their intolerance of uncertainty levels. Although there are limited studies on this subject in the literature, the results of Geçgin and Sahranç's (2017) study, in which they investigated the re-

lationship between the level of intolerance of uncertainty and psychological well-being of university students, were found to be similar to this study (Geçgin&Sahranç, 2017). Intolerance of uncertainty means experiencing unpleasant emotions or disharmony in daily life or interpersonal interactions. This increases the likelihood of unpredictable events being seen as more dangerous, causing difficulties such as stress, anxiety and depression (Lee, 2019). However, well-being is positively related to positive emotions such as life satisfaction, happiness, love and friendship; It is known to be negatively related to negative emotions such as depression and anxiety (Fernandez et al., 2022; Geng et al., 2022). In the study conducted by Wang et al. (2023) on university students, intolerance of uncertainty was significantly positive with anxiety, significantly negative with resilience, significantly negative with positive coping style and negative coping with negative coping style. It has been found to be significantly positively related to style Wang et al., (2023). Other existing studies have also found that there is a strong relationship between the level of intolerance of uncertainty and the level of anxiety and anxiety (Osmanağaoğlu et al., 2018; Chen et al., 2018). Therefore, it is seen that factors that are predictive of intolerance of uncertainty reduce well-being. The results of this research also support this situation.

In the study, it was determined that the well-being scores of university students did not differ statistically significantly according to gender. Similar to the results of this study, Kaya et al. (2019), in their study examining socio-demographic differences in subjective well-being in university students, found that there was no significant difference in the psychological well-being of university students according to gender (Kaya et al., 2019). Other studies conducted on university students also support this result (Köksal et al., 2023; Kömürçü, 2023). Well-being is multidimensional and has a dynamic structure. However, it is a condition affected by personal and cultural factors. Objective components of well-being include many material and social characteristics of people's living conditions, such as physical resources, employment and income, education, health and housing (King et al., 2014). In this context, it can be said that the gender variable is less important than other factors affecting well-being and is not a significant predictor of well-being.

In the study, it was determined that the level of well-being of students who stated that their income was equal to their expenses was higher than other students. In addition to studies conducted with university students stating that income level is not related to well-being, there are also studies that find that those who perceive their income level as good have higher well-being scores (Elmas et al., 2021; Geçgin&Sahranç, 2017). In a study examining the relationship between monthly income and expenditure levels of students and their psychological well-being, it was stated that the reason why studies conducted on the relationship between an individual's spending status and psychological well-being had different results was related to the two-pronged structure of the spending status variable. Factors such as dissatisfaction in high-income individuals, the realization of most of their wishes, and the expansion of bor-

ders; It has been stated that deprivation and poverty create meaninglessness in low-income individuals (Tatlilioğlu, 2015). In this research, the higher well-being of individuals whose income is equal to their expenses, which is between the two extremes, can be explained in this way.

In the research, it was determined that the well-being level of the students whose houses were destroyed in the earthquake was lower than the students whose houses were slightly damaged or moderately damaged. According to Maslow's hierarchy of needs, the need for security comes after physiological needs (Maslow, 1943). When individuals experience such a devastating earthquake, they cannot meet their basic needs as well as their shelter and security needs. Problems arise after trauma and these problems are seen in cognitive, affective, behavioral, emotional and sleep areas (Tanhan&Kayrı, 2013; Celik, 2023). Studies have reported that traumatic life experiences negatively affect the well-being of individuals and that these individuals have difficulty coping with the current situation (Shepherd et al., 2017; Uchida et al., 2014). Therefore, this Research supports the conclusion that traumatic events such as earthquakes negatively affect well-being.

It has been determined that there is no difference between male and female students in terms of intolerance to uncertainty level. The findings of Boelen et al.'s (2014), Carleton et al.'s (2014), Geçgin and Sahrañç's (2017) and Parmaksız's (2021) studies are consistent with this research. It is also seen in the literature that there are studies in which women's intolerance of uncertainty scores are higher than men (Kilit et al., 2020; Karataş&Kıvanç, 2018). It is thought that this ambiguous situation may have arisen due to culture in general and trauma such as earthquakes, and sample differences in particular.

The intolerance of uncertainty scores of the participants included in the research do not differ statistically significantly according to income level. Similar to the results of this study, it has been reported in various studies that there is no significant difference between income level and intolerance to uncertainty level (Geçgin&Sahrañç, 2017; Parmaksız, 2021; Kilit et al., 2020; Karataş&Kıvanç, 2018; Ersoz et al., 2016). It is known that if an individual develops intolerance of uncertainty, current conditions no longer matter, his anxiety increases and his tolerance to stress decreases (Dugas et al., 2005; Laly&Cantillon, 2014). Therefore, regardless of income level. Regardless, it will not have any effect on intolerance of uncertainty. The result in the study may be due to this situation.

CONCLUSION

In this research, university students who experienced the earthquake have high levels of intolerance to uncertainty; It was determined that the state of well-being was at a moderate level. There is a negative relationship between students' well-being and their level of intolerance of uncertainty. The well-being level of students whose income is equal to their expenses is higher than other students. It was determined that the well-being level of the students whose houses were destroyed in the earthquake was lower than the students whose houses were slightly damaged or moderately damaged in the

earthquake. It was observed that there was no difference between male and female students in terms of the level of intolerance of uncertainty and that the intolerance of uncertainty scores of the participants did not differ statistically significantly according to their income level.

The university period is a time when concerns about the future are intense, and experiencing a devastating earthquake during this period increases intolerance of uncertainty, negatively affecting students' well-being. It is recommended to provide psychosocial support to university students after the earthquake and to include young people among the priority groups in post-earthquake initiatives.

Limitations

This study was conducted in a state university in the South-eastern region of Turkey. The obtained results cannot be generalized to students studying in other departments. Additionally, the fact that the research was conducted 4 months after the earthquake is a limitation of the study.

Author contributions: Conceptualization: ÇÖ, DÖG; Data curation: ÇÖ; Formal analysis: DÖG; Methodology: ÇÖ, DÖG; Resources: ÇÖ, DÖG; Software: ÇÖ; Supervision: DÖG; Validation: ÇÖ, DÖG; Visualization: ÇÖ; Writing (original draft): ÇÖ; Writing (review & editing): ÇÖ, DÖG.

Data availability statement: The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Conflicts of interest: The authors declare that they have no conflict of interest.

Ethical Principles: Approval was obtained from the Gaziantep University Clinical Research Ethics Committee for the study. For the scales to be used in the research, permission was obtained from the people who made the validity and reliability of the scales via e-mail. The purpose of the study was explained to the individuals included in the study, and an "Informed Consent Form" were signed by the individuals about the study. We have complied with APA ethical principles in the research described in the manuscript. Also the research has been approved by our organizational unit responsible for the protection of human participants.

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