

Impacts of Choir Training on Mental Well-Being of Students who Survived the Earthquake*¹

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Abstract

This study aims to determine the impacts of choir training carried out with students affected by the successive earthquakes in Türkiye on February 6, 2023, the epicenters of which were the Elbistan and Pazarcık districts of Kahramanmaraş, causing great destruction and loss of life, on their mental well-being. The study group consists of 22 volunteer students who enrolled in the 2024-2025 academic year at Coşkunöz Secondary School, affiliated with the Ministry of National Education, operating in the Kırıkhan district center of Hatay. In the quantitative study based on a single-group pre-test-post-test experimental model, first a twelve-week work plan and a content regarding choir was prepared, the songs to be taught to the students were listed, and then extracurricular choir rehearsals were carried out one day a week for three months. The study data were collected using a personal information form and the Warwick-Edinburgh Mental Well-Being Scale. This scale was applied twice, before and after the choir practices. According to the findings obtained from the study, it was determined that choir activities had a statistically significant effect on the mental well-being scores of students who survived the earthquake, and it was concluded that the choir training positively affected mental well-being.

Key Words: Students who Survived the Earthquake, Choir Training, Mental Well-being

1. Introduction

Earthquakes rank among the foremost natural disasters affecting Türkiye. With 42% of the total surface area situated in a first-degree seismic zone, Türkiye is considered an earthquake-prone country and it wouldn't be wrong to assert that 98% of the Turkish population is at risk of earthquakes. Situated on the "Mediterranean, Alpine, Himalayan" seismic belt, also recognized as the active earthquake regions, Türkiye experiences earthquakes each year with an average magnitude ranging between 5.0 to 6.0 (Disaster and Emergency Management Presidency of Ministry of Interior 'AFAD', 2014, p. 14). On February 6, 2023 at 04:17 and subsequently at 13:24 local Turkish time, two consecutive major earthquakes with their epicenters in Pazarcık and Elbistan occurred in Türkiye, measuring 7.7 and 7.6 in magnitude respectively. The provinces most severely affected by the earthquakes were Kahramanmaraş, Hatay, Adıyaman, Malatya, Gaziantep, Kilis, Diyarbakır, Adana, Osmaniye, Şanlıurfa, and Elâzığ. The earthquakes affected a wide geography inhabited by approximately 15 million individuals, causing extensive destruction and resulting in several fatalities and property losses in these provinces. Considering that over a quarter of the kid population (4,805,937 children) in Türkiye reside in these affected regions, it can be asserted that a significant number of children have suffered in all dimensions following the earthquake (Özmen et al., 2024, p. 169).

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Mata Lima et al. (2013) and Freeman et al. (2015) asserted in their research that natural disasters have long-acting effects on the social development of children and adolescents (Cited in Yanardağ, 2023, p. 3). Children yet represent the demographic group most affected by the earthquake, as the qualifications necessary for their personal development remain underdeveloped. The extent to which children are affected by the earthquake is contingent upon their developmental stage, as well as other influencing factors (Aral, 2023, p. 95). The bereavement of the beloved ones and friends, alterations in living conditions, substantial pecuniary losses, the challenge of acclimating to an unfamiliar system, and various other complex issues adversely affect these children's psychological well-being. Compensatory measures must be planned for individuals in such circumstances; these youngsters should receive substantial support, and humanitarian assistance should be put into effect. This assistance should not be limited to the material issues but should also include spiritual elements. Organizing activities to foster children's morale, engaging in quality time with them, and playing games is argued to mitigate their misery, even if little.

Safeguarding and rehabilitating children's psychological well-being will enable them to lead fulfilling lives as adults. In this context, doing research on “well-being” is quite significant to improve the well-being and safeguard the mental health of children and adolescents affected by the earthquake (Kırbaş, 2024, p. 151). Mental well-being includes an individual's recognition of their qualifications, the expression of this recognition through societal contributions, stress management, and productivity (Avşaroğlu, 2017, p. 2). With the increasing prevalence of studies on positive psychology, “mental well-being” has emerged as a more extensively explored subject (Ertürk et al., 2016, p. 1724).

Children affected by the earthquake undoubtedly experience significant challenges in resuming their usual lives, both physically and psychologically. However, to facilitate the mental recovery of these youngsters, a variety of supportive activities are necessary, including educational, motivational, and life-affirming initiatives. One of these activities is choir training. Not all children may possess the ability to play an instrument, yet they can readily engage in singing. The psychological effect of choir training on individuals and its role in improving social communication skills is significant (Çevik, 2019, p. 52). Students participating in a study reported that choir training enhanced their self-confidence, facilitated social interactions, allowed for easier self-expression, promoted a more positive outlook on life, improved their academic performance, heightened their awareness of their qualifications, expedited personal development, and cultivated greater affection for their teachers (Döş et al., 2019, p. 134). Nichols and West (2023, p. 49-51), drawing attention to the significance of choir training both socially and musically, argued that the activities significantly improved the students' musical skills along with the quality of their communication and connections with community members and educators. Similarly Egüz (1998, p. 28) argued that choir members cultivate friendships and human affection through participating in these communities, experience the pleasure of collaboration, assume responsibility, share in the triumphs as well as the disappointment of failure, and perpetuate the skills and habits acquired during choir training throughout their lives (cited by Yadigaroglu, 2021, p. 78). Literature indicates that participating in a choir and performing collaboratively influence psychological well-being. A survey involving more than 600 choir members in England demonstrated that the impact of choral performance on well-being and health is underpinned by factors like positive mood, concentrated attention, deep breathing, social assistance, cognitive stimulation, and sustained commitment (Şanal, 2011, p. 55).

Musical activities performed within a community are thought to promote solidarity and cohesion among youngsters, contributing positively to their mental health. Consequently, it has been recognized as a need to positively influence the mental well-being of children affected by

earthquakes through choir training, or at least to ascertain this influence first. This research therefore seeks to assess the impact of choir training on the mental well-being of students affected by the two consecutive earthquake disasters that struck our country on February 6, 2023, with epicenters in the Pazarcık and Elbistan districts of Kahramanmaraş, resulting in significant devastation and fatalities. The research aimed to answer the following question: To what extent does choir training affect the mental well-being of earthquake-affected students?

Research Hypotheses

The problem statement of the research tested the following hypotheses:

H₀: There is no difference between the pre-test and post-test mental well-being scores of students who participated in choir training.

H₁: There is difference between the pre-test and post-test mental well-being scores of students who participated in choir training.

2. Method

In this study, designed to assess the impact of choir training on mental well-being, the authors used a single-group pre-test-post-test experimental model of quantitative research methodologies. A pre-test and a post-test were administered to the same study group before and following the 12-week choir training, respectively.

Study Group

The experiment group of the research consists of students (n=22) aged between 11 and 14, enrolled in the 6th, 7th and 8th grades of Coşkunöz Secondary School in Kırıkhan district of Hatay province, Türkiye throughout the 2024-2025 academic year.

Data Collection Tools

Research data were collected using a Personal Information Form (PIF) and The Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The scale was originally developed by Tennant et al. (2007) and translated into Turkish by Keldal (2015). The scale contains 14 items, each consisting of sentences expressing psychological well-being. The participants' answers are measured on a 5-point Likert scale. The Personal Information Form (PIF) consists of questions that inquire about the sociodemographic characteristics of the students such as age, class, number of siblings, the extent of earthquake-related damage to their residence, parental status along with the employment and education status of the parents.

Analysis of Data

All data collected with WEMWBS were statistically analyzed using the SPSS (Statistical Package for Social Sciences) software, which is frequently used by social science researchers (Büyüköztürk, 2011, p. 9).

Development of Activities

A choir comprising volunteer students was constituted for research purposes and these pupils received were trained with choir songs for 80 minutes after-school hours once every week between December 20, 2024 and March 7, 2025. When deciding on the choir songs to be taught, consideration was given to values education; it was ensured that the songs conveyed powerful messages, motivated the children, and did not demoralize them. The choir activities were executed in a methodical and organized manner, characterized by both discipline and a compassionate approach. The musical development of students was noted, and circumstances were established to foster the appeal of the songs for children. Within a democratic context, students' requests were addressed, requisite preparations were made prior to class, classroom

arrangements were ensured, all necessary information and videos regarding the songs were curated, and efforts were made to sustain a motivating demeanor towards the students during choir rehearsals.

3. Findings

This section exhibits the demographic information of the experimental group and the analysis of data collected using the mental well-being scale, which was administered twice as a pre-test and post-test.

3.1. Findings Regarding the Demographic Characteristics of Students in the Experimental Group

This section presents the findings, deemed indicative of the demographic characteristics of the students in the experiment group, consisting of their responses to inquiries regarding "the age, grades, family income, the extent of earthquake-related damage to their residence, parental status, employment status of parents, and number of siblings."

Table 1. Demographic Characteristics of the Experiment Group

Variable		n	%
1. Age	11	1	4.5%
	12	10	45.5%
	13	8	36.4%
	14	3	13.6%
		22	100%
2. Grade	6	11	50.0%
	7	7	31.8%
	8	4	18.2%
		22	100%
3. Family Income	Poor	1	4.5%
	Satisfactory/Moderate	19	86.4%
	High	2	9.1%
		22	100%
4. The Extent of Earthquake-related Damage to Residence	No Damage	4	18.2%
	Moderately Damaged	9	40.9%
	Severely Damaged	9	40.9%
		22	100%
5. Parental Status	Mother Deceased	0	0%
	Father Deceased	1	4.5%
	Both Deceased	0	0%
	Both Alive	21	95.5%
		22	100%
6. Parent's Employment Status	Mother Employed - Father Not Working	1	4.5%
	Mother Not Working - Father Employed	17	77.3%
	Mother Not Working - Father Not Working	0	0%
	Mother Employed - Father Employed	4	18.2%
	Neither Working Both Employed		
		22	100%
7. Number of Siblings	1 Sibling	5	22.7%
	2 Siblings	6	27.3%
	3 Siblings	7	31.8%
	4 Siblings	4	18.2%
		22	100%

Table 1 illustrates the following:

1. 45.5% of the participating students were 12 years old, 36.4% were 13 years old, 13.6% were 14 years old, and 4.5% were 11 years old. This distribution indicates that the majority of students were predominantly within the 12-13 age range, whilst those in the 11-14 age group were less densely represented.
2. 50% of the students were 6th graders, 31.8% were 7th graders, and 18.2% were 8th graders. The distribution indicates that 6th-graders constituted the most prevalent category in the sample, but 7th and 8th-graders were represented at lower percentages.
3. 86.4% of the participating students' families reported earning a satisfactory level income, 9.1% reported earning high income, and 4.5% reported earning low income. This distribution indicates that a substantial majority of the sampled students came from middle-income families, whereas those from low and high-income brackets were underrepresented.
4. 18.2% of students indicated that their residences had no damage from the earthquake, 40.9% reported moderate damage, and 40.9% indicated significant damage. The distribution indicates that a substantial percentage of students (81.8%) experienced varied degrees of damage to their residences owing to the earthquake, whereas a minor group (18.2%) reported that their residences had no damage. The substantial rate of students reporting severely or moderately damaged residences signifies a considerable number of students affected by the earthquake.
5. 95.5% of the students indicated that both parents were living, whereas 4.5% reported that their father passed away. None of the students had mothers who had passed away or parents who had both passed away. This data indicates that the majority of students in the sample had living parents.
6. 77.3% of the students said that their father was employed while their mother was not, 18.2% indicated that both parents were employed, and 4.5% mentioned that their mother was employed while their father was not. There were no students whose both parents were unemployed. This distribution indicates that in the majority of the students' families, the father is employed whereas the mother is not.
7. 31.8% of the students had three siblings, 27.3% had two siblings, 22.7% had one sibling, and 18.2% had four siblings. This distribution indicates that a substantial majority of students had two or three siblings, whereas those with four siblings were underrepresented.

Tin brief, the experiment group primarily comprised 6th-grade students, predominantly from middle-income families, whose residences exposed to moderate to severe damage from the earthquake. The majority of students reported that their fathers were employed, while their mothers were not, both parents were alive, and they were four siblings.

3.2. Findings with Regard to Pre- and Post-Test Results

The first step in data analysis was to assess whether the mental well-being scores of the experiment group were normally distributed.

Table 2. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DIFFERENCE (Pre-test-Post-test)	0.129	22	0.200*	0.960	22	0.491

Table 2 illustrates that the distribution of values for the “difference” (Pre-test-Post-test) variable aligns with a normal distribution assumption. This result indicates that the assumption of normal

distribution is satisfied for the paired-samples t-test, a parametric analysis to be conducted with this variable. The results for this test group are presented below.

Table 3. Paired-Samples T-Test Results

<i>Paired Samples Statistics</i>							
		Mean	N	Std. Deviation	Std. Error Mean		
Pair 1	POST-TEST	61.91	22	7.696	1.641		
	PRE-TEST	54.05	22	8.797	1.875		

<i>Paired Samples Test</i>									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	POSTTEST- PRETEST	7.864	8.408	1.793	4.136	11.592	4.387	21	0.000

t(21)= -4.387; p<0.05

<i>Paired Samples Effect Sizes</i>						
		Cohen's d	Standardizer ^a	Point Estimate	95% Confidence Interval	
					Hedges' correction	
Pair 1	POSTTEST- PRETEST		8.408	0.935	0.424	1.431
			8.562	0.918	0.416	1.405

Table 3 illustrates that, given $p < 0.05$, the null hypothesis H_0 is rejected (H_0 : There is no significant difference between the pre-test and post-test well-being scores of students who participated in choir training. H_1 : There is a significant difference between the pre-test and post-test well-being scores of students who participated in choir training). It was concluded that the post test scores were significantly higher than the pre-test scores.

Moreover, as indicated in Table 3, the effect is classified as “significant” based on a Cohen's d value over 0.8. The study demonstrated that choir training significantly benefit earthquake-affected students.

Discussion and Conclusion

This section delineates the conclusions derived from the research findings, the correlation of these results with analogous studies in the literature, and suggestions for future research.

The research findings indicate that choir training exert a statistically significant and substantial impact on the mental well-being scores of children affected by earthquake ($p < 0.05$, $d = 0.935$). The difference between pre-test and post-test scores was substantial, demonstrating that students' scores markedly improved following the choir training. The results indicate that choir training may improve the mental well-being of students affected by earthquakes. Aral (2023) asserted that children's engagement in cultural, artistic, and game-oriented activities aimed at mitigating potential trauma following an earthquake would significantly aid in stress management and getting back on their feet. Mahmoudi-Gharaei et al. (2006) used a cognitive-behavioral approach to administer twelve sessions of game-based group therapy to young children who were affected by the earthquake and concluded that the children's post-traumatic stress disorder, anxiety, and negative behavioral patterns decreased. Öztürk and Kırca (2023) argued that it would be psychosocially advantageous to encourage children who were affected by the earthquake and who lost their parents in the earthquake to engage in sports and

play/gaming activities throughout the normalization process of their lives after their fundamental emotional, physical, and mental needs have been met. Çiçek et al. (2023) argued that active engagement of athletes and children affected by the earthquake in team or individual sports could mitigate the traumatic consequences of the earthquake they had experienced.

This research revealed that choir training had a positive impact on the mental well-being of earthquake-affected students. Therefore, particularly in the earthquake zone, the following recommendations were put forward:

Coordination of choir trainings tailored to each grade and age level, inside educational institutions affiliated to the Ministry of National Education, and facilitating extracurricular choir training programs and concerts;

Raising the awareness of school officials, counselors, and families on the concrete psychological advantages of choir training, thereby highlighting the link between choir training and mental well-being;

Ensuring families to encourage their children's participation in choir training by engaging in discussions and offering them to observe the developmental changes of their children and subsequently provide feedback;

Raising public awareness about participating in choir trainings and holding informational meetings on the subject;

Preparing repertoires for children's choirs, ensuring that composers' Turkish children's songs are available on platforms accessible to all music teachers while respecting relevant copyrights, and thus solving the problem of song accessibility;

Encouraging composers and organizing award-winning children's song competitions nationwide, and widely promoting these organizations in the public sphere;

Promoting choir festivals, which are expected to influence the cultural dynamics of cities and developing interest in choir music. Songs to be used/taught in similar studies should be selected in accordance with values education, the children's age group, and their emotional maturity. Failure to maintain this harmony may cause youngsters to develop a negative disposition towards singing, resulting in diminished motivation for participating in choir trainings. For this reason the selection of music/songs for choir activities is of significant importance.

This research determined the effect of choir trainings on the mental well-being of earthquake-affected children. However, the restricted size of the experiment group precluded the acquisition of results typical of all earthquake-affected children across the nation. To improve the research to be representative of the entire nation, the following suggestions can be put forward:

Future researchers could also conduct similar studies with other earthquake-affected students in different regions. Conducting choir trainings with earthquake-affected student groups of all ages from diverse places may enhance the efficacy of such experimental investigations.

Future researchers may be recommended to formulate sub-hypotheses by examining distinct dimensions of mental well-being, including self-esteem, social connectedness, hope, and stress levels.

The absence of a control group in this research, along with the employment of a single-group pre-test post-test experimental design, resulted in methodological constraints in the

conclusions drawn. Consequently, future researchers undertaking similar trainings are recommended to employ both experiment and control group designs.

This research is one-dimensional and uses only an experimental design. Future researchers are also recommended to employ “quasi-experimental” or “mixed methods” designs to improve the depth and comprehensiveness of their research. Future research may also incorporate a qualitative aspect by gathering insights on students' emotions and perceptions regarding the study using interviews and observational methods.

Art-based healing modalities, including disciplines such as music therapy, could be incorporated into evidence-based musical intervention programs within a therapeutic relationship to achieve the desired results for earthquake-affected students.

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