

# Strong Steps in Silent Worlds: The Effect of a 12-Month Recreational Intervention Program on Psychological Well-Being and Life Satisfaction in Individuals with Hearing Impairment

Doç. Dr. Abdullah BİNGÖLBALI<sup>1</sup>, Doç. Dr. Aysel KIZILKAYA<sup>2</sup>, Dr. Sare Evcimik<sup>3</sup>

Firat University Faculty of Sports Sciences, Elazığ/TÜRKİYE, [abingolbali@firat.edu.tr](mailto:abingolbali@firat.edu.tr),  
ORCID: 0000-0003-4935-2480

Firat University Faculty of Sports Sciences, Elazığ/TÜRKİYE, [ayselkizilkaya@hotmail.com](mailto:ayselkizilkaya@hotmail.com),  
ORCID: 0000-0001-7980-421X

Elazığ Provincial Mufti's Office, Elazığ/TÜRKİYE, [sare\\_2323@hotmail.com](mailto:sare_2323@hotmail.com),  
ORCID: 0000-0003-4154-3434

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## ABSTRACT

The aim of this study is to examine the effect of a 12-month recreational intervention program developed for individuals with hearing impairment on their levels of psychological well-being and life satisfaction. The research was conducted using a single-group pretest-posttest design. Before and after the intervention, the Psychological Well-Being Scale and the Life Satisfaction Scale were administered to the participants. Data were analyzed using IBM SPSS software. A paired samples t-test was used to determine the differences between pretest and posttest scores, and Pearson correlation analysis was employed to examine the relationship between variables. According to the analysis results, there was a statistically significant increase in both psychological well-being and life satisfaction levels following the intervention. However, while a significant relationship was found between the two variables in the pretest, this relationship was not significant in the posttest. The findings suggest that long-term intervention programs may be effective in supporting the psychological well-being of individuals with hearing impairment.

**KEYWORDS:** Individuals with Hearing Impairment, Spiritual Support, Psychological Well-Being, Recreational Activities, Life Satisfaction.

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## INTRODUCTION

Disability is defined as a condition involving mental or physical impairments that limit or restrict an individual's life activities, as well as deficiencies or limitations in one's abilities and strength (Öztabak, 2017). The World Health Organization (WHO) defines disability as “a deficiency or limitation in performing normal activities expected from a person or the body as a whole, such as behaviors, abilities, and tasks” (WHO, 1980). A person with a disability is someone who, due to congenital or acquired reasons, has partially or completely lost their physical, mental, emotional, sensory, or social abilities to various degrees, and thus has difficulties adapting to social life and meeting daily needs, requiring protection, care, rehabilitation, counseling, and support services (Republic of Turkey Prime Ministry Administration for Disabled People, 2008). Although there is no precise number regarding the disabled population in Türkiye, a 2002 report by the Turkish Statistical Institute (TÜİK) estimated that individuals with disabilities constituted approximately 12.29% of the population. According to more recent data from TÜİK as of December 31, 2021, there are 5,841,180 individuals with disabilities in Türkiye—3,337,922 women and 2,503,258 men. Additionally, administrative records from the Ministry of Family, Labour and Social Services indicate that 764,271 individuals are registered as “severely disabled” (Confederation of People with Disabilities, 2022).

Furthermore, the 2022 Disability and Elderly Statistics Bulletin published by TÜİK reported that 6.9% of the population in Türkiye has at least one disability. This ratio is 5.9% for men and 7.9% for women. When examining the age distribution of the disabled population, it is found that the proportion of individuals with disabilities is 18.7% in those aged 65 and above, 6.0% in the 15–64 age group, and 1.2% in the 0–14 age group (Hepsiveri, 2024). Disability, due to its complex structure involving physical, psychological, and social dimensions, causes individuals with disabilities—regardless of the nature of their impairments—to face numerous challenges in society compared to non-disabled individuals. These challenges span a broad spectrum, including restricted mobility, limitations, communication barriers, transportation difficulties, lack of resources, low education levels, poverty, negative attitudes and behaviors of healthcare professionals, costs, insufficient access to adequate care and services, and difficulty in utilizing health services (Ören et al., 2021, İlkım et al 2021, Yurtseven et al 2024). Such issues may lead to further deterioration in the health of individuals with disabilities, an increase in physiological and psychological problems, more frequent changes in body image, self-perception, and self-esteem, the emergence of secondary and tertiary health problems, greater need for advanced healthcare and support, and even life-threatening consequences. Therefore, identifying the sources of the physical, sociological, and psychological problems experienced by individuals with disabilities, and developing alternative solutions, is both necessary and important (Gibson & O'Connor, 2010; Harrison et al., 2020; Senghor et al., 2017).

In this context, it is considered that solving the social problems—particularly those stemming from environmental and societal factors—encountered by individuals with disabilities cannot be addressed by a single discipline alone. Rather, such issues require

interdisciplinary approaches and the collective reasoning of society. Another form of disability for individuals with impairments is exclusion from social relationships, cultural and societal activities, access to basic services, their immediate environment, and economic participation (Sevinç & Çay, 2017). This situation implies that exclusion from social life negatively affects both life satisfaction and psychological well-being (Genç, 2015). As a result, individuals may face various problems within social and societal systems, ultimately leading to a decline in their quality of life. A review of the literature reveals that the issue of disability is generally addressed from two main perspectives within the field of social sciences.

The first approach tends to view disability as a "problem" that originates within the individual and whose solution should be sought through modern medicine. Known as the **individual or medical model**, this perspective defines disabled individuals as being different from the norm due to a deficiency or abnormality present in their bodies. According to this model, disability is seen as a restriction in the individual's daily life activities caused by a congenital or acquired condition such as impairment or illness. The problems encountered by individuals with disabilities are attributed to these personal limitations. The second approach is referred to as the **social model**, which focuses on the social determinants of disability. This model centers on the societal effects that lead to disability, asserting that disability stems not solely from a bodily impairment but from **social barriers** that prevent individuals with physical differences from fully integrating into society. However, in today's evolving world, it is clear that viewing disability solely from an individual or societal perspective is insufficient for resolving the problems faced by individuals with disabilities. A multidimensional and inclusive understanding is required (Yavuz et al., 2010; Köten & Erdoğan, 2014; Alsancak, 2020; Yılmaz & Kahraman, 2023; Karakullukçu, 2023).

For individuals with disabilities who are excluded from many areas of social life, digital spaces or the school and family environment—where they often participate alone—are not sufficient to provide meaningful integration into society. It is therefore essential to develop new programs and practices that enhance their quality of life and psychological well-being, enabling them to more fully engage with life. In a social system constructed by ignoring or excluding individuals with disabilities, the goal should not be to ensure the individual's adaptation to existing societal conditions. Rather, what is necessary is the **reconstruction of the societal structure and mindset**, which are predominantly designed based on the needs and perspectives of non-disabled individuals.

In the absence of such a transformation, individuals with disabilities remain excluded from society and disconnected from social life. All these interconnected processes continually reproduce **social exclusion** in various forms and hinder the development of **economic, cultural, symbolic, and social capital**. Social exclusion refers to the inability of disadvantaged individuals or groups to fully integrate into society across multiple domains. This concept highlights the mechanisms that prevent individuals from participating equally in society and is often used by sociologists to illustrate the new sources of inequality (Köten & Erdoğan, 2014). As with all socially excluded groups, the likelihood that **young individuals with disabilities** will experience negative consequences of such exclusion is higher compared to other age groups, primarily because they often lack the resources and tools to compensate for these disadvantages. Overall, they are especially susceptible to challenges related to psychological development, as well as social and emotional difficulties throughout life (Brice & Strauss, 2016). One such group is **young individuals with hearing impairment**. Hearing impairments are a widespread condition that can greatly impact individuals and their social interactions, particularly among children and adolescents (WHO, 2014).

Moreover, hearing impairment leads to numerous undesirable **physical, psychological, and social effects**, ultimately lowering the overall quality of life (Borton, 2010). Children experiencing hearing difficulties are at a higher risk of stress, depression, and challenges in social communication (Sayed et al., 2018). Social inclusion activities, policies, and projects are critically important for removing the barriers that prevent disadvantaged students from integrating with society in the face of social exclusion. The lack of activities that promote the **social participation of individuals with disabilities** can, in both the short and long term, adversely affect their mental **well-being and life satisfaction**, potentially leading to psychological distress and placing a significant **emotional burden** on them (Köten & Erdoğan, 2014).

Therefore, supporting the **psychological well-being of individuals with disabilities** is not only an individual necessity but also an issue that must be addressed within both **societal and academic contexts**. In order for individuals to adapt to normal life, it is essential to provide environments where they can express their inner states, and to support them through **engaging activities and purposeful occupations**. In particular, to promote the psychological recovery and life satisfaction of students, it is important to **strengthen social support networks, reduce perceived stress**, provide **long-term psychological and spiritual support**, and implement **effective psychosocial interventions** (Sağlık, 2024). Early psychosocial interventions aimed at improving the quality of life and supporting the psychological well-being of students with disabilities are crucial for enhancing their levels of hope and overall well-being. Therefore, the present study aimed to implement a **recreational intervention program** designed to eliminate the negative factors affecting the **mental wellness and life satisfaction** of students with hearing disability, thereby improving their standard of living. The research also sought to emphasize the **importance and applicability of social support mechanisms** by organizing activities that support the **physical and psychological health** of these individuals.

## METHODOLOGY

### *Research Design*

This study was designed based on **quantitative research methods** and conducted using a **single-group pretest-posttest quasi-experimental design**. In the research, data were collected from the same group of participants before and after the intervention program, and the effectiveness of the implementation was evaluated accordingly.

### *Study Group*

The study group of this research consisted of **25 students with hearing impairment** who were enrolled in formal education in Elazığ during the **2024–2025 academic year**. The participants were selected using the **criterion sampling technique**, one of the purposeful sampling methods, in accordance with the objectives of the research. The students in the study group **participated regularly** throughout the intervention program and **completed all data collection tools without omission**.

#### Data collection and process

In this study, a **12-month intervention program** was implemented with the participants. At the beginning and at the end of this program, participants were administered **psychological well-being** and **life satisfaction** scales. **Psychological Well-Being Scale:** The **Psychological Well-Being Scale**, consisting of eight items, describes key elements of human functioning, ranging from positive relationships and feelings of competence to having a meaningful and purposeful life. The eight-item measurement tool was created by Diener, Scollon, and Lucas (2009), and its **Turkish validity and reliability** study was conducted by **Telef (2013)**. The items are rated on a **7-point Likert scale**, ranging from **1 = Strongly Disagree** to **7 = Strongly Agree**. All items are positively worded. The total score can range from **8** (if all items are rated as strongly disagree) to **56** (if all items are rated as strongly agree). **Satisfaction with Life Scale (SWLS):** The Satisfaction with Life Scale (SWLS) was created by Diener, Emmons, Larsen, and Griffin in 1985. The Turkish adaptation was carried out by **Dağlı and Baysal (2016)**. The scale consists of **5 items under a single factor** and is rated on a **5-point Likert scale**, with the following response options: **“1 = Strongly Disagree”**, **“2 = Disagree”**, **“3 = Neutral”**, **“4 = Agree”**, **“5 = Strongly Agree”**. Higher scores on the scale indicate **higher levels of life satisfaction**.

#### Intervention program implemented

This program has two objectives. The first is to improve the psychological well-being and life satisfaction of individuals with disabilities through recreational sports activities, trips, and spiritual support programs, thereby changing their outlook on life in a positive way, ensuring their social integration, and revealing the effects of these practices on individuals with disabilities using scientific data. The second objective is to enhance university students' ability to communicate with individuals with disabilities, raise their awareness of disability issues, and increase their awareness of the basic needs of individuals with disabilities. For this reason, the aim is to prevent the loss of morale and motivation experienced by hearing-impaired students (25 students) attending secondary school in Elazığ due to their disability, to contribute to the subjective well-being of their families and themselves, and to help university students understand the importance of the issue. To this end, activities have been organized to help students who cannot fully use their mobility due to their disabilities, who face material and emotional challenges, who are psychologically and sociologically exhausted, and who struggle with educational difficulties, to feel comfortable, at peace, and valued in their daily lives. In this context;

#### Social Activities Component of the Program

1. First, spiritual support, sports activities, and various trips (once a week) were organized for individuals with disabilities.
2. In the study, university collaboration was established, and support was obtained from student groups at Fırat University and students from the Faculty of Sports Sciences at Fırat University to organize various sports activities (once a week) for hearing-impaired students.

#### Educational Dimension of the Program

For University Students:

1. Sign Language Course Organized (Basic Level, 3 Months, 55 University Students)
2. Seminars were held.

#### Spiritual Support Dimension of the Program

For this purpose, spiritual counseling services were provided to hearing-impaired students (once a week) by a religious studies researcher visiting their schools, in line with the following objectives:

- Providing answers to questions of meaning
- Providing control
- Providing spiritual comfort
- Providing a sense of sincerity and closeness
- Providing the ability to transform one's life.

#### Data analysis

IBM SPSS Statistics software was used to analyze the data obtained in the study. Normality tests were first applied to analyze the initial test and final test total scores of the Psychological Well-Being and Life Satisfaction scales obtained from the participants (n = 25). The normality of the scale scores was assessed by examining the skewness and kurtosis values.

**Table 1. Normality Analysis**

Scale		N	$\bar{x}$	Ss.	Skewne ss	Kurtosis
Psychological well-being scale pretest	Total Scale Score	25	29,76	,742	,132	-,481
Life satisfaction scale pretest	Total Scale Score	25	9,88	,284	,148	,237
Psychological well-being scale post-test	Total Scale Score	25	43,04	,701	,092	-,141

Life satisfaction scale post-test	Total Scale Score	25	19,40	,493	,203	-,173
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In order to determine whether the total scores of the psychological well-being and life satisfaction scales used in the study were normally distributed, skewness and kurtosis values were examined. When the skewness and kurtosis values in the table were examined, it was seen that the pre-test and post-test scores of all scales were normally distributed. The skewness values range from .132 to .203, while the kurtosis values range from -.481 to .237. Since these values fall within the  $\pm 1$  range, the assumption of normal distribution is satisfied (Tabachnick & Fidell, 2013). Therefore, it was deemed appropriate to apply parametric tests (related samples t-test) to the data.

In this regard, parametric tests were preferred in the analyses. In line with the first objective of the study, a paired samples t-test was applied for both scales to determine whether there was a significant difference between the participants' scores before and after the intervention program. In line with the second objective of the study, Pearson correlation analysis was performed to determine the relationship between psychological well-being and life satisfaction variables. This analysis was performed separately for both pre-test and post-test scores, and the relationships between the variables were evaluated statistically. In all analyses, the significance level was set at  $p < .05$ .

### FINDINGS

This section outlines the results derived from statistical analyses conducted to assess the effect of a 12-month intervention program on the psychological well-being and life satisfaction of individuals with hearing impairments.

**Table 2. Results of the paired t-test for the mean pre-test and post-test scores on the psychological well-being and life satisfaction scales for the working groups.**

Scales		N	$\bar{x}$	ss	sd	t	p
Psychological well-being	Pre-test	25	29,76	5,93	24	-9,44	,000
	Post-test	25	43,04	5,60			
Life satisfaction	Pre-test	25	9,88	1,42	24	-17,27	,000
	Post-test	25	19,40	2,46			

When comparing the initial-test and final-test scores on the mental wellness and life satisfaction scales, a statistically significant increase in favor of the post-test was observed in both variables ( $p < .001$ ). The increase observed in psychological well-being scores was found to be statistically significant at the  $t(24) = -9.44$ ,  $p < .001$  level. Similarly, the increase in life satisfaction scores was also found to be significant at the  $t(24) = -17.27$ ,  $p < .001$  level. These findings indicate that the intervention implemented was effective in improving individuals' mental wellness and life satisfaction.

**Table 3: Correlation Test Results Between the Psychological Well-Being Scale Scores and Life Satisfaction Scores of the Research Group**

		Psychological Well-Being Scale pre-test	Life Satisfaction Scale pre-test	Psychological Well-Being Scale pre-test	Life Satisfaction Scale post-test
Psychological Well-Being Scale pre-test	Pearson Correlation	1	,149	,260	,132
	P				
	N	25	,477	,209	,529
Life Satisfaction Scale pre-test	Pearson Correlation	,149	1	,538(*)	,074
	P				
	N	,477	,006	,727	
Life Satisfaction Scale post-test	Pearson Correlation	,260	,538(*)	1	,225
	P				
	N	,209	,006	,280	
Psychological Well-Being Scale final test	Pearson Correlation	,132	,074	,225	1
	P				
	N	,529	,727	,280	25

Within the scope of the study, Pearson correlation analysis was performed to examine the relationships between the pre-test and post-test scores of the psychological well-being and life satisfaction scales. According to the results obtained;

- A positive and significant relationship was found between the pre-test scores of the Psychological Well-Being Scale and the pre-test scores of the Life Satisfaction Scale ( $r = .538$ ,  $p < .05$ ). This finding indicates that as psychological well-being levels increase before intervention, life satisfaction also increases.

- No significant relationship was found between the pre-test scores of the Psychological Well-Being Scale and the post-test scores of the Life Satisfaction Scale ( $r = .132$ ,  $p = .529$ ) or between the pre-test scores of the Life Satisfaction Scale and the post-test scores of the Psychological Well-Being Scale ( $r = .074$ ,  $p = .727$ ).
- A low-level positive but non-significant relationship was observed between the post-test scores of the Life Satisfaction Scale and the post-test scores of the Psychological Well-Being Scale ( $r = .225$ ,  $p = .280$ ).

These results indicate that the intervention program affected the relationship between psychological well-being and life satisfaction, particularly at the initial level; however, no significant correlation was found between the final test scores. This suggests that individual differences or external factors may have played a role in the intervention process. The fact that the participants in the study were hearing impaired suggests that psychological development in these individuals occurs more at the individual level, and that both variables could change independently in a positive direction at the end of the intervention. Communication limitations and difficulties in accessing environmental support resources in hearing-impaired individuals may limit the relationship between social-emotional variables, and this situation may also be reflected in the correlation results.

## DISCUSSION AND CONCLUSIONS

This study examined the effects of a 12-month recreational intervention program on psychological well-being and life satisfaction in individuals with hearing impairments. The results of the study show that the intervention led to a significant increase in both psychological well-being and life satisfaction. The differences between the pre-test and post-test scores reveal that the intervention had a positive effect on the individuals and that the intervention program achieved its objectives. However, when correlation analyses were examined, a significant relationship was found between psychological well-being and life satisfaction only in the pre-test period, while no significant correlation was found between these two variables in the post-test results. This situation shows that the intervention program had a positive effect on both variables separately, but these effects did not run parallel to each other. It is thought that psychological development in hearing-impaired individuals may emerge at the level of individual and internal awareness rather than cognitive and emotional processes.

Limitations in communication skills, social interaction opportunities, and access to environmental support mechanisms among individuals with hearing impairments may result in more limited relationships between social-emotional variables. This may explain why no significant relationship was observed in the correlation analysis. In other words, even though each of the psychological well-being and life satisfaction variables may have been positively affected by the intervention, the two variables may not always move together as expected in hearing-impaired individuals.

In their research conducted in 2025, Huang and He pointed out that the main reasons for the use of social media among hearing-impaired students were communication, expressing personal opinions, obtaining information, and providing opportunities for relaxation and entertainment. Therefore, considering these expectations, it can be said that the environments provided to hearing-impaired students through the social activities conducted in our study met their expectations and that the benefits obtained were consistent with the study conducted by Huang and He (2025).

Similarly, Oshio and colleagues (2020) examined the relationship between social media use and life satisfaction, highlighting the mediating effect of social support and suggesting that it can increase subjective well-being. Michel and colleagues (2010) also drew attention to social support, including support from family, friends, interpersonal relationships, and various sources, and stated that it is important for an individual's quality of life based on emotional and physical conditions.

Turan and colleagues (2021) also stated in their studies that, in line with the findings of our research, sports contribute to the daily life activities of individuals with disabilities and positively affect their quality of life. They also stated that it is possible for people with disabilities to develop social relationships and thus adapt more easily to social life through sports, and that it is necessary to encourage the participation of students with disabilities in sports that positively affect their physical and psychological health and to provide appropriate environments in order to increase their level of life satisfaction.

Some studies in line with this research draw attention to the fact that the interaction between individuals' physical condition, communication skills, and physical, cultural, and social environments can affect their performance (Van Liefferinge et al., 2018; Power et al., 2019). It is emphasized that physical activity-based intervention programs are suggested to enhance executive functions in children, and that these functions play a role in fostering cognitive, emotional, and social skill development. (Nilsen et al., 2017). Additionally, it is stated that intelligence, attention, and executive functions are significantly affected by physical activity interventions (Chan and Morgan, 2018), and that physical activities supporting cognition may help improve executive functions in children (Schmidt et al., 2021).

Ryff and Singer (2008) noted that activity programs that include the participation of hearing-impaired individuals affect these individuals' life performance (positive relationships, life meaning, autonomy, and environmental mastery, etc) and well-being (self-acceptance and realization of potential). Numerous studies have also highlighted the many positive effects of an individual's participation in activities and activity performance, such as increasing life satisfaction (Bult et al., 2014; Sirgy et al., 2017; Steinhart et al., 2021).

In line with the results of our study, Fan et al. (2021) and Dobrota et al. (2022) have also reported that social activities play a regulatory role between hearing loss and cognitive impairment and are closely linked to enhanced mental well-being. In some studies similar to our research topic, it is generally emphasized that engaging in positive social activities can help lessen the effects of depressive symptoms, behavioral issues, and hearing loss on cognitive function (Gao et al., 2020; Sun et al., 2021).

In their 2025 study, Göktaş and colleagues identified a significant positive correlation between psychological well-being and activity performance, highlighting that engaging in leisure activities provides hearing-impaired individuals with psychosocial benefits through social interaction and effective use of time. Similarly to the results of our study, Gürkan and colleagues (2021) noted in their study on disabled athletes that increased satisfaction from physical activities performed during free time was associated with higher psychological well-being scores and emphasized the importance of group activities in increasing life satisfaction. In a similar study, Öcal and colleagues (2023) found that hearing-impaired individuals have the same level of psychological well-being and anxiety as normal individuals in their study on disabled handball athletes. They also suggested that this situation stems from the positive effects of sports and that hearing-impaired individuals should be encouraged to participate in sports from an early age and that the social, psychological, and physiological benefits of sports should be carefully considered. Similar to the spiritual support practices carried out within the scope of our research, Özdemir (2018) stated that organizing courses, seminars, social, cultural, and sporting activities for people with disabilities, ensuring that they benefit from all aspects of life without being excluded from social life, and strengthening their connection with sacred places would contribute positively to their quality of life and psychological well-being. In a similar study, Evcimik and Bingölbali (2024) pointed out that activities involving spiritual support play an important role in helping individuals understand and accept their disability in a sensible and reasonable manner and cope with the difficulties they encounter, and that religious feelings can make a positive contribution. Based on all the research findings, it can be said that interventions for the hearing impaired should not be limited to cognitive or behavioral development, but should also include broader psychosocial goals such as social bonding, emotional sharing, and receiving support.

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