The Effect of Play Therapy on Anxiety And Life Skills in Children: A Meta-Analysis Study*

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Abstract

Objective: This study was conducted to determine the effect of play therapy on anxiety and life skills in children.

Material-method: The scans in the study were provided through the Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Web of Scıence, Science Direct, and YÖK Thesis Center databases from June-September 2023. As a result of the searches, 17 studies on anxiety and 5 studies on life skills were included.

Results: In this meta-analysis, it was determined that play therapy was highly effective on anxiety (SMD: 1.339, 95% CI: -1.745-0.934; Z= 6.468, p = 0.000, I2= 75.22%) and life skills (SMD: 3.049, 95% CI: 1.614- 4.484; Z= 4.165, p = 0.000, I2= 88.81%). The studies showed a heterogeneous distribution, and there was no bias in the publication bias analysis.

Conclusion: Play therapy has very positive effects on anxiety and life skills in children and positively affects the mental health of individuals.

Keywords: Play therapy, child, anxiety, life skills, meta-analysis

Oyun Terapisinin Çocuklarda Kaygı ve Yaşam Becerileri Üzerine Etkisi: Bir Meta Analiz Çalışması

Özet

Amaç: Bu çalışma, çocuklarda uygulanan oyun terapisinin kaygı ve yaşam becerileri üzerine etkisini ortaya koymak amacı ile yapılmıştır.

Materyal-metod: Çalışmadaki taramalar Ekim-Aralık 2023'de Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Web of Scıence, Science Direct ve YÖK Tez Merkezi veri tabanları üzerinden sağlanmıştır. Taramalar sonucunda araştırmaya kaygı ile ilgili 17 yaşam becerileri ile ilgili 5 çalışma dâhil edilmiştir.

Bulgular: Bu meta-analizde oyun terapisinin kaygı üzerinde (SMD: 1.339, %95 CI: -1.745- 0.934; Z= 6.468, p = 0.000, I2= %75.22) ve yaşam becerileri (SMD: 3.049, %95 CI: 1.614- 4.484; Z= 4.165, p = 0.000, I2= %88,81) üzerinde yüksek düzeyde etkin olduğu belirlenmiştir. Araştırmaların heterojen bir dağılım gösterdiği ve yapılan yayım yanlılığı analizlerinde yanlılığın olmadığı görülmüştür.

Sonuç: Oyun terapisi çocuklarda kaygı ve yaşam becerileri üzerinde oldukça olumlu etkiler yaratmakta ve bireylerin ruh sağlığını olumlu yönde etkilemektedir.

Anahtar Kelimeler: Oyun terapisi, çocuk, kaygı, yaşam becerileri, meta analiz

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East Black Sea Journal of Health Sciences, 2025, Year:4, Issue:1

INTRODUCTION

The emergence of play therapy was introduced to the literature by Sigmund Freud, the founder of psychoanalysis, at a time coinciding with the emergence of child psychotherapy. While developing the theory of psychoanalysis, Freud focused on infancy and childhood and stated that play in these processes has three primary functions. The first can be explained as developing the child's self-expression skills, the second as realizing desires, and the third as overcoming traumatic life experiences (Teber, 2015).

Knell (1993) stated that Hugg-Hellmuth realized the first use of play in therapy. The play has been seen as an essential part of psychoanalysis, and children's pictures and toys belonging to the child are included in therapies (Teber, 2015). Play therapy has started to be used effectively as children express themselves through the tools and toys they use during play, and child mental health specialists have recognized the use of play for therapeutic purposes. In this respect, play therapy is one of the oldest and most popular fields used in child therapy. Anna FREUD, Freud's daughter, developed the technique for treating children using play; thus, play therapy's foundations were laid. The Canadian Association of Play Therapy also described play therapy as a psychotherapeutic treatment approach developed to help children aged 3-12 (Teber, 2015; Semerci, 2022). The fact that it is not applied in children over 12 years of age can be related to the decrease in the effectiveness of play therapy at this age (Türe & Barut, 2020). Thanks to play therapy, it is ensured that children overcome the emotions they have accumulated consciously or unconsciously, the problems they experience, their fears and anxieties, and their worries, such as failure and inadequacy, become aware of their strengths and weaknesses, and provide them with environments where they can make their own decisions (Silva et al., 2017; Deniz, 2019; Zengin et al., 2021). The fact that play is the most natural way for children to express themselves has made the effective use of play therapy widespread. It has taken its place in the literature as a frequently used method in cases such as adaptation and behavioral problems encountered in children. In addition, play therapy is also a method used to teach children new skills.

Play therapy is a method that can be used both in anxiety states and in the acquisition of daily life skills. Regarding daily living skills, the World Health Organization (WHO) refers to numerous skills that differ from society to society. Daily life skills include the skills that enable individuals to adapt to different environments such as social environment, school, home, and neighborhood and to be successful. It includes all the skills necessary for individuals to make the right decisions regarding their responsibilities to lead a healthy life and make appropriate behavioral choices for their situations. The essential components of these skills include self-awareness, empathy, critical and creative thinking, decision-making, problem-solving skills, interpersonal relationships and communication, coping mechanisms with emotions and stress, anger management, etc. (Uzunpınar, 2023; Yılmaz, 2021)

Based on the information above, this study was designed as a meta-analysis to evaluate the effects of play therapy on children's anxiety and daily life skill acquisition.

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MATERIAL AND METHOD

The literature search, article selection, and data extraction were conducted independently by the first and second researchers to reduce the risk of potential bias. The review was conducted in accordance with the PRISMA checklist (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols Checklist) (Moher et al., 2009). Researchers evaluated the quality of the examined studies.

Inclusion and Exclusion Criteria

In this study, studies were screened using PICOS (Patient, intervention, comparison, outcomes, and study design);

- ✓ Study group: Children
- ✓ Intervention: Applying play therapy
- ✓ Comparison: Not using play therapy
- ✓ Outcomes: Anxiety and life skills
- ✓ Study design: Experimental, quasi-experimental studies published in Turkish and English since 2012.

This meta-analysis did not include case reports, reports, and reviews conducted before 2012.

Screening Strategy

The search for "Play therapy," or 'play therapy AND anxiety' or 'play therapy AND life skills' or 'play therapy AND life skills' or 'play therapy AND life skills,' 'play therapy,' 'play therapy AND anxiety' in accordance with the search MeSH, "play therapy AND daily living skills" 'play therapy AND anxiety AND daily living skills' in Turkish and English, June-September 2023 through Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, Web of Scıence, Science Direct and YÖK Thesis Center databases are made.

Selection of Studies

Two independent researchers who were competent in meta-analysis and had conducted previous research on this subject searched the literature using keywords. The searches reached 4578 records in the first step. After removing duplicate studies, 4163 were examined to select the title and abstract. As a result of this evaluation, 195 studies were evaluated on a full-text basis, and 22 studies, 17 for anxiety and 5 for life skills, were included in the analysis.

Extraction of Study Data

The data extraction form that the researchers created in response to the scans was used to gather the data. The tool gathered information on the author and year of publication, the research design, and the kind of scale employed in the studies that were part of the analysis (Table 1).

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Research Ethics

Since this research is a meta-analysis, it was conducted by reviewing the studies in the literature, and ethical permission is not required.

Evaluation of the Methodological Quality of the Studies

Using quality evaluation forms created by The Joanna Briggs Institute in accordance with the research design, the articles' quality was evaluated. The Joanna Briggs Institute Critical Appraisal Tools For Use in IBI Systematic Reviews, 2021, has thirteen questions for randomized controlled trials, and has nine questions for quasi-experimental research (Tufanaru et al., 2017). These forms were employed in our analysis. These forms provide "Yes, No, Uncertain, Not Applicable" choices for each question. After evaluating the studies' quality level, two researchers came to a conclusion. The research's methodological quality level for the studies that were included was categorized as "good quality" if more than 80% of the items were assessed as "yes," "moderate quality" if 51-80% of the items were evaluated as "yes," and "mediocre" if fewer than 50% of the items scored "yes." Table 1 in this study displays the assessment findings for each study as a "*Quality score*."

Data Analysis

The statistical calculations for the present study were performed using CMA (Comprehensive Meta-Analysis) Ver. 2. Heterogeneity across included articles was evaluated using the Cochrane Q and Higgins I^2 tests; an I^2 of greater than 50% suggested considerable heterogeneity. Each outcome variable's SMD (Standardized Mean Difference) was determined, along with a 95% confidence interval (CI), and all tests were deemed statistically significant if $p<0.05$.

FINDINGS

Figure 1. Selection of studies according to the PRISMA flow diagram

Table 1. Study characteristics and quality scores

Meta-analysis results on the effect of play therapy on anxiety

Two techniques were used to assess the existence of publication bias associated with anxiety: the Begg and Mazumdar Test (Begg & Mazumdar, 1994) and the funnel scatter plot.

The research in this dataset are near the top of the funnel and display a symmetrical distribution, which is a key technique for illustrating publication bias. This finding suggests that the meta-analysis is free of publication bias.

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Figure 2. Funnel plot of the studies

Additionally, the Begg and Mazumdar test was used to evaluate publication bias among the studies included in this dataset. The two-tailed p-value is 0.11751, Z=1.56532, and the Kendall tau value is -0.27941, as per the Begg and Mazumdar technique. The outcome demonstrates that there is no statistically significant publication bias.

The effect size is determined using either Hedges's g or Cohen's d effect size values (Grissom & Kim, 2005). The effect size in this meta-analysis was computed using Cohen's d, and 95% was accepted as the significance threshold for the statistical analyses. When evaluating the effect sizes, consideration was given to Cohen's (1988) effect size categorization, which was deemed to indicate a high degree of effect (Cohen, 1988).

Figure 3. Forest plot of the anxiety variable

The fixed effects model is used when the studies that are part of the analysis have a homogenous distribution; the random effects model is used when the studies show a heterogeneous distribution. A homogeneity/heterogeneity test was conducted first to determine which model to use. The results showed substantial variations in the effect sizes, with the homogeneity test showing play therapy's impact on anxiety and life skills (Q=174.906; p<.05). This finding is seen as proof that the distribution is not homogenous, and the 90% I^2 value indicates that it is extremely heterogeneous. Thus, in the meta-analysis, the random effects model was applied. In the meta-analysis based on the data of these studies, it was determined that play therapy was effective on anxiety (SMD: 1.339, 95% CI: -1.745- 0.934; Z= 6.468, p=0.000, I^2= 75.22%; Figure 3).

Meta-analysis results on the effect of play therapy on life skills

Two techniques were used to assess the existence of publication bias in relation to the life skills variable: the funnel scatter plot (a) and the Egger Test (b) (Egger et al., 1997).

The data set's studies are near the top of the funnel and have a symmetrical distribution, which suggests that this meta-analysis is free of publication bias.

Figure 4. Funnel plot for life skills variable

Furthermore, publication bias among the studies in this dataset was ascertained using Egger's approach. Egger's technique yields the following results: t = 1.33666, df = 3, cut-off point (B0) = 6.83474, 95% confidence interval (-9.43805, 23.10754) = -9.43805, and one-way p-value = 0.13683.

The effect sizes were seen as demonstrating a high level of effect and were evaluated in accordance with Cohen's (1988) effect size categorization.

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Figure 5. Forest plot of the life skills variable

A homogeneity/heterogeneity test was conducted first to determine which model to use. The results showed substantial variations in the effect sizes, suggesting that play therapy had an impact on life skills in the homogeneity test (Q=35.749; p<.05). This finding is seen as evidence that the distribution is not homogenous, and the 88% I^2 score indicates that the distribution is quite heterogeneous. Thus, in the meta-analysis, the random effects model was applied. Play therapy was found to be beneficial for life skills in the meta-analysis based on the data from these studies (SMD: 3.049, 95% CI: 1.614-4.484; Z= 4.165, p=0.000, I^2= 88.81%; Figure 5).

DISCUSSION

In this study, as a result of the meta-analysis of 22 studies, it was determined that play therapy was highly effective in reducing children's general anxiety levels and helping them manage their life skills.

It is seen that there are many research results in the literature on anxiety that support our research. In a systematic review study in which Bozdağ and Gözen (2023) evaluated the effect of clown activity on the elimination of preoperative anxiety, it was observed that the level of anxiety decreased in the intervention groups. That is, it was effective (Bozdağ & Güven, 2023). As a result of the systematic review and meta-analysis study conducted by Vural and Sağlam (2022) on play therapy, it was observed that there was a high effect level in the group that received play therapy (Vural & Sağlam, 2022). Bratton and Ray (2000), in their meta-analysis of 82 studies covering the period between 1940 and 2000, concluded that play therapy affects areas such as self-confidence, social cohesion, fear, anxiety, and behavioral-emotional cohesion (Bratton & Ray, 2000). Again, in a systematic review study by Çal (2019), in which they evaluated the effect of school-based interventions applied to children or adolescents after war or natural disasters on their mental health, it is seen that interventions including play therapy are especially effective on anxiety and depression (Çal, 2019). In the systematic review study conducted by Ucun and Küçük (2020), in which they evaluated the effect of therapeutic clown intervention on children's mental health, it is seen that the intervention minimizes the level of anxiety and stress in children, increases compliance with treatment and has a positive effect not only on the child but also on caregivers (Ucun & Küçük, 2020).

Similarly, Lin and Bratton (2015) found that play therapy is a moderately effective method in their meta-analysis of research on child-centered play therapy conducted between 1995 and 2010 (Lin & Bratton, 2015), and Slade and Warne (2016) found a high level of effect in their meta-analysis study evaluating the effectiveness of play therapy applied to children who were victims of abuse on the effect of trauma (Slade and Warne, 2016). In a study conducted by Soniya and colleagues (2019), play therapy used to relieve anxiety in hospitalized children reveals that it is an effective method to relieve anxiety (Soniya et al., 2019).

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Although there are few studies in the literature on life skills, the results overlap with our study. In Akdenizli's (2016) study, it is seen that the creative drama program is effective in increasing the receptive language skills and social life skills of students with intellectual disabilities (Akdenizli, 2016). In Tutar's (2022) study evaluating the life skills of students receiving Montessori education, it is seen that Montessori group students have more developed life skills such as social life, responsibility, and problem-solving than control group students (Tutar, 2022). In a study by Deniz (2019) evaluating the effect of play therapy on social skills, which are part of life skills, in children with autism, it is seen that play therapy increases these skills (Deniz, 2019). Kaya (2005) conducted a study with mentally handicapped children with experimental and control groups and concluded that the experimental group children who received play therapy made more progress in skill development (Kaya, 2005). In the study conducted by Uzunpınar (2023), in which they evaluated the life skills of adolescents with creative drama, they revealed that drama improves communication skills among life skills (Uzunpınar, 2023). Similarly, Akhmetzan et al. (2020) revealed that the art and play therapy they applied to preschool children was effective in children's social intelligence and social communication skills (Akhmetzan et al., 2020). The content of life skills may vary according to age groups. The skills learned at each age show differences. In their study, Sefer and Akfırat (2009) examined the effectiveness of creative drama teaching life skills. As a result of the findings obtained from the study concluded that the activities prepared for life skills with the creative drama method facilitated learning and ensured permanence (Sefer & Akfırat, 2009).

CONCLUSIONS AND RECOMMENDATIONS

When the literature is examined, it is seen that many studies have been conducted on the effects of play on children, but what makes this study different from other studies is that it focuses on studies conducted in recent years. The changing world order has brought many new regulations into our lives. However, these new situations have sometimes brought negativities. These negativities, undoubtedly, have been most influential on children. Acquiring life skills and coping with anxiety can sometimes be challenging for children and can put them in a deadlock to overcome these situations. Considering that play is the most essential activity for children, it is through play that children develop coping mechanisms for problem situations. For this reason, this research analyzes the studies based on the effect of play therapy on children's anxiety and life skills.

The research concluded that play therapy is very effective in relieving anxiety and managing life skills in children. Accordingly, experts in this field recommend that play-based approaches be used in families and schools as an effective method for children in special groups to express themselves, cope with stress, develop correct behaviors, and increase empathy.

Conflict of Interest

The authors declare no conflict of interest. The study did not receive any financial support or relationships that may pose potential conflict of interest.

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Limitations

Some studies included in the meta-analysis had small sample sizes and were not blinded. These situations may reduce the strength of evidence for the results presented by the studies.

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Table 1. Study characteristics and quality scores

Author/Year	Study Pattern	Sample size characteristic	Scale used	Quality score
Anderoglu, 2021	Experimental	Experimental group:60 Control group:60	ÇDDVDÖ(Chıldren emotional expressıon assesment scale)	Yes: 11/13 No:2/13 Uncertain:0/13 Not Applicable:0/13
Ayan ve Şahin, 2019	Experimental	Experimental group:30 Control group:30	CASI	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Demirer, 2021	Quasi-experimental	Experimental group:17 Control group:17	Chıld depressıon and anxıety scale	Yes:8/9 No:1/9 Uncertain:0/9
Can, 2020	Experimental	Experimental group:57 Control group:57	VAS (Vısual Analog Scale)	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Celik, 2021	Experimental	Experimental group:20 Control group:17	CAS (Chıld anxiety scale)	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Coskunturk, 2015	Experimental	Experimental group:23 Control group:20	ÇDKE(State anxiety ınventory for chıldren)	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Isler, 2022	Experimental	Experimental group:35 Control group:33	ÇDDVDÖ	Yes: 10/13 No:3/13 Uncertain:0/13 Not Applicable:0/13
Kırkan, 2022	Experimental	Experimental group:42 Control group:42	CAS (Chıld anxiety scale)	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Li et al, 2016	Experimental	Experimental group:79	CSAS-C	Yes: 12/13 No:1/13

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		Control group:71		Uncertain:0/13 Not Applicable:0/13
Metlek, 2021	Experimental	Experimental group:60 Control group:60	STAI (State anxiety inventory)	Yes:13/13
Orhan, 2014	Experimental	Experimental group:20 Control group:20	CAS	Yes: 13/13
Simsek, 2021	Quasi-experimental	Experimental group:15 Control group:15	STAI (State anxiety inventory)	Yes:8/9 No:1/9 Uncertain:0/9
Taskın, 2018	Experimental	Experimental group:42 Control group:42	CAS (Chıld anxiety scale)	Yes: 10/13 No:1/13 Uncertain:1/13 Not Applicable:1/13
Tuncay, 2021	Experimental	Experimental group:30 Control group:30	Chıld anxiety scale state	Yes: 12/13 No:1/13 Uncertain:0/13 Not Applicable:0/13
Tural, 2012	Quasi-experimental	Experimental group:48 Control group:49	STAIC	Yes: 8/9 No:1/9 Uncertain:0/9 Not Applicable:0/9
Yılmaz, 2018	Experimental	Experimental group:30 Control group:30	Revısed preschool anxiety scale	Yes: 10/13 No:1/13 Uncertain:1/13 Not Applicable:1/13
Zengin et al, 2021	Quasi-experimental	Experimental group:65 Control group:65	STAIC	Yes:6/9 No:2/9 Uncertain:1/9
Akdenizli, 2016	Quasi-experimental	Experimental group:8 Control group:7	Early childhood life skills scale	Yes:8/9 No:1/9 Uncertain:0/9
Altok, 2022	Quasi-experimental	Experimental group 16 Control group:16	Early childhood life skills scale	Yes:6/9 No:2/9 Uncertain:1/9
Ataseven, 2019	Quasi-experimental	Experimental group:25 Control group:25	TOBEGYBAT	Yes:8/9 No:1/9 Uncertain:0/9
Bilir, 2019	Quasi-experimental	Experimental group:22 Control group:19	Early childhood life skills scale	Yes:6/9 No:2/9 Uncertain:1/9
Yıldız, 2018	Quasi-experimental	Experimental group 8 Control group:11	TOBEGYBAT	Yes:7/9 No:2/9 Uncertain:0/9

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Figure 1. Prisma Flow Diagram

Figure 2. Funnel plot of the studies

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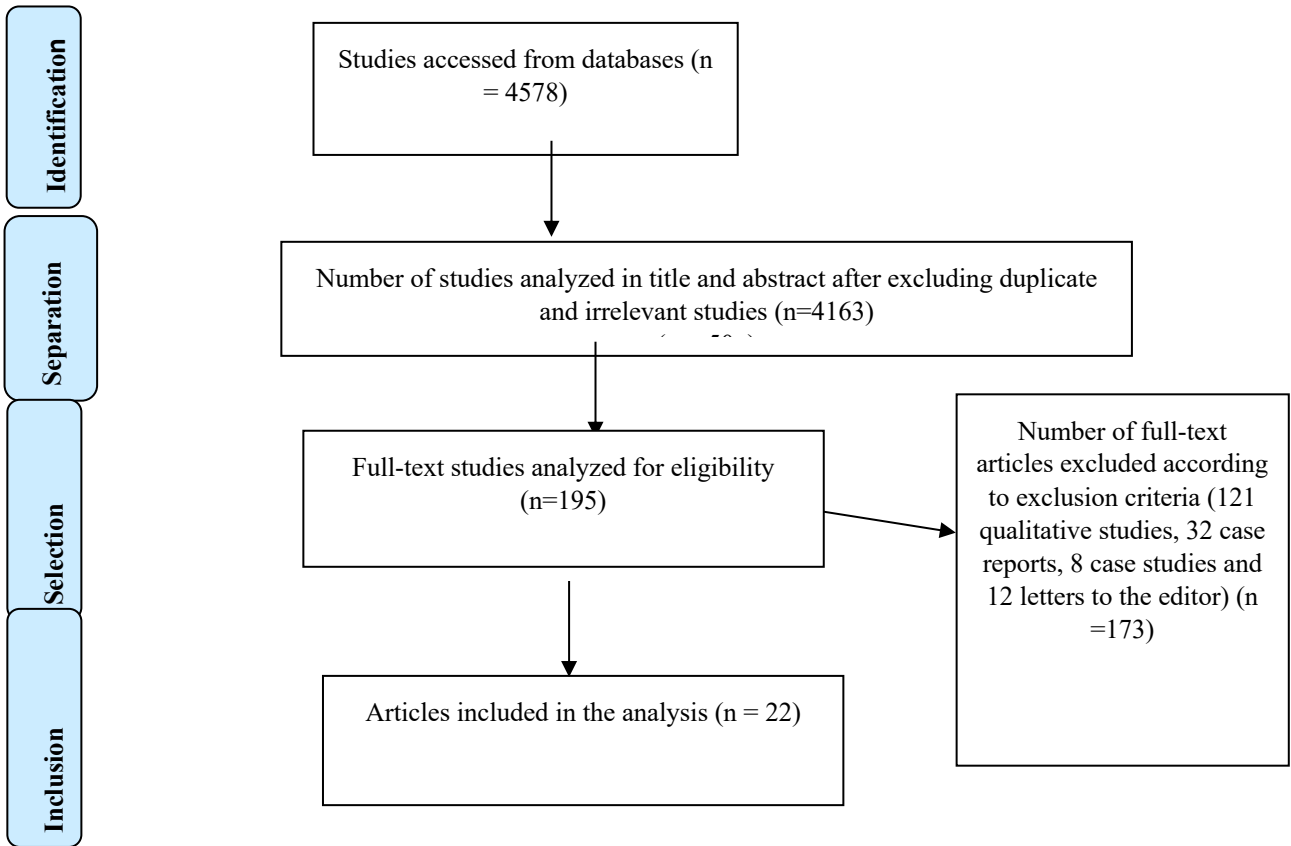
Figure 3. Forest plot of the anxiety variable
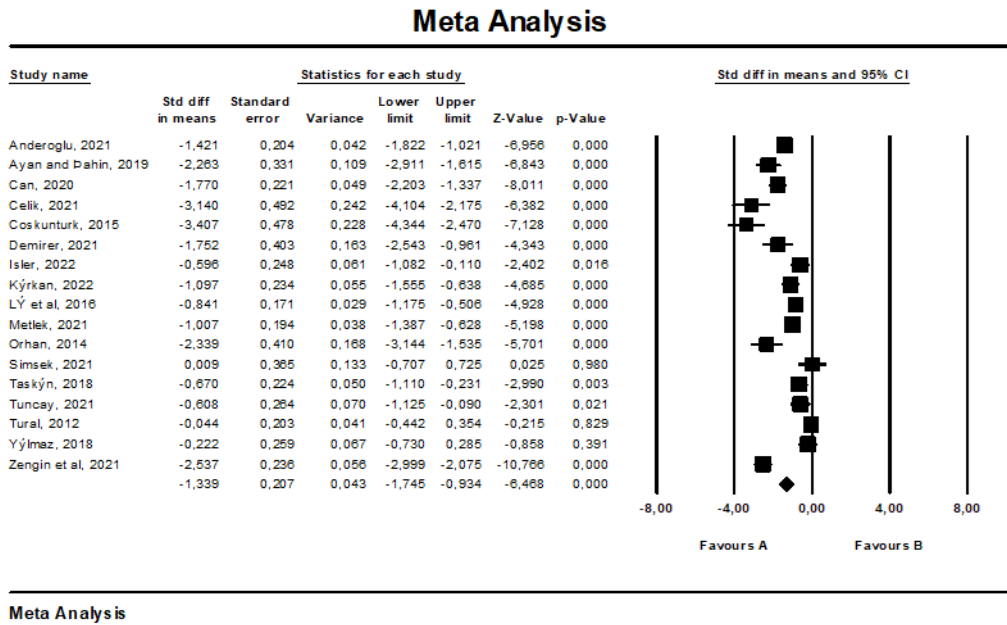
Figure 4. Funnel plot of life skills variable

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Doğu Karadeniz Sağlık Bilimleri Dergisi, 2025, Cilt:4, Sayı:1
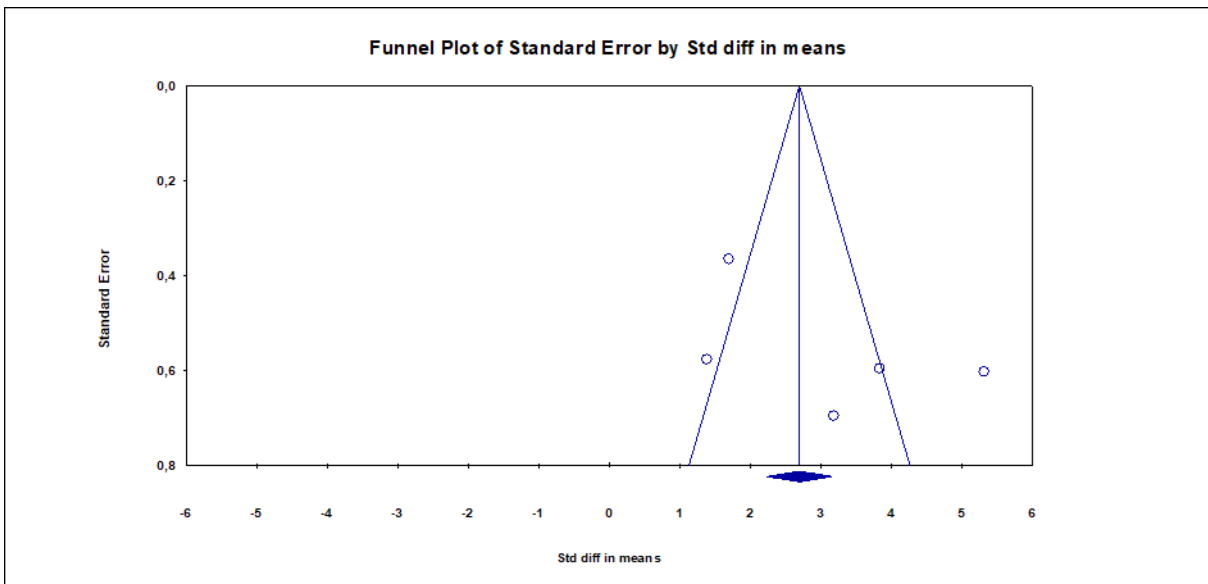*East Black Sea Journal of Health Sciences, 2025, Year:4, Issue:1*

Figure 5. Forest plot of life skills variable

Meta Analysis

Study name	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Akdenizli, 2016	1,382	0,576	0,331	0,253	2,510	2,400	0,016
Altok, 2022	3,828	0,595	0,354	2,662	4,994	6,434	0,000
Ataseven, 2019	5,309	0,602	0,362	4,130	6,488	8,826	0,000
Bilir, 2019	1,693	0,365	0,133	0,978	2,408	4,641	0,000
Yýldýz, 2018	3,180	0,694	0,482	1,820	4,541	4,581	0,000
	3,049	0,732	0,536	1,614	4,484	4,165	0,000

Meta Analysis