

The Effectiveness of Group Counselling with Cognitive Defusion Technique in Reducing Negative Thinking among Students Experiencing Parental Absence

Rahma Sri Anggraini¹, Ahmad Syarqawi²

^{1,2}Universitas Islam Negeri Sumatera Utara, Indonesia

Article Info

Article history:

Received 2025-10-07

Revised 2025-11-22

Accepted 2025-11-23

Keywords:

Cognitive defusion

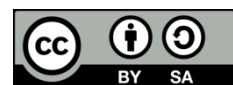
Negative thoughts

Parental absence

ABSTRACT

Parental absence is known to disrupt adolescents' emotional stability and cognitive functioning, often leading to persistent Negative Thinking in school contexts. This study aimed to examine the effectiveness of group counselling services using the Cognitive Defusion technique in reducing negative thinking among students experiencing Parental Absence at SMA Negeri 1 Siantar. A quasi-experimental method with a pretest–posttest control group design was employed. Sixteen students were selected through purposive sampling and divided into two groups: an experimental group of eight students and a control group of eight students. The instrument used was a negative thinking questionnaire adapted from Charry Mae P. Cepada-Grepon. Data were analysed using the Shapiro–Wilk normality test, Levene's homogeneity test, paired-sample t-test, and independent-sample t-test. The findings showed a significant reduction in negative thinking scores in the experimental group compared to the control group ($p < 0.05$). These results indicated that Cognitive Defusion was effective in helping students distance themselves from negative thoughts, interpret them more objectively, and reduce their emotional impact. The study concluded that Cognitive Defusion can serve as a valuable counselling intervention to support students experiencing parental absence. These findings also suggest implications for school counsellors in promoting students' psychological resilience through structured mental health programs.

This is an open-access article under the [CC BY-SA](#) license.



Corresponding Author:

Rahma Sri Anggraini

Universitas Islam Negeri Sumatera Utara

Email: rahma303212147@uinsu.ac.id

1. INTRODUCTION

Parental absence has increasingly become a common phenomenon in Indonesia due to various structural, economic, and social factors. This condition may arise from divorce, employment demands that require parents to work in other cities or abroad, or economic pressures that force parents to leave their children for extended periods of time. Parental

absence has therefore developed into a persistent social issue, driven by shifting family structures, rising divorce rates, and weakened traditional parenting arrangements [1]. In modern urban settings, parents working in the formal sector often face demanding schedules, long-distance employment, and remote work requirements that reduce the time available for meaningful parent–child interaction. Even when physically present, emotional fatigue from work may cause parents to withdraw from their children [2]. Moreover, the growing trend of international labour migration, particularly among Indonesian migrant workers (TKI), has resulted in many children being raised by grandparents or other relatives.

The psychological and academic impacts of parental absence on adolescents are extensive. Emotional absence tends to produce more profound and complex effects than physical absence alone. Students who lack emotional support often feel unappreciated, misunderstood, and disconnected. In response, some adolescents develop compensatory behaviours, such as excessive independence or heightened dependence on others. Research indicates that emotional deprivation contributes to difficulties in emotional regulation, weakened social relationships, and increased psychological distress [3]. Academically, parental absence has been associated with lower cognitive test performance, reduced grade point averages, and limited opportunities for pursuing higher education [4]. Furthermore, adolescents growing up without adequate parental presence often struggle to build trust with others, form healthy social relationships, and manage anxiety [5]. These impacts also shape their identity development, especially during adolescence when strong parental guidance is crucial.

Negative thinking is one of the most common cognitive-emotional consequences observed among adolescents experiencing parental absence. Observation at SMA Negeri 1 Siantar revealed that out of 60 Grade X students, 16 students (26.6%) displayed persistent Negative Thinking patterns linked to either physical or emotional parental absence. Negative thinking refers to irrational, unhelpful, or unrealistic thoughts that distort perception and worsen emotional distress [6]. Such thought patterns may intensify feelings of loneliness, insecurity, and anxiety, affect students' social interactions with peers, and ultimately hinder their academic and emotional development. Considering its impact, targeted interventions are necessary to help students manage these harmful cognitive patterns.

In addressing this issue, school-based counselling services play a vital role. Counseling guidance, a social service, plays a strategic role in helping individuals experiencing current problems [7]. Group counselling serves as both a preventive and remedial service, supporting students' growth within a supportive, peer-based environment [6], [8]. Group counseling focuses on interpersonal processes and problem-solving strategies related to conscious thoughts, feelings, and behaviors [9]. Through group discussion, shared experiences, and mutual feedback, students are encouraged to develop insight and coping strategies [10]. Within this setting, the Cognitive Defusion technique is highly relevant because it helps students create distance from their negative thoughts by altering the way they interpret and respond to them. Research suggests that group counselling can enhance self-confidence (Sabarrudin, 2022) and help students resolve personal issues through the use of group dynamics [11]. Cognitive defusion specifically focuses on changing the functional and contextual meaning of thoughts without attempting to suppress or eliminate them,

allowing individuals to view thoughts as temporary mental events rather than absolute truths [12], [13].

Although previous research has explored the effects of parental absence on adolescent development, studies examining interventions that directly reduce negative thinking—particularly through group counselling using the Cognitive Defusion technique—remain limited in Indonesian educational settings. This gap underscores the need for evidence-based counselling strategies to address the cognitive effects of parental absence. Therefore, this study aims to evaluate whether group counselling with the Cognitive Defusion technique effectively reduces negative thinking among students affected by parental absence.

2. METHOD

This study employed a quantitative approach with a quasi-experimental design, utilising a pretest–posttest control group model. A quasi-experimental design is a research model in which the researcher controls the independent variable but cannot randomly assign participants to groups [14]. According to Cook [15], quasi-experiments involve treatment, outcome measurement, and experimental units, but do not use random assignment when forming comparison groups, making them suitable for real educational settings where randomisation is not feasible.

Participants

The participants in this study were students of Grade XII at SMA Negeri 1 Siantar, totalling 16 students who were divided equally into an experimental group ($n = 8$) and a control group ($n = 8$). The sampling technique used was purposive sampling, a method of selecting participants based on specific predetermined criteria [16].

Inclusion criteria were:

- a. Students experiencing physical parental absence (parents living outside the home, working in other regions, or separated due to migration).
- b. Students experiencing emotional parental absence (lack of parental attention, support, or involvement despite physical presence).
- c. Students exhibiting indications of negative thinking patterns, as identified through preliminary screening.

Instruments

Data were collected using a Parental Absence Questionnaire, developed based on theoretical indicators and adapted to the school context. The instrument used a 4-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree).

Instrument reliability and validity:

- a. Reliability was confirmed through Cronbach's Alpha, which yielded $\alpha = 0.84$, indicating high internal consistency.
-

- b. Content validity was established through expert judgment by two guidance and counselling specialists who reviewed the clarity, relevance, and suitability of each item.

Procedures

The study followed these stages:

- a. Pretest administration to both groups.
- b. Delivery of group counselling using the Cognitive Defusion technique to the experimental group.
- c. No treatment for the control group.
- d. Posttest administration to both groups.

Data Analysis

Data analysis was conducted using SPSS version 26. The statistical procedures included:

- a. Normality Test: Shapiro–Wilk
- b. Homogeneity Test: Levene’s Test
- c. Paired Sample t-Test: to compare pretest and posttest scores within each group
- d. Independent Sample t-Test: to compare posttest scores between experimental and control groups

Ethical Considerations

This study received ethical clearance from the school administration and followed research protocols for studies involving minors. Researchers ensured:

- a. Voluntary participation
- b. Confidentiality and anonymity of student responses
- c. Parental/guardian consent and student assent
- d. Psychological safety during counselling sessions

Table 1. Categorisation Thinking Student

Level	Value Range	Amount	Percentage
Very Low	35 – 61, 25	8	13.3%
Low	61, 26 – 87, 51	36	60%
Tall	87, 52 – 113, 77	13	21.6%
Very high	113, 78 – 140	3	5%

Based on these criteria, two classes were selected that demonstrated a high level of thinking. Next, from the second class, eight students are selected for the experimental group and eight students for the control group, resulting in a total sample of 16 students. A group experiment was conducted with treatment in the form of a service counselling group using the cognitive defusion technique, whereas the group control received no treatment whatsoever. This design is used to measure the difference in results between before and after treatment in group experiments, as well as to compare it with the group control.

Data analysis techniques used in this study cover three Stages. First, a Normality Test uses the Shapiro-Wilk Test to ensure that the data in the sample originates from a normal distribution. Second, the Homogeneity Test uses Levene's Test to ensure that the variance of the second group experiments and the control groups is comparable. Third, hypothesis testing employs an independent t-test to determine if there is a statistically significant difference between the second group after treatment is administered.

3.1.1 Normality Test

The Shapiro-Wilk formula is as follows :

α = Shapiro-Wilk coefficient test (Ineu et al., 2022)

Table 2. Normality Test Results

Tests of Normality							
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Kelas	Statistic	df	Sig.	Statistic	df	Sig.
Hasil	Pretest_Eksperimen	.192	8	.200 [*]	.948	8	.690
	Posttest_Eksperimen	.231	8	.200 [*]	.885	8	.209
	Pretest_Kontrol	.235	8	.200 [*]	.856	8	.110
	Posttest_Kontrol	.192	8	.200 [*]	.901	8	.293

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In the normality test, the overall mark is significant in the Kolmogorov-Smirnov and Shapiro-Wilk tests at $p < 0.05$, indicating that the data for all groups are normally distributed. In general detail, the value significance of Shapiro-Wilk for the Pretest Experiment of 0.690, Posttest Experiment of 0.209, Pretest Control of 0.110, and Posttest Control of 0.293. In the study, the Shapiro-Wilk test is employed because it is a more accurate method for small sample sizes. At the same time, the Kolmogorov-Smirnov test is appropriate for samples of more than 40 [18].

Analysis results indicate that the data meet the assumptions of normality, enabling the testing of hypotheses using parametric tests, such as the Paired Sample t-test for paired data and the Independent Samples t-test for inter-group data.

3.1.2 Homogeneity Test

The homogeneity test is a statistical procedure designed to determine whether two or more sample data groups originate from a population with the same variance [17]. This test aims to determine whether the variation between comparison groups is the same (homogeneous) or different (heterogeneous). *Homogeneity of variance* is one of the assumptions that must be met before performing parametric tests, such as the Independent Sample t-test.

Table 3. Results of Homogeneity Test

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	22.194	3	28	.000
	Based on Median	8.112	3	28	.000
	Based on Median and with adjusted df	8.112	3	8.386	.007
	Based on trimmed mean	22.002	3	28	.000

Based on Table 3, the results of the homogeneity test of variance with the Based on Mean method show marked significance of 0.000. This value, which is smaller than 0.05, suggests that the variance between groups is significantly different in a way that is not homogeneous. In this case, the Based on Mean method is used as a reference because it is the procedure most commonly used for homogeneity tests [19].

Due to the assumption of homogeneity of variance not being fulfilled, the Independent Sample t-test is used in SPSS with the 'Equal variances not assumed' option during the analysis stage. Adjustments are made to avoid calculation bias and variance differences between groups. Findings indicate that data variation in group experiments and control groups has a different distribution, so that the analysis of average comparisons must consider this difference.

3.1.3 Hypothesis Testing

a. Paired Samples *T*-Test

The paired sample *t*-test is one of the methods used to study the effectiveness of treatment, measuring the difference between the average before and the average after treatment [20].

Table 4. Paired Samples Test Results

Paired Samples Test										
		Paired Differences					Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Pretest Eksperimen - Posttest Eksperimen	39.750	23.837	8.428	19.822	59.678	4.717	7	.001	.002
Pair 2	Pretest Kontrol - Posttest Kontrol	-9.750	5.625	1.989	-14.453	-5.047	-4.902	7	<.001	.002

Based on the results of the Paired Samples Test, the obtained information indicates that in Pair 1 (Pretest Experiment – Posttest Control), the mean difference value amounts to 39,750, with a statistically significant result. (*2-tailed*) = 0.002 (< 0.05). This indicates a significant difference between the pretest scores in the experimental group and the posttest scores in the control group. The range confidence interval (19.822 to 59.678) does not include zero, which strengthens the difference in this way, making the statistics meaningful.

In Pair 2 (Pretest Control – Posttest Control), the obtained average difference value was -9,750, indicating a statistically significant result. (*2-tailed*) = 0.002 (< 0.05). A negative value on the mean difference indicates that posttest scores in the control group are lower than those in the pretest group; however, the decrease is relatively small compared to the results in the experimental groups. These results indicate that although the group control experience change score improves, the change is not as significant as those in the group experiments, which is consistent with the study's treatment counselling group using the cognitive defusion technique. Thus, the treatment given to the experimental group has a more significant influence on lower negative thinking compared to the control group.

b. Independent Samples Test

Samples *T*-Test used to determine whether there is a significant difference between two groups that are not in pairs, namely the posttest scores of the experiments and the control groups. This test is used when two groups are sampled with different treatments or one of them is not given a treatment, and then the results are compared.

Table 5. Results of the Group Statistics

Group Statistics					
Kelas		N	Mean	Std. Deviation	Std. Error Mean
Hasil	Pretest_Eksperimen	8	135.25	1.488	.526
	Posttest_Eksperimen	8	95.50	24.101	8.521

Table 6. Results of the Independent Samples Test

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
Hasil	Equal variances assumed	32.018	.000	4.656	14	.000	39.750	8.537	21.440 58.060
	Equal variances not assumed			4.656	7.053	.002	39.750	8.537	19.594 59.906

Test results show a mark $F = 32.018$ with a significance (Sig.) of 0.000 (< 0.05), indicating that the assumption of homogeneity of variance is not fulfilled. Unfulfilled assumptions indicate that the variance between the group experiments and the control group is significant. Therefore, an interpretation t-test cannot be done using the line "Equal variances assumed", but must be done using the line "Equal variances not assumed", which automatically applies Welch's correction in SPSS. Correction: This function is designed to overcome inequality variance so that results analysis remains valid even though the assumptions of homogeneity of variance are violated.

The results of the analysis in the line "Equal variances not assumed" show mark $t = 4.656$, with degrees of freedom (df) of 7.053, and significance (Sig. 2-tailed) of 0.002 (< 0.05). This value indicates a significant difference between the average posttest scores of the experimental groups and the control groups. The mean difference of 39,750 indicates that the average posttest score of the experimental group is significantly higher than that of the control group. The range confidence interval spans from 19,594 to 59,906, which does not include zero, strengthening the meaningful difference in a statistical sense.

3.2. DISCUSSION

The findings of this study showed that group counselling using the Cognitive Defusion technique effectively reduced negative thinking among students experiencing parental absence at SMA Negeri 1 Siantar. A significant decrease in posttest scores in the experimental group indicated that the intervention successfully helped participants distance themselves from maladaptive cognitions. These results correspond with the core principles of Acceptance and Commitment Therapy (ACT), which emphasise cognitive flexibility and the ability to observe thoughts as mental events rather than absolute truths.

Cognitive Defusion Mechanism

The mechanism of cognitive defusion played a central role in reducing negative thinking. Students were trained to externalise their thoughts and view them as temporary verbal constructions rather than fixed realities. This process contributed to a substantial decrease in rumination and cognitive entanglement. Similar results were reported by Harris [21], who found that defusion practices significantly lowered the intensity of negative automatic thoughts in adolescents. Levin et al. [22] also demonstrated that defusion techniques decrease cognitive reactivity by increasing psychological distance from distressing thoughts.

Furthermore, a study by Bramwell et al. [23] confirmed that defusion fosters greater engagement in adaptive and meaningful activities by reducing the dominance of negative

cognitions. Research by Hayes et al. [24] additionally supported the claim that defusion techniques disrupt repetitive thinking patterns (rumination), which often maintain emotional distress. In line with these findings, Daniel et al. [25] emphasised that defusion enables individuals to differentiate between “the thinker” and “the thought,” thereby reducing the emotional burden associated with self-critical narratives. These five previous studies consistently support the core mechanism observed in the present research: defusion enables students to detach from negative thought content, especially that rooted in emotional wounds associated with parental absence.

Group Dynamics

Group counselling dynamics amplified the impact of cognitive defusion techniques. The group setting allowed students to share their experiences freely, validate their emotions, and learn coping strategies from their peers. This shared environment provided a sense of belonging, which is crucial for adolescents dealing with parental absence. Corey [26] stated that group cohesion enhances members’ willingness to engage in meaningful behavioural change. In this study, peer support helped reinforce the application of defusion exercises, increased motivation, and reduced feelings of isolation. The therapeutic atmosphere facilitated emotional release and enhanced the overall effectiveness of the intervention.

Psychological Outcomes

The intervention promoted several positive psychological outcomes, including reduced rumination, improved emotional regulation, and increased adaptive coping. These outcomes are consistent with the broader ACT literature, which highlights that defusion contributes to psychological flexibility and resilience. Among students experiencing parental absence—who often struggle with self-blame, insecurity, and emotional distress—the decline in negative thinking reflects a shift toward healthier cognitive processing. The ability to recognise thoughts as mental events allowed students to respond to their circumstances with greater acceptance rather than automatic negativity.

This study is limited by its small sample size, which constrained statistical generalisation. The research was conducted in a single school, which limited its external validity across diverse educational contexts. Additionally, the short follow-up period precluded a long-term evaluation of the intervention’s effectiveness. Future studies should adopt larger sample sizes, involve multiple schools, and integrate longitudinal assessments to capture the sustained impact of cognitive defusion.

The results of this study provide practical guidance for school counselling practice. School counsellors are recommended to integrate defusion-based exercises, such as “Thank Your Mind,” “Leaves on a Stream,” and “Name the Story,” as well as thought-labelling activities, into their routine guidance sessions. These exercises can help students reduce cognitive entanglement and build psychological resilience. Incorporating cognitive defusion into group counselling programs may be especially beneficial for students facing emotional challenges such as parental absence, as it strengthens both individual coping mechanisms and peer-connected support systems.

4. CONCLUSION

This study concludes that group counselling services utilising Cognitive Defusion techniques are effective in reducing negative thinking among students experiencing parental absence, as evidenced by a significant decline in posttest scores in the experimental group compared to the control group. Through structured group sessions, students learned to detach from maladaptive thought patterns, regulate their emotions more adaptively, and develop healthier cognitive and behavioural responses to academic and social challenges. These findings confirm that cognitive defusion-based group counseling can serve as a valuable intervention for school counselors in promoting positive thought patterns and enhancing students' psychological resilience.

Despite these promising results, the study is limited by its small sample size, single-school context, and short intervention duration, which restricts broader generalisation and long-term conclusions. Therefore, future research should involve larger and more heterogeneous samples, employ longitudinal designs to assess sustained effects, and conduct cross-school or cross-cultural comparisons to enhance external validity.

Practically, school counsellors are encouraged to integrate Cognitive Defusion exercises—such as “Leaves on a Stream,” “Thank Your Mind,” and thought-labelling practices—into their regular counselling curricula. Embedding these techniques in school-based mental health programs can help reduce students' cognitive entanglement, promote adaptive emotional regulation, and support healthier psychological development among adolescents affected by parental absence.

REFERENCES

- [1] R. M. Ryan, “Nonresident fatherhood and adolescent sexual behavior: A comparison of siblings approach,” *Dev Psychol*, vol. 51, no. 2, pp. 211–223, Feb. 2015, doi: 10.1037/a0038562.
- [2] A. Koerber, J. C. Starkey, K. Ardon-Dryer, R. G. Cummins, L. Eko, and K. F. Kee, *The Predatory Paradox*. Cambridge, UK: Open Book Publishers, 2023. doi: 10.11647/OBP.0364.
- [3] A. N. A. Isa and N. N. al-D. Al-Mukhtar, “Emotional Regulation Difficulties Among University Students,” *International Journal of Religion*, vol. 5, no. 12, pp. 352–363, Sep. 2024, doi: 10.61707/sb373245.
- [4] M. Mao, L. Zang, and H. Zhang, “The Effects of Parental Absence on Children Development: Evidence from Left-Behind Children in China,” *Int J Environ Res Public Health*, vol. 17, no. 18, Sep. 2020, doi: 10.3390/ijerph17186770.
- [5] Z. Liu, Z. Zhao, and H. Chen, “Parental rejection and internalizing/externalizing problems among left-behind children: the moderating role of interpersonal harmony in class,” *Front Psychol*, vol. 15, Nov. 2024, doi: 10.3389/fpsyg.2024.1385250.
- [6] I. H. Bell, W. Marx, K. Nguyen, S. Grace, J. Gleeson, and M. Alvarez-Jimenez, “The effect of psychological treatment on repetitive negative thinking in youth depression and anxiety: a meta-analysis and meta-regression,” *Psychol Med*, vol. 53, no. 1, pp. 6–16, Jan. 2023, doi: 10.1017/S0033291722003373.
- [7] A. Syarqawi, “Bimbingan Konseling Pada Masa Pandemi Covid-19,” *Al-Mursyid : Jurnal Ikatan Alumni Bimbingan dan Konseling Islam*, vol. 2, no. 2, pp. 280–294, 2020.
- [8] R. Ellis, C. A. Holimombo, and Y. H. Wenko, “Influence of Group Counseling Services Self Management Techniques on The Discipline of Students in Junior High School,” *Journal of Health and Behavioral Science*, vol. 6, no. 2, pp. 148–159, Jul. 2024, doi: 10.35508/jhbs.v6i2.15363.
- [9] A. Syarqawi, “Tipe Anggota Dalam Mengikuti Proses Konseling Kelompok Pada Satuan Pendidikan,” *Jurnal Al-Taujih*, vol. 3, no. 2, pp. 39–55, 2018.
- [10] A. Syarqawi, “Bimbingan Konseling Sebagai Upaya dan Bagian Pendidikan,” *Al-Fatih: Jurnal Pendidikan dan Keislaman*, vol. 1, no. 1, pp. 169–181, 2018.

- [11] A. zaki I. Nasution, Y. Syukur, and D. Sukma, "Effectiveness of Group Counseling Services with Motivational Interviewing (MI) Techniques In Increasing Learning Motivation In Students," *NUSRA : Jurnal Penelitian dan Ilmu Pendidikan*, vol. 5, no. 3, pp. 975–984, Aug. 2024, doi: 10.55681/nusra.v5i3.2898.
- [12] A. Masuda, S. C. Hayes, C. F. Sackett, and M. P. Twohig, "Cognitive defusion and self-relevant negative thoughts: examining the impact of a ninety year old technique," *Behaviour Research and Therapy*, vol. 42, no. 4, pp. 477–485, Apr. 2004, doi: 10.1016/j.brat.2003.10.008.
- [13] M. Hasmianti, B. Ratu, A. Arifyadi, and H. Hasan, "Application of Cognitive Defusion Group Counselling to Reduce Insecurity among Junior High School Students," *Journal of General Education and Humanities*, vol. 4, no. 4, pp. 2217–2226, Nov. 2025, doi: 10.58421/gehu.v4i4.811.
- [14] A. Ghanad, "An Overview of Quantitative Research Methods," *International Journal of Multidisciplinary Research and Analysis*, vol. 06, no. 08, Aug. 2023, doi: 10.47191/ijmra/v6-i8-52.
- [15] T. D. Cook and D. T. Campbell, *Quasi-experimentation: Design & Analysis Issues for Field Settings*. Houghton Mifflin, 1979.
- [16] R. Azhari, M. Taufik., Al, Fajri, Bahri., Asru., Tien, *Quantitative Research Methods*. Jambi: PT. Sonpedia Publishing Indonesia, 2023.
- [17] Laerd, "Testing for Normality using SPSS Statistics when you have only one independent variable.," <https://statistics.laerd.com/spss-tutorials/testing-for-normality-using-spss-statistics.php>. Accessed: Nov. 23, 2025. [Online]. Available: <https://statistics.laerd.com/spss-tutorials/testing-for-normality-using-spss-statistics.php>
- [18] N. Mohd Razali and B. Yap, "Power Comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling Tests," *J. Stat. Model. Analytics*, vol. 2, Jan. 2011.
- [19] E. Cevahir, *SPSS ile Nicel Veri Analizi Rehberi*. 2020.
- [20] A. Talikan *et al.*, "On Paired Samples T-Test: Applications, Examples and Limitations," Mar. 2025, doi: 10.5281/zenodo.10987546.
- [21] R. Harris, *ACT Made Simple: An Easy-To-Read Primer on Acceptance and Commitment Therap*. New Harbinger Publications, 2019.
- [22] M. Levin, J. Haeger, B. Pierce, and M. Twohig, "Web-Based Acceptance and Commitment Therapy for Mental Health Problems in College Students: A Randomized Controlled Trial," *Behav Modif*, vol. 41, Jul. 2016, doi: 10.1177/0145445516659645.
- [23] K. Bramwell and T. Richardson, "Improvements in Depression and Mental Health After Acceptance and Commitment Therapy are Related to Changes in Defusion and Values-Based Action," *J Contemp Psychother*, vol. 48, no. 1, pp. 9–14, Mar. 2018, doi: 10.1007/s10879-017-9367-6.
- [24] S. C. Hayes, K. D. Strosahl, and K. G. Wilson, *Acceptance and commitment therapy: The process and practice of mindful change*. The Guilford Press, 2012.
- [25] D. A. Assaz, I. Tyndall, C. K. B. Oshiro, and B. Roche, "A Process-Based Analysis of Cognitive Defusion in Acceptance and Commitment Therapy," *Behav Ther*, vol. 54, no. 6, pp. 1020–1035, Nov. 2023, doi: 10.1016/j.beth.2022.06.003.
- [26] G. Corey, *Theory and practice of group counseling*. Cole Publishing Company, 1995.