

The Effectiveness of Combining Acceptance and Commitment Therapy (ACT) and Family Therapy in Reducing Addiction and Anxiety Among Adolescents with Online Gambling Problems

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Abstract

Effective interventions are needed to address addictive behaviors and the accompanying psychological conditions. This study contributed to comparing the effectiveness of a combination of Acceptance and Commitment Therapy (ACT) and family therapy with family therapy alone in reducing the levels of online gambling addiction and anxiety in adolescents. An experimental research design with a pretest-posttest approach on two treatment groups. Consisted of 20 adolescents in Sumedang Regency, divided into two groups: the Experimental Group (Combination of ACT and Family Therapy) and the Control Group (Family Therapy Only). The instruments used were scales measuring online gambling addiction and anxiety. Data analysis used a non-parametric difference test (Mann-Whitney test) to compare changes in scores between groups. The results showed that both interventions were effective in reducing addiction and anxiety scores. However, there were significant differences between the groups ($p < 0.05$). The ACT and Family Therapy Combination Group showed a decrease in the average addiction score from 22.6 to 10.4 and the anxiety score from 25.1 to 6.8. The Family Therapy-Only group showed a decrease in the average addiction score from 25.4 to 19.4 and the anxiety score from 28.9 to 18.0. These findings indicate that the combination of ACT and family therapy is more optimal and results in a much greater reduction in both addiction and anxiety levels compared to family therapy alone. The combination of Acceptance and Commitment Therapy (ACT) and family therapy proved to be more effective than family therapy alone in treating online gambling addiction and anxiety in adolescents.

Keywords: Acceptance; Adolescents; Anxiety; Commitment Therapy; Family Therapy; Online Gambling Addiction

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1. Introduction

The digital age has brought significant changes to various aspects of life, including behavioral patterns and social interactions within society. However, the positive impact of easy internet access is sometimes exploited by irresponsible individuals for negative purposes. One such example is the ease of accessing and creating online gambling websites, such as (Addiyansyah & Rofi'ah, 2023). Gambling is a form of betting activity involving the use of money, where the winner receives the entire amount of the bet placed; consequently, players must accept the financial losses they have wagered if they lose. Adolescents are among the internet users; they access the internet for online games, and worst of all, they participate in online gambling (Sari &

Amirah, 2024). The high prevalence of online gambling in society is increasingly concerning. Indonesia has the highest number of online gambling users. The number of online gamblers in Indonesia has reached 4,000,000

people. Online gamblers are not only adults but also include children. According to demographic data, online gamblers under the age of 10 account for 2% of the total players, amounting to 80,000 people. The distribution of players in the 10-to-20-year-old age range is 11%, or approximately 440,000 individuals, while for those aged 21 to 30, the figure reaches 13%, or 520,000 people. The 30–50 age group accounts for 40% or 1,640,000 people, while those over 50 make up 34% with a total of 1,350,000 people. This trend raises serious concerns, given the potential harmful consequences

of online gambling on adolescent development. Online gambling has been proven to have adverse effects, both economically, psychologically, socially, and on health (Nurdiana et al., 2022). These effects emerge when an individual faces repeated losses but continues to deposit money into gambling in the hope of achieving greater profits (Overâ et al., 2024).

Psychologically, addicted adolescents often experience increased anxiety, depression, and stress. Financial problems and interpersonal conflicts resulting from gambling can worsen their mental health. Socially, online gambling addiction can lead to isolation, a decline in academic performance, and damage to relationships with family and friends (Dowling et al., 2022). Economically, adolescents addicted to online gambling are at risk of serious financial problems that can negatively impact their future (Addiyansyah & Rofi'ah, 2023). Unmet expectations following repeated losses and setbacks can cause permanent damage to the brain, impair concentration, and lead to depression, anxiety, paralysis, a weakened immune system, increased susceptibility to illness, and even suicide (Supratama et al., 2022).

Online gambling addiction can also damage interpersonal relationships, cause conflicts, and trigger various psychological issues, including family harmony (Overâ et al., 2024). Several previous studies have identified and demonstrated the dangers of online gambling to adolescent health (Sahputra et al., 2022).

Several sociodemographic factors have been found to be associated with problem online gambling. These factors include not only male gender and younger age, but also diverse cultural backgrounds. Living with non-biological parents, higher family income, and greater involvement in gambling activities. The prevalence of online gambling among adolescents has increased significantly (Sutisna, 2022).

Parenting styles play a very important role in adolescent development. Baumrind identified four parenting styles: authoritative, authoritarian, permissive, and neglectful. Authoritative parenting is a style that strikes a balance between high parental demands and high responsiveness toward the child; conversely, authoritarian, permissive, and neglectful parenting styles are associated with an increased risk of behavioral problems, including substance use and addictive behaviors (Sahputra et al., 2022).

Recent research indicates that unhealthy parenting styles can increase adolescents' vulnerability to online gambling addiction. Authoritarian parenting can lead adolescents to develop maladaptive coping strategies, such as seeking thrills through online gambling; permissive

parenting can make adolescents more vulnerable to peer influence and the temptation to gamble; and neglectful parenting can lead adolescents to seek validation from external sources, such as online gambling (Crone & Duijvenvoorde, 2021).

Given the complex relationship between parenting styles and online gambling addiction, effective interventions must take into account both family and individual factors. Overcoming online gambling addiction is a long and arduous journey that requires courage, patience, and the full support of family and friends (Kusumaningsih & Suhardi, 2023). Online gambling addiction not only drains finances but also disrupts family harmony. To rebuild family harmony, the first step is to acknowledge that there is a problem that must be addressed (Nurdiana et al., 2022). Once there is self-acknowledgment of the problem, the next step is to seek professional help (Bowen, 2024). Acceptance and Commitment Therapy (ACT) and family therapy offer promising approaches. ACT helps adolescents accept negative thoughts and feelings, and act in accordance with their values (Makarti & Yudianto, 2022). Family therapy improves family interaction patterns and builds support (Gillian, 2022).

ACT helps individuals clarify the values that have been present in their lives all along, and assists in making decisions or taking actions that support the life values they have held since before (Zhao et al., 2023). ACT is highly effective in improving emotional regulation and reducing addictive behaviors, demonstrating more sustainable improvements in psychological flexibility (Güngör, 2026). Family therapy for adolescents and adults with internet addiction is effective in reducing the severity of addiction and improving coping and family functioning (Zhao et al., 2023). Family therapy aims to address these issues by helping families understand their dynamics and learn how to interact more healthily, thereby strengthening the family foundation and restoring harmony.

A preliminary study was conducted through interviews with parents of children with online gambling addiction. The results of the initial interviews with parents revealed significant physical and psychological changes in the children; the children began exhibiting manipulative behavior, lost enthusiasm for school, and tended to isolate themselves in their rooms, preoccupied with their phones. Parents reported difficulty in providing guidance due to a lack of knowledge, information, and support from their surroundings—including family, school, and nearby healthcare services—regarding their children's mental health in relation to online gambling.

This study aims to evaluate the effectiveness of ACT and family therapy. It is expected to provide valuable insights for mental health

professionals, families, and policymakers.

2. Method

This study employed a quasi-experimental design using a two-group pretest-posttest approach. It compared the effectiveness of two interventions: a combination of Acceptance and Commitment Therapy (ACT) and family therapy in the experimental group, and family therapy alone in the control group. This study adheres to the TREND (Transparent Reporting of Evaluation with Nonrandomized Designs) reporting guidelines to ensure transparency and the replicability of the research methodology.

This study was conducted in Sumedang Regency, West Java, Indonesia, using a community-based approach. The interventions were delivered through face-to-face sessions facilitated by researchers and trained health workers; the ACT intervention consisted of 6 sessions.

The study population consisted of adolescents exhibiting online gambling addiction behaviors in Sumedang Regency. Sampling employed purposive sampling, considering specific criteria relevant to the study's objectives. The sample comprised 20 participants, divided into the experimental group (ACT + family therapy, 10 participants) and the control group (family therapy only, 10 participants).

Sample selection was conducted by considering inclusion and exclusion criteria. Inclusion criteria: adolescents aged 12–18 years, with moderate-to-high online gambling addiction scores, experiencing anxiety based on screening results, willing to participate in all intervention sessions, and having parental/guardian consent. Exclusion criteria: adolescents with severe psychiatric disorders (e.g., psychosis), currently undergoing intensive psychological therapy, failing to complete all intervention sessions, or failing to attend the posttest assessment.

This study has obtained ethical approval from the Health Research Ethics Committee of Jenderal Achmad Yani University. Throughout the study, data confidentiality is guaranteed, and participants may withdraw at any time without consequences.

The intervention procedures implemented included: a) experimental group (ACT and Family Therapy): intervention was provided over 6 sessions (60–90 minutes), b) Control group (family therapy only): this group received only family therapy without ACT intervention

Data collection was conducted in two phases: a pretest before the intervention was administered and a posttest after all sessions were completed. Data were collected directly using standardized questionnaires. The Online Gambling

Addiction Scale utilized the Online Gambling Symptom Assessment Scale (OGSAS) developed which was adapted from the Gambling Symptom Assessment Scale (G-SAS). Meanwhile, to measure anxiety, the Hamilton Anxiety Rating Scale (HARS) was used.

Data analysis was performed using statistical software through the following steps: descriptive analysis, normality test (Shapiro-Wilk), and homogeneity test (Levene's test). Since the data were not homogeneous, non-parametric tests were used: Paired t-test/Wilcoxon for pre- and post-tests within each group, and the Mann-Whitney U test to analyze comparisons between groups. The significance level was set at $p < 0.05$.

3. Results and Discussion

The study was conducted in Sumedang Regency; the subjects in this study were adolescents with online gambling addiction. The sample was determined using inclusion criteria, with a total of 20 participants, resulting in 10 participants in each group. The sample was described based on age and gender.

Demographic and Contextual Characteristics of Respondents

Respondent characteristics (Table 1) in this study encompassed not only gender but also important demographic and contextual variables such as age, educational status, socioeconomic background, family structure, as well as the severity of online gambling addiction and anxiety levels at the start of the study. These variables are crucial for assessing sample representativeness and the potential for generalizing the study's findings.

Table 1. Respondent Characteristics

Characteristics	Category	f	%
Age	12–14	6	30
	15–18	14	70
Gender	Male	18	90
	Female	2	10
Educational Status	Junior High School	8	40
	High School	12	60
Socioeconomic Status	Low	9	45
	Middle	11	55
Family Structure	Nuclear	12	60
	Extended	8	40
Addiction Level (Pretest)	Moderate	11	55
	High	9	45
Anxiety Level (Pretest)	Moderate	12	60
	High	8	40

Most respondents were in the 15–18 age range (70%) and were predominantly male (90%). The majority of respondents came from a middle socioeconomic background (55%) and lived in a nuclear family (60%). Most respondents had moderate to high levels of addiction and anxiety, indicating that the study subjects were in a condition relevant for intervention.

Measurement Results Data

For the addiction variable, the combination group experienced an average decrease of 12.2 points, while the control group experienced a decrease of only 6.0 points. Similarly, for the anxiety variable, the combination group showed a

decrease of 18.3 points, which was greater than the control group's decrease of 10.9 points.

Prerequisite Tests

Prerequisite tests were conducted to determine the data analysis method to be used in the hypothesis testing. The first prerequisite test performed was the normality test to determine whether the data distribution was normal or not. If the data were normally distributed with a p-value > 0.05, parametric tests were used for analysis. Conversely, if the data were not normally distributed, non-parametric tests were used for hypothesis testing.

Table 2. Intervention Results

Variable	Group	Pre-test (Mean± SD)	Posttest (Mean± SD)	Mean
Addiction	ACT + Family Therapy	22.6 ± 3.9	10.4 ± 4.6	-12.2
	Family Therapy	25.4 ± 8.0	19.4 ± 7.45	-6
Anxiety	ACT + Family Therapy	25.1 ± 4.0	6.8 ± 1.13	-18.3
	Family Therapy	28.9 ± 5.48	18.0 ± 13.0	-10.9

The next prerequisite test is the homogeneity test to determine whether the data is homogeneous or not. The homogeneity test is used as a prerequisite for hypothesis testing involving two different sample groups. The data is considered homogeneous if the significance value $p > 0.05$. Conversely, if the significance value $p < 0.05$, the data is not homogeneous.

Normality Test

A normality test is a series of prerequisite tests to determine whether data is normally distributed or not. Based on Table 3 above, addiction and anxiety have a significance of $p > 0.05$, so it can be concluded that the data are normally distributed. The data analysis used for these components employed parametric analysis.

Table 3. Normality Test for the Combination of Acceptance and Commitment Therapy and Family Therapy

Indicator	Treatment	Shapiro-Wilk	Sig.	Note
Addiction	Combination	0.60		Normal
	Family Therapy	0.248		Normal
Anxiety	Combination	0.479		Normal
	Family Therapy	0.326		Normal

Homogeneity Test

The homogeneity test is a prerequisite test aimed at determining whether the data is homogeneous or not. The homogeneity test was conducted on both research sample groups (the combination group and the family therapy group). Data is considered homogeneous when it has a

significance level of $p > 0.05$. Based on Table 4, the components of addiction and anxiety have a significance level of $p < 0.05$, so it can be concluded that the data is not homogeneous.

Table 4. Results of the ANOVA Homogeneity Test for Both Groups

Indicator	Sig.	Description
Addiction	0.005	Not Homogeneous
Anxiety	0.014	Not Homogeneous

Group Difference Test for the Combination of Acceptance and Commitment Therapy and Family Therapy

Based on the results of the difference test in the table, the addiction and anxiety indicators in both groups were significant at $p < 0.05$; therefore, it can be concluded that there is a significant difference in effectiveness between before and after the intervention.

Table 5. Results of the Pretest-Posttest Hypothesis Test

Indicato	Analysis	Sig.	Note
Pre-Post Addiction	Test Paired t-test	0.000	Significant
Pre-post Anxiety	Paired t-test	0.000	Significant

Comparison Test Between the Two Groups

Based on Table 6, it can be observed that the results of the between-group difference test show significant differences in both addiction ($p = 0.002$) and anxiety ($p = 0.047$), indicating that the

combination of interventions provides a more optimal effect.

Table 6. Results of the Hypothesis Test Comparing the Acceptance and Commitment Therapy and Family Therapy Combination Group with the Family Therapy Group

Indicator	Analysis Technique	Sig.	Notes
Addiction	Mann-Whitney	0.002	Significant
Anxiety	Mann-Whitney	0.047	Significant

In line with the research objectives, this study aimed to determine the effectiveness of a combination of Acceptance and Commitment Therapy (ACT) and family therapy compared to family therapy alone in reducing levels of online gambling addiction and anxiety among adolescents in Sumedang Regency.

These research findings should be interpreted while considering the demographic and contextual characteristics of the respondents. The majority of respondents were in the 15–18 age range, which corresponds to the mid-to-late adolescent phase, a period during which individuals exhibit a higher tendency toward risky behaviors, including addictive behaviors such as online gambling (Addiyansyah & Rofi'ah, 2023).

The results of the study showed a significant difference between pretest and posttest scores in both treatment groups. In the group receiving a combination of ACT and family therapy, the average addiction score decreased from 22.6 to 10.4, while the anxiety score decreased from 25.1 to 6.8. Meanwhile, in the family therapy-only group, the decrease in addiction scores was relatively smaller, from 25.4 to 19.4, as was the decrease in anxiety scores, from 28.9 to 18. These findings indicate that the combination of ACT and family therapy is more effective in reducing levels of addiction and anxiety compared to family therapy alone. ACT has been proven effective in improving emotional regulation and reducing digital addiction behaviors in young individuals (Güngör, 2026). ACT enhances an individual's psychological flexibility—their ability to adapt to difficult situations without being trapped by negative emotions (Aulia & Harisuci, n.d.). Theoretically, the findings of this study align with the theory regarding Acceptance and Commitment Therapy (ACT), in which individuals are taught to accept unpleasant internal experiences (e.g., the urge to gamble) without avoiding or fighting them, while simultaneously committing to more adaptive life values (Makarti & Yudianto, 2022). ACT provides self-regulation skills so that adolescents are better able to control impulsive behaviors, including online gambling addiction (Secades-villa & García-p, 2024).

Family therapy has also been shown to make a significant contribution. Family support plays a role in building a social control system, enhancing positive emotional engagement, and reducing family conflicts, which often serve as triggers for addictive behavior (Wang et al., 2024). These findings align with previous research which found that family-based interventions are effective in reducing online addictive behavior among adolescents. However, this study expands upon those findings by demonstrating that a combination of psychological intervention (ACT) and family support yields more optimal results compared to a family-based approach alone.

Regarding anxiety, the study results show that the combination of ACT and family therapy reduces anxiety more significantly. This is consistent with research, who reported that ACT is effective in reducing anxiety through the process of mindfulness and acceptance of difficult thoughts and feelings. Meanwhile, family involvement helps provide emotional support that reduces feelings of isolation in adolescents, thereby contributing to reduced anxiety.

However, the results of the homogeneity test in this study indicate that the data are not homogeneous ($p < 0.05$). This may be due to the relatively small sample size ($n = 20$) as well as differences in individual characteristics among respondents. These limitations should be noted; therefore, further research with a larger sample size and a more balanced distribution based on gender and family background is strongly recommended.

A related study titled “How Gambling Affects the Brain and Who Is Most Vulnerable to It”. This article states that adolescents, particularly males, are more vulnerable to the addictive effects of gambling, both neurologically and psychologically. It supports the finding that the sample characteristics in this study (predominantly male) are consistent with other research; it also reinforces the urgency of effective interventions such as those in this study.

Overall, the results of this study address the research question and demonstrate that a combination of Acceptance and Commitment Therapy (ACT) and family therapy is more effective than family therapy alone in reducing levels of online gambling addiction and anxiety among adolescents. The practical implications of this study are that healthcare professionals, counselors, and psychologists can integrate ACT interventions with a family-based approach in online gambling addiction rehabilitation programs. An intervention comprising standard ACT and family therapy not only situates this study within established therapeutic techniques but also demonstrates that, if the results are positive, the treatment protocol can be easily adopted by other

clinics. Furthermore, the study's roots in actual clinical practice underscore its commitment to real-world effectiveness, emphasizing the value of learning directly from clinical experience and disseminating that knowledge. Thus, the findings of this study not only reinforce existing theory and prior research but also make a tangible contribution to the development of psychosocial intervention practices for adolescents.

Reduction in Online Gambling Addiction

The study results indicate a significant reduction in addiction levels in both groups. In the group receiving a combination of Acceptance and Commitment Therapy (ACT) and family therapy, the average addiction score decreased from 22.6 to 10.4. Meanwhile, in the group receiving family therapy alone, the average score decreased from 25.4 to 19.4. The results of the t-test showed a significance level of $p < 0.05$, indicating that the interventions in both groups were effective; however, the combination of ACT and family therapy was more effective than family therapy alone.

These findings support the theory proposed that ACT helps individuals develop skills to accept negative thoughts and feelings without having to respond to them with addictive behavior (Güngör, 2026). Thus, adolescents addicted to online gambling can learn to control their urge to gamble through self-regulation strategies. The results of this study are also consistent with research, which showed that family-based therapy can reduce online addictive behavior. However, this study expands upon previous research by demonstrating that a combination of psychological therapy (ACT) and family support is more effective than a family-only approach.

Reduction in Anxiety Levels

In addition to addiction, the study results also showed a significant reduction in anxiety in both groups. In the group receiving the combination of ACT and family therapy, the average anxiety score decreased from 25.1 to 6.8, while in the group receiving family therapy alone, the score decreased from 28.9 to 18. The results of the t-test showed a p -value < 0.05 , so it can be concluded that both interventions are effective, but the combination of ACT and family therapy is more effective.

These findings support the research, which found that ACT can reduce anxiety through mindfulness and self-acceptance strategies, enabling individuals to cope with unpleasant thoughts or emotions in a more adaptive manner. Family involvement also plays a crucial role, as social support from family can reduce feelings of isolation and strengthen adolescents' psychological resilience. ACT is more effective in providing

psychological improvement and flexibility, with a significant reduction in anxiety measured (Lara-merín et al., 2025).

Another study aligned with this research, titled "An exploratory study of anxiety-motivated gambling in adolescents", explores how adolescents gamble to reduce anxiety; finding that some adolescents use gambling as a coping mechanism for anxiety and that anxiety can trigger or exacerbate gambling behavior. This strongly supports the indication that anxiety is a key variable in your research. ACT interventions demonstrate relatively stable psychological flexibility, while psychological inflexibility and anxiety decrease slightly (Lara-merín et al., 2025). This provides theoretical justification that interventions like ACT, which focus on emotion/anxiety regulation, are appropriate.

Comparison of Effectiveness Between the Two Groups

Based on the Mann-Whitney test, there were significant differences between the two groups in both addiction ($p = 0.002$) and anxiety ($p = 0.047$). This confirms that the combination of ACT and family therapy is more effective than family therapy alone. This difference can be explained by the fact that ACT provides adolescents with direct self-regulation techniques, whereas family therapy places greater emphasis on external support. Therefore, combining the two produces a stronger synergy in reducing both addiction and anxiety.

In line with the study titled "Psychosocial treatment options for adolescents and young adults" (Frontiers, meta-analysis) A meta-analysis of psychosocial interventions for adolescents and young adults with alcohol use disorder (AUD) found that integrated interventions (e.g., combining family therapy with CBT or other therapies) produced greater effects than single interventions. Although the issue is not specifically online gambling, the intervention structure is similar: a combination of therapeutic strategies + external support (family) is effective. This reinforces that a combination of ACT + family therapy can provide greater effects than family therapy alone, as in this study.

"Examining Utilization of Family-Based Treatment in Substance Use". Research indicates that family-based treatment (FBT) is effective in increasing treatment engagement and yielding better outcomes in reducing substance use among adolescents. Although the specific substance of addiction may vary, the underlying concept remains highly relevant: involving the family in the intervention provides a strong social support context, which helps individuals maintain greater consistency and better control over addictive behaviors.

How gambling affects the brain and who is most vulnerable to it. This article notes that adolescents, particularly males, are more susceptible to the addictive effects of gambling, both neurologically and psychologically. It supports the finding that the characteristics of the sample in this study (predominantly male) are consistent with other research; it also reinforces the urgency of effective interventions, such as those in this study

This study aligns with a study titled “Family-based therapy for internet addiction among adolescents” (PMC). This study found that family-based therapy is effective in treating internet addiction in adolescents, both when compared to a no-intervention group and when added to other psychological therapies. Relevant to family therapy in this study; it supports the notion that family support has a significant effect. A combination of psychological therapies such as ACT plus family therapy may be more effective, as the researchers found.

A subsequent study titled “Problematic online gambling among adolescents: A systematic review” noted that the prevalence of problematic online gambling among adolescents is quite high and varies depending on the measurement tools and context. It also indicated that males are more frequently involved than females. This supports the demographic data from this study, which shows that males are far more likely than females to be addicted to online gambling. This provides context that this phenomenon is common, not unique.

Research Implications

These findings have practical implications for the treatment of adolescents with online gambling addiction. Psychological interventions should not only focus on family support but also incorporate acceptance-based therapies such as ACT. Healthcare professionals, counselors, and psychologists can integrate ACT and family therapy into rehabilitation programs to achieve more optimal outcomes.

Additionally, this study makes a theoretical contribution by strengthening the evidence of ACT’s effectiveness in addressing behavioral addictions, particularly online gambling, and by emphasizing the importance of the family’s role as a protective factor for adolescents’ mental health.

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4. Conclusions and Suggestions

Effectiveness of the Intervention: Both treatment groups (the combination of ACT and family therapy versus family therapy alone) showed significant reductions in both the level of online gambling addiction and the level of anxiety among adolescents. This confirms that psychosocial interventions and family support are effective in addressing issues of addiction and anxiety. Comparison of Effectiveness: The combination of ACT and family therapy proved significantly more effective than family therapy alone in reducing both online gambling addiction and anxiety levels. This more optimal reduction indicates a strong synergy, where ACT provides adolescents with self-regulation skills and direct emotional acceptance, while family therapy provides social and environmental support.

It is recommended that mental health professionals, school counselors, and psychologists treating adolescents with online gambling addiction integrate ACT modules into family therapy sessions. This combined approach is expected to yield better clinical outcomes. Future research could explore other factors (e.g., mindfulness, psychological flexibility, or family communication quality) as mediating or moderating variables to understand the specific mechanisms by which the combination of ACT and family therapy yields superior outcomes.

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