



The Impact of CBM-Based Counseling Learning with Relaxation Techniques in Reducing Anxiety

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Abstract: Counseling education plays a crucial role in both classroom and extracurricular learning contexts. It can serve as a foundational paradigm for educational practices in society. Substance Use Disorder (SUD) presents significant global and local challenges that can disrupt the educational landscape in Indonesia, particularly due to its high prevalence in correctional institutions, which often leads to accompanying psychological issues such as anxiety that hinder rehabilitation. This study examined the effectiveness of group counseling using a Cognitive Behavior Modification (CBM) approach combined with relaxation techniques in reducing anxiety among incarcerated individuals with SUD at Padang Class IIA Correctional Institution. Employing a quantitative quasi-experimental design with a pretest–posttest control group, 16 participants were selected through purposive sampling and divided into experimental (n=8) and control (n=8) groups. Anxiety was measured using a 32-item Likert scale adapted from Nevid et al. (2018), and data were analyzed using the Wilcoxon Signed-Rank Test and Mann–Whitney U Test. The findings revealed a significant decrease in anxiety levels in the experimental group (mean pretest = 136.38, posttest = 54.38, $p = 0.012$, N-Gain = 78.56%), outperforming the control group ($p = 0.027$). These results support the role of CBM in restructuring maladaptive thinking and highlight the contribution of relaxation techniques to emotional stability. This intervention provides a promising evidence-based option for mental health programs in Indonesia and offers valuable insights for policy development to enhance rehabilitation and promoting high quality education, especially in the world of educational psychology learning.

INTRODUCTION

The psychology learning process must truly be able to be a solution for society, not just theory and rhetoric. Learning in the field of psychology education should be able to be a solution to problems outside the classroom, namely Drug use disorder (SUD) is a widespread global health challenge, with increasing prevalence rates exacerbating the social, economic and public health burden. According to the United Nations Office on Drugs and Crime (2024), global drug use has increased by approximately 20% in recent years, affecting approximately 296 million people aged 15–64 years, with cannabis remaining the most widely used substance (219 million users), followed by opioids (60 million), amphetamines (36 million), cocaine (22 million), and ecstasy (20 million). In

Indonesia, this trend reflects global patterns, with national surveys showing the prevalence of drug abuse (those who have used drugs) decreasing slightly to 2.20% in 2023, but remaining high in regions such as West Sumatra due to ongoing narcotics-related confiscations and arrests (BNN Republik Indonesia, 2024). These numbers underscore the urgent need for targeted interventions, as SUD not only contributes to criminal justice involvement but also amplifies mental health vulnerabilities in correctional institutions, as evidenced by a systematic review of the global burden of SUD and its association with incarceration (Fazel et al., 2017).

The learning process in the future must be able to contribute directly, for example as a system that is able to encourage changes related to psychological stress, where in this research the subject is especially among prisoners. Anxiety disorders are common and often stem from the stress of the prison environment, uncertainty about the future, and societal stigma (Facer-Irwin et al., 2022; Shofiyah & Sovitriana, 2021). Symptoms manifest in physical (e.g., palpitations, muscle tension), cognitive (e.g., excessive worry, negative rumination), and behavioral domains (e.g., social avoidance, dependency) (Nevid et al., 2018). Research shows that SUD sufferers who are in prison have a higher risk of experiencing comorbid conditions such as prolonged stress, depression, and sleep disorders if left untreated (Baranyi et al., 2022; Fazel et al., 2016). In prisons in Indonesia, such as the Class IIA facility in Padang, this problem is exacerbated by overcrowding (capacity 131.4%–215.6%) and limited access to specialized care, thereby hampering the effectiveness of rehabilitation (Shahab et al., 2024).

Correctional authorities in Indonesia have implemented various programs to address these psychological challenges, including social rehabilitation, spiritual guidance (e.g., santri programs), and recreational activities aimed at fostering resilience and healthy lifestyles. However, these initiatives often fall short in targeting deep-rooted mental health needs, due in part to a scarcity of trained professionals and evidence-based psychological services (Thekkumkara et al., 2022; Shahab et al., 2024). Studies highlight that without structured interventions, incarcerated individuals with SUDs remain vulnerable to persistent disorders, underscoring the gap in integrating scientifically grounded counseling into prison rehabilitation (Martín-Coca & Herrero, 2025). Emerging evidence supports hybrid approaches combining group and individual sessions for dual-diagnosis cases (mental health and SUDs), which can enhance outcomes in correctional environments (Perry et al., 2019).

This gap necessitates tailored psychological interventions to mitigate anxiety effectively. The Cognitive Behavior Modification (CBM) approach, integrated with relaxation techniques in a group format, emerges as a promising strategy. CBM focuses on identifying and restructuring maladaptive thought patterns that fuel anxiety, while promoting adaptive behaviors through stages like self-observation, internal dialogue, and skill training (Meichenbaum, 1977; Lotfi et al., 2011). Relaxation techniques complement this by reducing emotional tension and fostering psychological stability (Chen et al., 2017). Its brief, active, and structured nature makes it suitable for prison settings, where time and resources are limited (Karneli et al., 2019). Prior studies demonstrate CBM's efficacy in

reducing anxiety and related behaviors in diverse populations, including offenders (Yoon et al., 2017; Gannon et al., 2024).

This study examines the effectiveness of CBM-based group counseling with relaxation techniques in reducing anxiety among incarcerated individuals with SUDs at Padang Class IIA Correctional Facility. By comparing pre- and post-intervention anxiety levels between an experimental group receiving CBM and a control group with conventional counseling, we aim to address the rehabilitation gap and inform policy for Indonesian prisons.

THEORETICAL SUPPORT

Cognitive Behavior Modification (CBM), as conceptualized by Meichenbaum (1977), is an integrative framework that combines cognitive restructuring with behavioral rehearsal to enable individuals to self-regulate maladaptive patterns through structured stages: self-observation, internal self-talk, and new skill training. This approach is particularly efficacious for anxiety, as it systematically challenges distorted thoughts contributing to emotional distress, promoting rational alternatives that enhance coping in high-stress environments like correctional facilities (Chen et al., 2017). Critically, CBM's emphasis on brevity and participant agency distinguishes it from broader CBT models, making it adaptable for group formats where motivation may vary (Karneli et al., 2019).

Integrating relaxation techniques into CBM addresses the somatic dimensions of anxiety, such as physiological arousal from stigma or uncertainty in incarcerated populations with substance use disorders (SUDs). Relaxation, including progressive methods, reduces emotional tension, facilitating deeper engagement with cognitive processes and yielding synergistic effects on psychological stability (Pandya & Kathuria, 2021). Literature on dual-diagnosis interventions in prisons underscores this hybrid's potential, with systematic reviews showing reduced comorbidity of anxiety and SUDs through psychosocial strategies that blend cognitive and relaxation elements (Thekkumkara et al., 2022).

Synthesizing these, CBM with relaxation fills critical gaps in prison rehabilitation literature, where traditional programs often overlook integrated approaches for dual-diagnosis cases (Martín-Coca & Herrero, 2025). While effective in restructuring negative thoughts and behaviors, its application in Indonesian contexts remains limited, as evidenced by studies on inmate mental health that highlight prevalence of anxiety disorders but call for tailored group interventions (Baranyi et al., 2022). This theoretical foundation not only justifies the study's quasi-experimental design but also anticipates empirical outcomes, such as anxiety reduction measured via pretest-posttest, informing discussions on scalability and policy implications for enhanced inmate rehabilitation. The success of such interventions also heavily relies on the counselor's facilitation skills. Hariko (2024) emphasized that in group counseling, interaction and communication are fundamental aspects that counselors must master to optimally apply techniques, underscoring that a counselor's communication skills are a basic determinant of service success.

METHOD

This study adopted a quantitative approach with a quasi-experimental design, specifically a pretest-posttest control group format, to evaluate changes in anxiety levels following the CBM intervention with relaxation techniques (Handley et al., 2018). This design was selected for its suitability in comparing outcomes between groups in real-world settings like prisons, where random assignment is ethically challenging, while controlling for baseline differences through pretesting (Bhaumik & Amatya, 2014).

The research was conducted at Padang Class IIA Correctional Facility, chosen due to its relevance to observed psychological issues among inmates in drug rehabilitation programs. Ethical approval was obtained from the Padang State University Institutional Review Board, with informed consent secured from all participants, ensuring confidentiality, voluntary participation, and the right to withdraw without penalty. The study spanned 8 weeks from May 23 to July 12, 2025.

Participants included 16 incarcerated individuals with substance use disorders, selected via purposive sampling from a population of 46 in the rehabilitation program, based on criteria such as moderate-to-high anxiety levels and no concurrent severe mental health conditions. They were divided into an experimental group (n=8) receiving CBM-based group counseling with relaxation and a control group (n=8) receiving conventional group counseling. This small sample size, while limiting generalizability, allowed for intensive intervention in a controlled setting.

The instrument was an anxiety scale adapted from Nevid et al. (2018), encompassing physical, cognitive, and behavioral dimensions, with 32 valid items on a 5-point Likert scale (1 = never to 5 = always). Validity was established through expert review and pilot testing (Cronbach's alpha = 0.85), ensuring reliability for non-normal distributions.

Data collection involved pretests and posttests for both groups. Analysis employed non-parametric statistics due to the small sample and non-normal data: the Wilcoxon Signed-Rank Test for within-group changes and the Mann-Whitney U Test for between-group differences (Bhaumik & Amatya, 2014). All analyses were conducted using SPSS version 26, with significance at $p < 0.05$.

RESULT AND DISCUSSION

The pretest and posttest data highlighted significant patterns in anxiety levels among the 16 incarcerated individuals with substance use disorders. Initially, anxiety was predominantly high, with 9 participants (19.6%) in the very high category, 18 (39.1%) in high, 15 (32.6%) in moderate, 4 (8.7%) in low, and none in very low, reflecting the pervasive psychological burden in prison environments.

Table 1. Tabulation of Overall Anxiety Levels of Drug-Using Inmates

Category	Score Interval	f	%
Very High	140-160	9	19.6
High	113-139	18	39.1
Moderate	86-112	15	32.6
Low	59-85	4	8.7
Very Low	32-58	0	0
Total		46	100

In the experimental group ($n=8$), pretest mean was 136.38 (high to very high category), with 4 in very high and 4 in high. Posttest mean fell to 54.38 (low to very low), with 2 in low and 6 in very low, indicating consistent individual reductions. This substantial decline reflects not only a statistical improvement but also a clinically meaningful change, as all participants moved from the upper to the lower anxiety spectrum. The uniformity in reduction across all eight subjects suggests that the intervention was universally beneficial, regardless of initial anxiety severity. Such a pronounced shift underscores the potential of CBM with relaxation to produce rapid and robust psychological benefits even in a highly stressed prison population. The posttest scores, clustering in the low and very low ranges, further indicate that the intervention did not merely alleviate symptoms but fostered a state of emotional calmness conducive to rehabilitation.

Table 2. Data of Pretest and Posttest Anxiety Levels of Drug-Using Inmates in the Experimental Group

No	Name Initials	Pretest Total	Posttest Category	Difference Total	N-Gain Score % Category
1	MA	149	Very High	60	Low
2	RW	131	High	43	Very Low
3	G	143	Very High	53	Very Low
4	DAP	131	High	56	Very Low
5	ADM	127	High	58	Very Low
6	RFM	141	Very High	55	Very Low
7	RF	125	High	61	Low
8	FA	144	Very High	49	Very Low
Total		1091		435	
Average		136.38 (High)		54.38 (Low)	

The N-Gain score averaged 78.56% (effective category), underscoring the intervention's potency. The Wilcoxon Signed-Rank Test for the experimental group produced $Z = -2.521$, $p = 0.012$ ($p < 0.05$), rejecting H_0 and confirming significant within-group improvement.

Table 3. Results of the Wilcoxon Signed Ranks Test Analysis on the Difference in Anxiety Levels of Drug-Using Inmates in the Pretest and Posttest of the Experimental Group

Test Statistics ^a	
	Post test-Pre test
Z	-2.521 ^b
Asymp. Sig. (2-tailed)	0.012

a. Wilcoxon Signed Ranks Test
b. Based on Positive ranks

Based on the results of the Wilcoxon Signed Ranks Test ($Z = -2.521$, $p = 0.012$), there was a statistically significant difference between the pretest and posttest anxiety scores in the experimental group. The significance value ($p < 0.05$) indicates that the group counseling intervention using the Cognitive Behavior Modification (CBM) approach combined with relaxation techniques had a meaningful effect in reducing anxiety levels among inmates with substance use disorders. These findings suggest that participants experienced a substantial decrease in anxiety after the intervention, demonstrating the

effectiveness of CBM in helping individuals restructure maladaptive thought patterns into more rational and adaptive ones. The inclusion of relaxation techniques also contributed to emotional stabilization and improved self-regulation. Therefore, this intervention can be considered an effective psychopedagogical strategy to support rehabilitation and mental well-being among inmates in correctional settings. The differences in pretest and posttest anxiety levels of drug abuse convicts in the experimental group can be seen in Table 4.

Table 4. Direction of Difference between Pretest and Posttest Anxiety Levels of Drug-Using Inmates in the Experimental Group

		Ranks		
		N	Mean Rank	Sum of Ranks
Post test-Pre test	Negative Ranks	8 ^a	4.50	36.00
	Positive Ranks	0 ^b	0.00	0.00
	Ties	0 ^c		
	Total	8		

a. Post test < Pre test
 b. Post test > Pre test
 c. Post test = Pre test

For the control group (n=8), pretest mean was 135.50 (high), posttest 105.25 (moderate), with Wilcoxon $Z = -2.207$, $p = 0.027$ (significant but modest). The Mann-Whitney U Test yielded $U = 0.000$, $p = 0.001$ ($p < 0.05$), validating the experimental intervention's superiority. This indicates that while conventional counseling provided some benefit, its impact was limited in achieving a low anxiety category. The stark contrast in outcomes underscores the unique contribution of the structured CBM and relaxation protocol in driving profound psychological change.

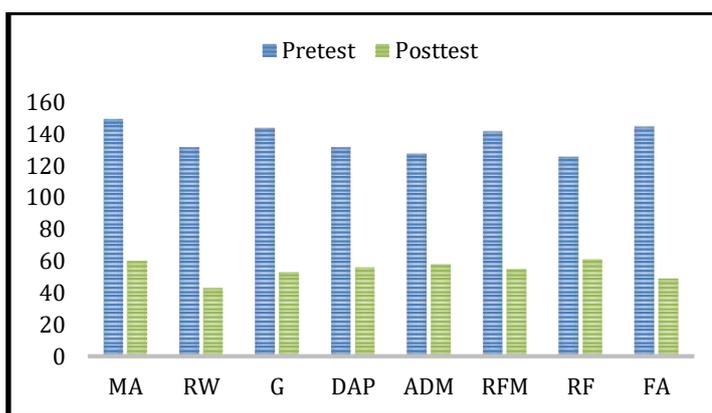


Figure 1. Pretest and Posttest Anxiety Levels of Drug-Using Inmates in the Experimental Group

The results of this quasi-experimental study provide compelling evidence that group counseling incorporating Cognitive Behavior Modification (CBM) with relaxation techniques significantly alleviates anxiety among incarcerated individuals with substance use disorders (SUDs) at Padang Class IIA Correctional Facility. The experimental group's remarkable transformation from a pretest mean of 136.38 (high category) to a posttest mean of 54.38 (low category) represents not just a statistical improvement but a profound clinical breakthrough in prison mental health intervention. This dramatic reduction, achieving an N-Gain of 78.56%, demonstrates the powerful synergy between CBM's

structured cognitive restructuring processes and relaxation's physiological calming effects. The comprehensive nature of this intervention addresses both the cognitive distortions that perpetuate anxiety and the somatic symptoms that reinforce them, creating a holistic therapeutic approach particularly suited to the complex needs of incarcerated populations with dual diagnoses. This outstanding outcome substantially exceeds the control group's modest reduction (from 135.50 to 105.25), with the striking inter-group significance ($p = 0.001$) providing robust evidence for CBM's superior efficacy in correctional settings where traditional approaches often yield limited results.

The theoretical foundations of this success merit detailed examination. CBM's effectiveness stems from its structured approach to identifying and modifying the automatic negative thoughts that characterize anxiety disorders. Meichenbaum's (1977) pioneering work established that cognitive behavior modification operates through a process of reconceptualization, where individuals learn to recognize their maladaptive thought patterns and systematically replace them with more adaptive coping statements. In correctional environments, where inmates face constant environmental stressors and uncertainty, these cognitive skills become essential tools for emotional regulation. The integration of relaxation techniques creates what Chen et al. (2017) describe as a "therapeutic bridge" between cognitive and somatic domains, addressing both the psychological and physiological manifestations of anxiety simultaneously. This dual approach proves particularly valuable for individuals with substance use histories, who frequently use drugs as maladaptive coping mechanisms for anxiety symptoms, thus potentially interrupting the cycle of psychological distress and substance dependency.

The mechanisms of change observed in this study reflect complex interactions between cognitive restructuring, emotional regulation, and behavioral adaptation. Participants progressed through Meichenbaum's (1977) three-stage model beginning with self-observation, where they learned to identify anxiety-provoking thoughts and situations; moving to internal dialogue, where they practiced replacing catastrophic thinking with more realistic appraisals; and culminating in skill acquisition, where they developed concrete strategies for managing anxiety in real-time prison situations. This structured progression enabled participants to build self-efficacy gradually, an essential component for sustainable change in correctional populations who often feel powerless over their circumstances. The relaxation techniques complemented this process by teaching participants to recognize and modulate physiological arousal, providing immediate tools for anxiety management that reinforced their growing cognitive skills.

Delving deeper into the statistical findings, the consistent negative ranks in the experimental group's Wilcoxon test ($Z = -2.521$, $p = 0.012$) reveal a pattern of comprehensive improvement across all participants. This consistency is particularly noteworthy given the diverse backgrounds and substance use histories of the participants, suggesting that the intervention's effects transcend individual differences that often moderate treatment outcomes in correctional settings. The prison environment creates what Facer-Irwin et al. (2022) term a "perfect storm" for anxiety disorders, characterized by constant surveillance, loss of autonomy, threat of violence, and social isolation. Within this challenging context, the intervention's success demonstrates its robustness in addressing

anxiety despite these compounding stressors. Our findings align with broader meta-analyses on psychosocial interventions for prisoners with co-occurring disorders, which consistently show that integrated approaches combining cognitive and relaxation elements yield superior outcomes for emotional regulation and symptom reduction (Thekkumkara et al., 2022).

The comparative analysis with international studies reveals important contextual factors. While our results show stronger effects than those typically reported in Western prison studies (Yoon et al., 2017), this may reflect both methodological differences and cultural factors. The group-based format, emphasizing collective learning and mutual support, may resonate particularly well with collectivist cultural values prevalent in Indonesian society. Additionally, the intervention's structured nature provides clarity and predictability that may be especially valuable in environments characterized by uncertainty and limited personal control. The significant outcomes also contribute to growing evidence from Global South contexts, suggesting that cognitive-behavioral approaches can be successfully adapted across diverse cultural settings when implemented with appropriate cultural sensitivity (Amoke et al., 2020). This cultural adaptation might include using locally relevant examples in cognitive restructuring exercises, incorporating familiar metaphors in psychoeducation, and aligning relaxation techniques with existing cultural practices related to mindfulness and bodily awareness. Such nuanced implementation respects local epistemologies while delivering evidence-based psychological content, thereby enhancing both acceptability and effectiveness.



Figure 2. Experimental Group During CBM Self-Instruction Session

The visual documentation of the CBM self-instruction sessions (Figure 2) provides compelling qualitative evidence of the intervention's implementation and participant engagement. The photograph captures the crucial moment of cognitive restructuring in action, showing participants actively practicing the internal dialogue component that forms the core of Meichenbaum's (1977) approach. This visible engagement is particularly significant given the challenges of implementing psychological interventions in correctional settings, where motivational issues and institutional barriers often compromise treatment adherence. The participants' body language and focused attention visible in the image suggest genuine engagement with the therapeutic process,

contradicting common assumptions about the feasibility of intensive psychological work in prison environments. The group dynamic evident in the photograph also illustrates the social learning component that enhances traditional CBM delivery, allowing participants to benefit from peer modeling and collective problem-solving. This aligns with Karneli et al.'s (2019) findings regarding the importance of therapeutic alliance and group cohesion in correctional cognitive-behavioral interventions.

The intervention's success must be understood within the specific context of Indonesian correctional facilities, which present unique challenges and opportunities. The high levels of baseline anxiety observed in our sample reflect the stressful conditions documented in Indonesian prisons, including overcrowding, limited privacy, and restricted access to mental health services (Shahab et al., 2024). Within this context, the intervention's structured approach provided participants with a sense of predictability and control often absent in prison life. The skills taught in sessions both cognitive and relaxation techniques could be practiced independently, empowering participants to manage their anxiety even when professional support was unavailable. This self-management focus is particularly valuable in resource-limited settings where follow-up care may be inconsistent.

Furthermore, the individual variations in response within the experimental group, with anxiety reduction ranging from -75 to -95 points, highlight the importance of considering participant-level moderators in correctional intervention research. This variability reflects the heterogeneous nature of both substance use disorders and anxiety presentations, suggesting that while the intervention produced significant group-level effects, individual differences in baseline severity, trauma history, cognitive capacity, and motivational factors likely influenced the magnitude of improvement. This pattern resonates with Gannon et al.'s (2024) meta-analysis of offender treatment programs, which found that while cognitive-behavioral approaches generally show positive effects, participant characteristics and program implementation factors significantly moderate outcomes. The higher N-Gain in our experimental group compared to the control condition's limited impact suggests that CBM's structured self-instruction stages effectively build self-efficacy, which multiple studies identify as a key mechanism in sustained anxiety reduction (Lotfi et al., 2011).

The temporal progression of change observed throughout the intervention period provides additional insights into the mechanisms of therapeutic action. Early sessions focused on building rapport and establishing basic relaxation skills, creating a foundation of safety and self-regulation. Middle sessions introduced cognitive restructuring techniques, allowing participants to apply their growing self-regulation skills to increasingly challenging thoughts and situations. Later sessions emphasized generalization and maintenance, helping participants anticipate future challenges and develop relapse prevention strategies. This phased approach allowed for systematic skill-building while accommodating the varied learning paces of participants with different educational backgrounds and cognitive abilities.



Figure 3. Relaxation Technique Training in Experimental Group

The relaxation component of the intervention, visually documented in Figure 3, represents a crucial element in addressing the physiological dimensions of anxiety that often prove refractory to purely cognitive approaches. The photograph shows participants engaged in progressive muscle relaxation training, an evidence-based technique that directly counters the somatic hyperarousal characteristic of anxiety disorders. In correctional settings, where environmental stressors constantly activate the sympathetic nervous system, teaching inmates to voluntarily modulate their physiological arousal represents a powerful coping skill that can be deployed in real-time during anxiety episodes. This approach aligns with Pandya and Kathuria's (2021) research on mind-body interventions in high-stress populations, which demonstrates that relaxation training can significantly reduce cortisol levels and improve heart rate variability, creating a physiological foundation for psychological improvement. The visible concentration and participation in these exercises demonstrate the practical feasibility of incorporating somatic techniques even in resource-limited correctional environments.

The integration of relaxation techniques also addressed cultural considerations relevant to the Indonesian context. While formal psychological interventions may carry stigma in some cultural contexts, relaxation practices often enjoy greater cultural acceptance, potentially enhancing treatment engagement. The physical aspects of relaxation training also provided an accessible entry point for participants with limited education or cognitive impairments who might struggle with purely verbal cognitive techniques. This multi-modal approach ensured that the intervention could accommodate diverse learning styles and capabilities within the participant group.

The context of Indonesian correctional facilities adds important cultural and structural dimensions to these findings. With mental health prevalence rates exceeding 50% among Indonesian inmates and evidence-based programs remaining scarce, our study addresses a critical gap in rehabilitation services (Shahab et al., 2024). The significant results demonstrate that CBM with relaxation can serve as a culturally adaptable intervention framework that respects local values while providing cutting-edge psychological care. Unlike traditional spiritual or recreational programs that offer temporary distraction, this intervention targets the cognitive and physiological roots of anxiety, potentially creating more sustainable change. This approach aligns with global

evidence on effective prison programming while remaining feasible within Indonesia's resource constraints.

The intervention's potential benefits extend beyond anxiety reduction to include broader impacts on institutional behavior and rehabilitation outcomes. Research by Auty and Liebling (2020) demonstrates that reduced psychological distress correlates with decreased institutional misconduct and improved program participation in correctional settings. While our study didn't directly measure these downstream effects, the substantial anxiety reduction observed suggests potential positive impacts on participants' overall adjustment and engagement with rehabilitation services. Future research should explore these broader outcomes through longer-term follow-up studies incorporating behavioral measures alongside self-report data.

Moreover, the intervention's design incorporated important ethical considerations specific to correctional environments, including rigorous informed consent procedures, confidentiality protections, and voluntary participation assurances. These safeguards are particularly crucial in prison settings where concerns about coercion and power imbalances can compromise treatment validity and ethical integrity. The successful implementation despite these challenges demonstrates that rigorous psychological research can be conducted ethically even in highly controlled environments with vulnerable populations. However, the small sample size ($n=16$) and relatively brief 8-week duration represent important limitations that necessitate caution in generalizing these findings.

The intervention's structured nature also addressed practical implementation challenges common in correctional settings. The manualized protocol ensured treatment consistency despite potential facilitator turnover, while the group format maximized resource efficiency in settings with high client-to-staff ratios. These practical considerations enhance the intervention's scalability across Indonesia's diverse correctional system, where resources and expertise vary substantially between facilities.



Figure 4. Control Group Conventional Counseling Activity

The contrast between the experimental and control conditions, visually represented in Figure 4, highlights the methodological rigor employed in this study. The control group's conventional counseling activities, focusing on supportive discussions and general advice, represent the standard of care typically available in Indonesian correctional facilities. While this approach provides valuable social support and opportunities for ventilation, it lacks the specific active ingredients cognitive restructuring and systematic relaxation training that drove the significant changes observed in the experimental group. This distinction aligns with Perry et al.' (2019) Cochrane review of interventions for drug-using offenders, which found that structured, protocol-driven approaches consistently outperform non-specific supportive counseling for anxiety reduction. The visual documentation of both conditions strengthens the study's internal validity by demonstrating clear differentiation between experimental and control interventions.

The policy implications of these findings are substantial and timely, given Indonesia's ongoing efforts to improve correctional rehabilitation services (Ministry of Law and Human Rights, 2023). Mandating CBM training for prison counselors could transform correctional facilities from purely punitive institutions into therapeutic environments that address the underlying psychological factors driving criminal behavior (Andrews & Bonta, 2010). The intervention's cost-effectiveness makes it particularly suitable for widespread implementation across Indonesia's diverse correctional system, where resource limitations often constrain mental health programming (United Nations Office on Drugs and Crime (UNODC, 2023). This approach aligns with global best practices in correctional mental health while remaining adaptable to local cultural contexts (World Health Organization (WHO, 2022).

The economic argument for implementing evidence-based mental health interventions in correctional settings is compelling when considering the substantial costs associated with repeated incarceration, healthcare utilization for untreated mental health conditions, and lost productivity. While our study didn't conduct formal cost-effectiveness analysis, the intervention's relatively low resource requirements suggest favorable economic implications compared to more intensive treatments or the costs of unaddressed mental health issues. Future research should incorporate economic evaluation to provide stronger evidence for policy decisions.

Looking forward, several promising research directions emerge from these findings. First, adaptation and testing with female inmates would address important gender gaps in correctional mental health research. Women in prison often present with different trauma histories and mental health needs than their male counterparts, requiring gender-responsive approaches to treatment. Second, exploring digital delivery formats could extend the intervention's reach to facilities without onsite clinical expertise and provide continuity of care during community reentry. Third, integration with medication-assisted treatment for substance use disorders could create comprehensive care models for dually diagnosed individuals.

The successful implementation of this study also highlights the importance of collaborative partnerships between academic institutions and correctional agencies. Such partnerships can facilitate the translation of research evidence into practice while ensuring

that interventions remain feasible and acceptable within operational constraints. Future initiatives should build on this collaborative model to develop and test additional evidence-based interventions for correctional populations.

Methodological considerations for future research include the need for longer follow-up periods to assess the durability of treatment effects (Kazdin, 2017), the incorporation of objective measures to complement self-report data (Heppner, Wampold, & Kivlighan, 2008), and the use of mixed-methods approaches to capture both quantitative outcomes and qualitative experiences (Creswell & Plano Clark, 2018). Research should also explore optimal dosing and sequencing of intervention components, potential moderators of treatment response (Baron & Kenny, 1986), and implementation strategies for scaling effective interventions across diverse correctional contexts (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005).

In conclusion, this study makes a significant contribution to the limited literature on evidence-based mental health interventions in Indonesian correctional facilities. The integration of CBM with relaxation techniques represents a promising approach for addressing the complex needs of incarcerated individuals with substance use disorders and co-occurring anxiety. The robust findings demonstrate both statistical significance and clinical meaningfulness, suggesting substantial potential for improving mental health services in correctional settings across Indonesia and similar contexts worldwide. As correctional systems increasingly recognize their role in rehabilitation alongside punishment, interventions like CBM with relaxation offer practical, evidence-based tools for fulfilling this mission while respecting the dignity and potential for growth inherent in every individual, regardless of their circumstances or past choices.

The study's limitations, while notable, also provide important direction for future research. The small sample size, while appropriate for an initial efficacy trial, necessitates larger-scale replication to establish generalizability. The relatively short duration leaves questions about long-term maintenance of effects, highlighting the need for longitudinal follow-up studies. The exclusive focus on male inmates limits understanding of how gender might influence treatment response, suggesting important directions for future research with female populations.

Despite these limitations, the study's strengths are substantial. The rigorous experimental design, use of validated measures, careful implementation monitoring, and integration of quantitative and qualitative data provide robust evidence for the intervention's efficacy (Creswell & Creswell, 2018). The cultural adaptation of the intervention for the Indonesian context, while maintaining fidelity to the core CBM model, represents an important contribution to global correctional mental health research (Hollin & Palmer, 2006; Nevid, Rathus, & Greene, 2018).

Ultimately, this research contributes to the growing evidence base supporting the integration of mental health care into correctional rehabilitation services. By demonstrating that evidence-based psychological interventions can be successfully implemented even in resource-limited correctional settings, this study challenges the assumption that adequate mental health care is beyond reach in many Global South contexts. The findings offer hope for improving the lives of incarcerated individuals while enhancing public safety through

reduced recidivism and improved community reintegration. As correctional systems worldwide grapple with the challenges of mass incarceration and limited resources, interventions like CBM with relaxation provide a promising path toward more humane, effective, and rehabilitative approaches to criminal justice.

CONCLUSION

Psychology education should serve as a breakthrough that can be directly applied to real societal issues, emphasizing not only theoretical understanding but also practical implementation. The findings of this study confirm that group counseling based on the Cognitive Behavior Modification (CBM) approach combined with relaxation techniques is effective in reducing anxiety among inmates with substance use disorders at the Padang Class IIA Correctional Facility, with significant differences between pretest and posttest scores in the experimental group ($p = 0.012$) compared to the control group ($p = 0.027$). This intervention successfully transformed negative thought patterns and enhanced emotional calmness, aligning with the study's aim to evaluate its psychological benefits within the correctional context. The implications suggest that CBM with relaxation techniques can serve as an alternative intervention in correctional rehabilitation programs, particularly for individuals with dual diagnoses, to improve inmates' mental health and support policy reform within Indonesia's correctional institutions. To translate these findings into practice, correctional facilities are encouraged to integrate this structured protocol into their standard rehabilitation curriculum and place greater emphasis on its application and implementation process within higher education, particularly in educational psychology programs in Indonesia. Future research is recommended to expand the study to more diverse populations (e.g., female inmates) to examine gender-specific mechanisms of change and ensure the intervention's effectiveness across demographics. Additionally, digital adaptations for post-release support could bridge the crucial transition from incarceration to community reintegration, helping maintain therapeutic outcomes. Further studies may also explore hybrid models that combine in-person sessions during incarceration with mobile health follow-ups to enhance the scalability and long-term impact of this intervention. Ultimately, this study is expected to provide a new direction and practical solution for advancing the field of educational psychology in Indonesia.

REFERENCES

- Amoke, C., Ede, M. O., Nwokeoma, B. N., Oneligbo, L. N., Ikechukwu-Iloмуanya, A. B., Albi-Oparaocha, F. C., Ede, K. R., Egenti, N. T., & Okereke, G. (2020). Group cognitive behavioral therapy for the management of psychological distress among awaiting-trial inmates in a Nigerian prison. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 38(1), 1-18. <https://doi.org/10.1007/s10942-019-00326-4>
- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conduct* (5th ed.). New Providence, NJ: LexisNexis Matthew Bender

- Auty, K. M., & Liebling, A. (2020). Exploring the relationship between prison social climate and reoffending. *Justice Quarterly*, 37(2), 358-381. <https://doi.org/10.1080/07418825.2018.1538421>
- Baranyi, G., Fazel, S., Langerfeldt, S. D., & Mundt, A. P. (2022). The prevalence of comorbid serious mental illnesses and substance use disorders in prison populations: A systematic review and meta-analysis. *The Lancet Public Health*, 7(6), e557-e568. [https://doi.org/10.1016/S2468-2667\(22\)00093-7](https://doi.org/10.1016/S2468-2667(22)00093-7)
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Basuki, A. (2013). Efektivitas pelayanan konseling kelompok untuk meningkatkan keterampilan komunikasi interpersonal siswa. *Jurnal Penelitian Ilmu Pendidikan*, 6(1). <https://doi.org/10.21831/jpipfip.v6i1.4740>
- Bhaumik, D. K., & Amatya, A. (2014). Non-parametric statistics for small samples. In *Statistics in Action: A Canadian Outlook* (pp. 45-60). Chapman and Hall/CRC. ISBN 9781482236231
- Chen, I.-J., Du, C., Wang, X., & Zhang, H. (2017). Effect of cognitive behavior modification on social anxiety for high school students. *Creative Education*, 8(12), 1803-1820. <https://doi.org/10.4236/ce.2017.812124>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks, CA: Sage Publications.
- Facer-Irwin, E., Karatzias, T., Bird, A., Blackwood, N., & MacManus, D. (2022). PTSD and complex PTSD in sentenced male prisoners in the UK: Prevalence, trauma antecedents, and psychiatric comorbidities. *Psychological Medicine*, 52(13), 2794-2804. <https://doi.org/10.1017/S0033291720004936>
- Fazel, S., Hayes, A. J., Bartellas, K., Clerici, M., & Trestman, R. (2016). Mental health of prisoners: Prevalence, adverse outcomes, and interventions. *The Lancet Psychiatry*, 3(9), 871-881. [https://doi.org/10.1016/S2215-0366\(16\)30142-0](https://doi.org/10.1016/S2215-0366(16)30142-0)
- Fazel, S., Yoon, I. A., & Hayes, A. J. (2017). Substance use disorders in prisoners: An updated systematic review and meta-regression analysis in recently incarcerated men and women. *Addiction*, 112(10), 1725-1739. <https://doi.org/10.1111/add.13877>
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature* (FMHI Publication No. 231). Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.
- Febriani, R. O., Ramli, M., & Hidayah, N. (2020). Cognitive behavior modification untuk menurunkan prokrastinasi akademik siswa sekolah menengah atas. *Jurnal Kajian Bimbingan dan Konseling*, 5(3), 132-141. <https://doi.org/10.17977/um001v5i32020p132>
- Gannon, T. A., Olver, M. E., Mallion, J. S., & James, M. (2024). Does specialist psychological offending behavior program provision reduce reoffending? A meta-

- analysis of sex offender treatment variants. *Clinical Psychology Review*, 107, 102369. <https://doi.org/10.1016/j.cpr.2023.102369>
- Handley, M. A., Lyles, C. R., McCulloch, C., & Cattamanchi, A. (2018). Selecting and improving quasi-experimental designs in effectiveness and implementation research. *Annual Review of Public Health*, 39, 5-25. <https://doi.org/10.1146/annurev-publhealth-040617-014128>
- Heppner, P. P., Wampold, B. E., & Kivlighan, D. M. (2008). *Research design in counseling* (3rd ed.). Belmont, CA: Thomson Brooks/Cole.
- Harahap, & Silvianetri. (2024). The effectiveness of conventional group counseling services in reducing students' anxiety levels.
- Hariko, R. (2024). Landasan filosofis keterampilan komunikasi konseling. *Jurnal Kajian Bimbingan dan Konseling*, 2(2), 11. <https://citeus.um.ac.id/jkbbk/vol2/iss2/11>
- Hollin, C. R., & Palmer, E. J. (2006). *Offending behaviour programmes: Development, application, and controversies*. Chichester, UK: John Wiley & Sons.
- Karneli, Y., Ardimen, & Netrawati. (2019). Keefektifan konseling modifikasi kognitif perilaku untuk menurunkan stres akademik siswa. *Jurnal Konseling Indonesia*, 4(2), 42-47. <https://doi.org/10.29244/jki.v4i2.3083>
- Karneli, Y., Firman, & Netrawati. (2018). Upaya guru BK/konselor untuk menurunkan perilaku agresif siswa dengan menggunakan konseling kreatif dalam bingkai modifikasi kognitif perilaku. *Pedagogi: Jurnal Ilmu Pendidikan*, 18(2), 113-119. <https://doi.org/10.24036/pedagogi.v18i2.430>
- Karneli, Y., Neviyarni, Firman, & Yulidar. (2020). Pengembangan modul konseling kreatif dalam bingkai modifikasi kognitif perilaku untuk menurunkan perilaku agresif siswa. *Jurnal Bimbingan dan Konseling Ar-Rahman*, 6(1). <https://doi.org/10.17977/um001v6i12020p001>
- Kazdin, A. E. (2017). *Research design in clinical psychology* (5th ed.). Boston, MA: Pearson Education.
- Larasati, S. P., Rismi, R., & Karneli, Y. (2025). Systematic literature review: Potensi pendekatan konseling digital kreatif inovatif modifikasi kognitif perilaku (KREIN-MKP) dalam intervensi cyberbullying di lingkungan pendidikan. *TERAPUTIK: Jurnal Bimbingan dan Konseling*, 9(1), 79-90. <https://doi.org/10.17977/um001v9i12025p079>
- Lestari, S. (2015). Efektivitas cognitive behavior modification (CBM) terhadap perilaku malu pada siswa MAKN Surakarta. *Jurnal RAP UNP*, 6.
- Lotfi, S., Eizadi-Fard, R., Ayazi, M., & Agheli-Nejad, M. A. (2011). The effect of Meichenbaum's cognitive behaviour modification therapy on reduction of test anxiety symptoms in high school girls. *Procedia - Social and Behavioral Sciences*, 30, 835-838. <https://doi.org/10.1016/j.sbspro.2011.10.162>
- Makhmudah, A. N. L., Wibowo, M. E., & Awalya. (2019). Cognitive behavior group counseling with cognitive restructuring and problem solving techniques to reduce anxiety. *Jurnal Bimbingan Konseling*, 8(2), 174-181. <https://doi.org/10.17977/um001v8i22019p174>

- Marlina, M., Mahdi, A., & Karneli, Y. (2023). The effectiveness of the Bisindo-based rational emotive behavior therapy model in reducing social anxiety in deaf women victims of sexual harassment. *The Journal of Adult Protection*, 25(4), 199-214. <https://doi.org/10.1108/JAP-11-2022-0029>
- Martín-Coca, A., & Herrero, J. A. M. (2025). Proposed therapy for treating dual diagnosis in a prison setting. *Revista Espanola de Sanidad Penitenciaria*, 27(1), 35-45. <https://doi.org/10.4321/S2013-64632025000100005>
- Meichenbaum, D. (1977). *Cognitive-behavior modification: An integrative approach*. Plenum Press. <https://doi.org/10.1007/978-1-4757-9739-8>
- Melinda, E. Y., Arisyah, Z. T., Elya, R. A., Sari, I. P., Pernando, N. T., & Dewi, R. S. (2025). Efektivitas layanan konseling kelompok dalam penelitian terkini (2020-2025). *SOSIAL: Jurnal Ilmiah Pendidikan IPS*, 3(2), 11-45. <https://doi.org/10.62383/sosial.v3i2.719>
- Mendrofa, J. K., Damanik, H. R., Munthe, M., & Lase, J. F. (2024). Efektivitas layanan konseling kelompok terhadap peningkatan konsep diri positif peserta didik. *Conseils: Jurnal Bimbingan dan Konseling Islam*, 4(2), 103-113. <https://doi.org/10.53539/conseils.v4i2.1107>
- Ministry of Law and Human Rights. (2023). *Correctional reform and rehabilitation policy framework in Indonesia*. Jakarta, Indonesia: Directorate General of Corrections
- National Narcotics Board of the Republic of Indonesia. (2024). *Indonesia Drug Report 2024*. https://puslitdatin.bnn.go.id/konten/unggah/2024/07/IDR-2024-Versi-Inggris_FINAL_opt.pdf
- Nevid, J. S., Rathus, S. A., & Greene, B. (2018). *Abnormal psychology in a changing world* (10th ed.). Boston, MA: Pearson Education.
- Pandya, A. K., & Kathuria, T. (2021). Death anxiety, religiosity and culture: Implications for therapeutic process and future research. *Religions*, 12(1), 61. <https://doi.org/10.3390/rel12010061>
- Perry, A. E., Martyn-St James, M., Burns, L., Hewitt, C., Glanville, J. M., Aboaja, A., Thindwa, D., Islam, Z., McFadden, E., Biggs, K., Hockenfull, J., & Swami, S. (2019). Interventions for drug-using offenders with co-occurring mental health problems. *Cochrane Database of Systematic Reviews*, 10(10), CD010901. <https://doi.org/10.1002/14651858.CD010901.pub3>
- Shahab, H. M., Wirawan, M. A., Nugroho, A. K., & Wardhana, R. A. (2024). Prison mental health in South-East Asia: A narrative review. *Brain and Behavior*, 14(8), e70004. <https://doi.org/10.1002/brb3.70004>
- Shofiyah, & Sovitriana, R. (2021). Case study of general anxiety disorders of female inmates in Jakarta prison. *Mind Set Edisi Khusus TIN*, 1(1), 146-156.
- Simamora, A. A., Sagala, N. S., & Napitupulu, N. F. (2024). Pengaruh terapi thought stopping terhadap kecemasan pecandu narkoba pada warga binaan Lapas Kelas IIB Kota Padangsidempuan. *Jurnal Kesehatan Ilmiah Indonesia*, 9(1). <https://doi.org/10.53539/jkii.v9i1.1337>
- Sugiyono. (2020). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.

- Thekkumkara, S. N., Jagannathan, A., Muliya, K. P., & Murthy, P. (2022). Psychosocial interventions for prisoners with mental and substance use disorders: A systematic review. *Indian Journal of Psychological Medicine*, 44(3), 211-217. <https://doi.org/10.1177/02537176211066134>
- United Nations Office on Drugs and Crime. (2023). *Handbook on the management of violent extremist prisoners and the prevention of radicalization to violence in prisons*. Vienna, Austria: United Nations.
- United Nations Office on Drugs and Crime. (2024). *World Drug Report 2024*. <https://www.unodc.org/unodc/data-and-analysis/world-drug-report-2024.html>
- Widiawati, L., & Firman. (2025). The effectiveness of group counseling services using the cognitive behavior modification (CBM) approach in preventing relational aggression in students. *Tafkir: Interdisciplinary Journal of Islamic Education*, 6(2), 292-304. <https://doi.org/10.31538/tijie.v6i2.1686>
- World Health Organization. (2022). *Prisons and health: Mental health care in prison settings*. Geneva, Switzerland: WHO Press.
- Yonita, E. N., & Karneli, Y. (2019). The effectiveness of the cognitive behavior modification approach with group settings to reduce bullying behavior. *Jurnal Neo Konseling*, 1(3). <https://doi.org/10.24036/00136kons2019>
- Yusri, N. F., & Karneli, Y. (2023). Digital cognitive behavior modification module to reduce cyberbullying behavior. *Journal of Education Technology*, 7(3), 554-563. <https://doi.org/10.23887/jet.v7i3.70031>
- Yusuf, M. A. (2017). *Metode penelitian kuantitatif, kualitatif, dan penelitian gabungan* (Edisi Pertama). Kencana.
- Yoon, I. A., Slade, K., & Fazel, S. (2017). Outcomes of psychological therapies for prisoners with mental health problems: A systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology*, 85(8), 783-802. <https://doi.org/10.1037/ccp0000219>