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Review

The effectiveness of interventions for young offenders in therapeutic communities: a systematic review of the literature

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Abstract

Objective: The objective of this study was to evaluate the effectiveness of therapeutic community interventions in reducing recidivism among juvenile offenders. Given the high rates of reoffending in this population and the growing use of community-based rehabilitative approaches, it is essential to assess whether therapeutic communities represent an effective strategy for promoting long-term behavioural change. **Methods**: A systematic literature search was conducted across five major electronic databases, including PubMed, CINAHL, PsycINFO, Web of Science, and Scopus. The search yielded a total of 454 records. Following the removal of duplicates and a rigorous screening process based on predefined inclusion and exclusion criteria, 6 empirical studies were selected for inclusion. The studies were conducted in the United States, the United Kingdom, and Germany and involved a sample of 1,229 juvenile offenders. The interventions evaluated encompassed a range of therapeutic community models, including Aggression Replacement Training (ART), cognitive-behavioural approaches, social-therapeutic treatment, and programmes incorporating core therapeutic community principles. **Results**: Across the included studies, participation in therapeutic community programmes was consistently associated with a reduction in recidivism rates. These positive outcomes were observed regardless of the specific psychological framework underpinning the intervention. **Conclusions**: The findings suggest that therapeutic community interventions are effective in reducing reoffending among juvenile offenders. However, further research is required to identify which specific components of therapeutic communities contribute most significantly to these outcomes.

Keywords: Juvenile; delinquent; rehabilitation; residential treatment; secure care settings

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The effectiveness of interventions for young offenders in therapeutic communities: a systematic review of the literature

Introduction

The term "juvenile" refers to individuals who have reached the minimum age of criminal responsibility but are not yet eligible for prosecution as adults (Young, Greer & Church, 2017). This age threshold varies across countries: 10 years in the UK, 14 years in Germany and Italy, and a state-dependent age in the United States, with exceptions for particularly serious offenses (Delmage et al., 2026).

Juvenile offending often emerges in social contexts characterized by daily interactions between minors and adults, particularly during after-school hours. Approximately 20% of juvenile offenses involve otherwise well-adjusted youths who offend within their family environment (Catanesi, Carabellese & Troccoli, 2008). Explaining these behaviors requires a multidimensional perspective that takes into account individual characteristics, family dynamics, and broader social factors (Catanesi, Carabellese & Troccoli, 2008).

The United Nations Office on Drugs and Crime (2019) reported a 2.6% increase in juvenile crime in Europe, compared to 1.7% the previous year, while growth rates in Southeast Asia, Latin America, and North America were 0.7%, 3.9%, and 1.8%, respectively (Young & Giller, 2021). More recent data indicate an inconsistent international trend, reflecting changes in the type and severity of offending – rather than a uniform rise in youth crime (Cornelli, 2023; Juvenile Crime Monitor, 2023; Dugato et al., 2024; Kolesnikov, 2022).

Long-term trends show a decline in serious violent offenses among juveniles since the early 2000s. However, between 2017 and 2023, certain violent crimes, such as assaults and robberies, have increased, while other offenses, including theft and drug dealing, have decreased, indicating a qualitative rather than quantitative shift in youth offending (Juvenile Crime Monitor, 2023; Cornelli, 2023). This pattern is particularly relevant for crime prevention, as it highlights an increase in violent behaviors despite stable overall crime rates (Dugato et al., 2024; Jannetta & Okeke, 2017; Young & Giller, 2021).

These trends have driven extensive research aimed at understanding the needs of juveniles in conflict with the law and developing effective policies and interventions (Dugato et al., 2024; Young, Greer & Church, 2017). According to a study conducted by Battistini et al. (2020), many homicides of victims under 18 are committed by peers, raising concern both for the underlying motives and the social contexts in which they occur. Understanding the profile of young victims is also crucial for developing effective prevention programs (Finkelhor et al., 2011; Kovalenko et al., 2022).

When discussing young offenders, the central issue is rehabilitative treatment. Within the juvenile justice system, delinquent behavior should not be viewed merely as a crime, but rather as a condition requiring treatment (Pealer, 2017). A recent literature review examining 48 meta-analyses and systematic reviews conducted over the past 40 years concluded that rehabilitative treatment programs are effective in reducing recidivism rates among juvenile offenders (Pappas & Dent, 2023).

The setting that appears to best combine the reduction of reoffending with the enhancement of life prospects for young offenders is the therapeutic community. In countries like Germany, the Netherlands, Australia, Belgium, Canada, and the U.S., therapeutic communities for juvenile offenders provide structured environments to support rehabilitation and societal reintegration, though considerable variability exists in their organizational models and clinical specialization (e.g., Beaudry et al., 2021; Koehler et al., 2013; Pealer, 2017; Richardson & Zini, 2021). A key factor in the success of these intervention plans seems to be the involvement of families and local services, which appear to ensure continuity between the therapeutic setting and the individual's external environment (Ungar, Teram & Picketts, 2009).

The therapeutic community model is based on several core principles, such as tolerance, confrontation with reality, containment, respect, and communication. It incorporates three different approaches: educational approach, focused on learning the norms and values of the community; psychological approach, aimed at personal growth through individual and family sessions; social approach, primarily focused on encouraging interpersonal relationships through peer discussion groups, group activities, and organized outings (Hausam et al., 2022; Kennard, 2004).

Rehabilitative intervention is organized into three sequential phases: an initial orientation and integration phase, a treatment phase focused on personal growth and active community participation, and a final reintegration phase aimed at consolidating adaptive skills and preparing youth for successful community re-entry (DeLeon, 2000; Pealer, 2017).

Despite the growing body of research on therapeutic communities, no systematic review or meta-analysis has specifically investigated which intervention techniques are most effective in the rehabilitation of young offenders within these settings. Given that the primary goal of the justice system is the prevention of future offenses, it is crucial to provide evidence regarding the effectiveness of

treatment approaches in order to reduce the recurrence of criminal behavior. The above discussion becomes particularly relevant considering the historical trend in youth offending, marked by a steady increase in the severity and violence of criminal behaviours. Therefore, the aim of this paper is to conduct a systematic review evaluating the effectiveness of interventions implemented within therapeutic communities that accommodate juvenile offenders.

Materials and methods

This systematic review was conducted in accordance with the PRISMA guidelines (Preferred Reporting Items for Systematic Review and Meta-Analyses) (Page et al., 2021).

Literature Search

A systematic search strategy was used to identify relevant articles. The literature search was carried out in two phases, conducted between March and April 2025. The first phase involved the use of the following databases: PubMed, CINAHL, PsycINFO, Web of Science, and Scopus. The search was guided by the following keywords: "adolescent", "young adult", "minor", "juvenile", "offender", "delinquent", "criminal", "convict", "felon", "therapeutic communit*", "TC". The second step involved the extension of the initial electronic search through a manual search of the reference lists of the retrieved papers and of the related reviews and Google Scholar. The abstracts of the articles identified through the process described above were screened to assess their eligibility. Finally, the articles that passed this screening were evaluated for inclusion through a full-text review.

Inclusion and Exclusion Criteria

Articles written in languages other than English or Italian were excluded, as well as reviews, and case studies. Also excluded were articles not strictly relevant to the research question, those with samples composed of adults, offenders with mental disorders or substance use disorders, or offenders who had not participated in a therapeutic community program. Although these conditions are common among justice-involved youth and often co-occur with delinquent behavior, they constitute clinically distinct populations with specific treatment needs and risk profiles and have been shown to independently influence juvenile justice outcomes and to require dedicated, integrated intervention models (Marshall et al., 2025; Walker, Infante & Knight, 2022; Wollf, Baglivio & Lang, 2025). Their inclusion could therefore have confounded the evaluation of intervention effectiveness. Restricting eligibility to participants without primary psychiatric or substance use disorders was intended to improve the internal validity of the review and isolate the effects of rehabilitative interventions, rather than to underestimate the clinical relevance of these conditions, which warrant dedicated investigation within integrated treatment models.

For the purposes of this review, therapeutic community was operationally defined as a structured residential rehabilitative setting for juvenile offenders integrating educational, psychological, and social-therapeutic components, organized according to the phase-based model described by DeLeon (2000) and grounded in core therapeutic community principles such as tolerance, confrontation with reality, and peer-mediated learning (Kennard, 2004). Studies were included only if the intervention corresponded to this generalist model of rehabilitation for juvenile offending. Beyond the individual-level exclusion of participants with primary psychiatric or substance use disorders described above, programs whose organizational structure and treatment protocols were explicitly designed around substance dependence or severe psychiatric/neuropsychiatric comorbidity as the primary clinical target were also excluded at the programmatic level. This distinction was necessary because such specialized settings differ substantially from generalist therapeutic communities both in organizational structure (e.g., staffing, clinical protocols, length and intensity of treatment) and in the clinical profile of the youth served, and their inclusion would have introduced a further source of heterogeneity unrelated to the rehabilitative approach under investigation.

By contrast, articles were included if their sample consisted of youths aged between 12 and 22 years who had committed a crime - as defined by the laws of their country of origin - and who were participating in a rehabilitation program within a therapeutic community. This upper age boundary reflects young adult offenders still processed within juvenile or transitional justice frameworks, rather than fully adult offending populations, consistent with the exclusion of studies based on adult samples. Although this age range encompasses individuals at different developmental stages and legal statuses, a broader age criterion was adopted because narrowing the review to a stricter age range would have substantially reduced the limited body of available evidence on the effectiveness of rehabilitative interventions for juvenile offenders. Moreover, the age range spans the developmental period from adolescence to the transition to young adulthood, widely recognized as the critical stage for the onset, persistence, and desistance of delinquent behavior (Moffitt, 1993). Nevertheless, the potential impact of this age heterogeneity on the interpretation and generalizability of the findings is acknowledged as a limitation of the present review.

Articles for which the full text was not available - even after contacting the corresponding author -were also excluded.

Variability in the definition of recidivism, as well as in the length of follow-up periods used to assess it, was not used as a criterion for study selection. Given the absence of a universally accepted definition of recidivism in the international literature, studies adopting different operationalizations of this outcome (e.g., convictions, new periods of incarceration, new charges, new arrests) were not excluded on this basis, as all these measures represent indicators of repeated offending despite reflecting different stages of the criminal justice process. Similarly, follow-up periods varied considerably across studies, reflecting dif-

ferences in study design rather than a substantive methodological flaw; excluding studies on this basis would have disproportionately penalized longer-term evaluations, which are valuable for assessing the durability of intervention effects. As the primary aim of the present review was to examine the recurrence of delinquent behavior rather than its specific legal consequences or timeframe, all studies reporting a measure of recidivism were considered eligible regardless of its operational definition or follow-up length - a decision that maximized comprehensiveness while introducing heterogeneity in outcome definitions, addressed further in the Discussion.

Data extraction (selection and coding)

Titles and abstracts were screened independently by the authors E.F. and G.V. in duplicate, to determine whether retrieved studies met the above-outlined inclusion criteria.

The full texts of studies that met the inclusion criteria or whose eligibility could not be determined based on the title and/or abstract alone were obtained. Full-texts were independently assessed for eligibility by the authors E.F. and G.V. Discrepancies were resolved by an initial discussion with a third reviewer, G.M., when required.

A standardized form was used to extract data from the included studies to assist in study quality and evidence synthesis. Extracted information included: study focus, participant characteristics, details of the intervention, authors conclusions, follow up, and information needed for the assessment of risk of bias. Extraction was completed by two reviewers independently in duplicate (E.F. and G.V.). A third reviewer was consulted when needed (G.M.).

Quality evaluation

The assessment of studies' quality was conducted using the following tools:

- The Revised Cochrane risk-of-bias tool for randomized trials (RoB 2) developed by the Cochrane Collaboration (Higgins et al., 2019);
- The Risk of Bias In Non-randomized Studies – of Interventions (ROBINS-I) assessment tool for nonrandomized studies (Sterne et al., 2016);
- The JBI Critical Appraisal Checklist for Cohort Studies (Adelaide, 2024)

The RoB 2 assessment investigates five domains through which bias might be introduced into a randomized trial: randomization process (i.e., random sequence generation, allocation concealment), performance bias (i.e., blinding of participants and personnel), detection bias (i.e., blinding of outcome assessment), attrition bias (i.e., incomplete outcome data), reporting bias (i.e., selective reporting), and other bias (i.e., bias due to problems not covered by the other points).

The ROBINS-I is used to investigate seven domains through which bias might be introduced into a non-randomized trial, categorized as occurring during the following phases: preintervention (i.e., bias due to confounding and bias in the selection of participants into the study); intervention (i.e., bias in classification of interventions); and post intervention (i.e., bias due to deviations from intended interventions, bias due to missing data, bias in the measurement of outcomes and bias in the selection of the reported result).

The JBI Critical Appraisal Checklist for Cohort Studies assesses eleven domains referring to the quality of a cohort study through the following questions: 1) Were the two groups similar and recruited from the same population?; 2) Were the exposures measured similarly to assign people to both exposed and unexposed groups?; 3) Was the exposure measured in a valid and reliable way?; 4) Were confounding factors identified?; 5) Were strategies to deal with confounding factors stated?; 6) Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)?; 7) Were the outcomes measured in a valid and reliable way?; 8) Was the follow up time reported and sufficient to be long enough for outcomes to occur?; 9) Was follow up complete, and if not, were the reasons to loss to follow up described and explored?; 10) Were strategies to address incomplete follow up utilized?; 11) Was appropriate statistical analysis used?

Quality evaluation was completed by two reviewers independently in duplicate. A third reviewer was consulted when needed.

Results

A total of 21 studies were identified from the 450 retrieved through the selected databases, and 4 from alternative sources (i.e., n=3 from Google Scholar, n=1 from other sources). After reviewing their content, 15 studies were excluded for the following reasons: 9 focused on the treatment of adult offenders or young offenders with mental disorders, and 6 described interventions targeting young offenders who had not begun a therapeutic community program or were serving custodial sentences in prison.

This review, therefore, is based on the inclusion of 6 final articles.

The process for identifying eligible studies is presented in **Figure 1**.

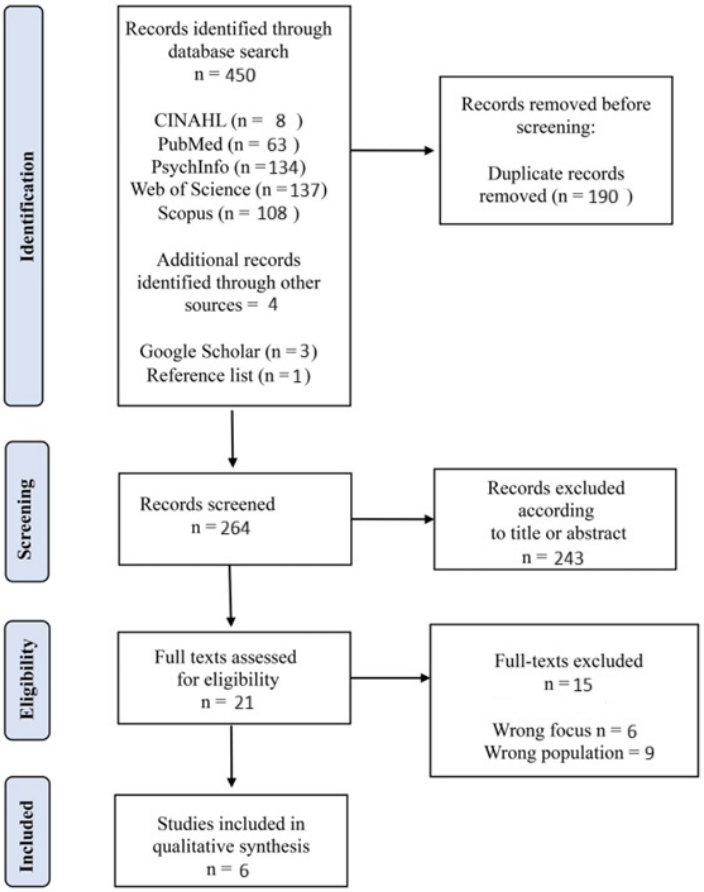


Figure 1 – PRISMA flow diagram

Studies, Participants and Intervention Characteristics

The characteristics of the studies included in the analysis are presented in **Table 1**. This review includes a total of 1,229 adolescent offenders, with ages ranging from 12 to 22 years. Most of the selected studies have samples composed entirely of male adolescents (n = 4), while the remaining two studies (n = 2) are based on mixed-gender samples, although the proportion of males to females is not specified.

Three studies are quasi-experimental (Hausam et al., 2022; Lowenkamp et al., 2010; Pealer, 2017), two are cohort studies (Kroll et al., 2002; McMackin, Tansi & LaFratta, 2004), and one is a Randomized Controlled Trial (RCT) (Glick & Goldstein, 1987).

Among the six total studies, three aim to investigate the effectiveness of intrinsic aspects underpinning the rehabilitative treatment in therapeutic communities (Lowenkamp et al., 2010; McMackin, Tansi & LaFratta, 2004; Pealer, 2017), one evaluates the positive outcomes of implementing Aggression Replacement Training (ART) (Glick & Goldstein, 1987), another focuses on the effectiveness of cognitive-behavioral interventions (Kroll et al., 2002), and one assesses post-treatment recidivism rates and the most effective types of intervention for young offenders in social-therapeutic communities (Hausam et al., 2022).

Aggression Replacement Training (ART) is a multimodal psychoeducational intervention aimed at behavioral modification in violent and chronically aggressive adolescents and adults (Goldstein & Glick, 1994). It is structured into three different components: Structured Learning Training, Anger Control Training, and Moral Education, each delivered over a minimum of 10 weeks to groups of 8-12 youths. Structured Learning Training (SLT) involves teaching prosocial behaviors, aiming to replace aggressive behaviors. Anger Control Training (ACT) requires each youth to bring to each session a description of a recent experience that provoked anger, with the goal of inhibiting aggressive responses. Over the 10-week program, juvenile offenders are trained to respond to anger-inducing situations through a behavioral chain. This includes identifying triggers and bodily cues that signal anger, and using strategies to lower arousal levels (e.g., deep breathing, counting backwards, or thinking of calming self-statements). Moral Education, the third and final component, consists of procedures designed to increase

Author	Country	Design	Focus of the study	Sample	Age (mean)	Interventions	Length of stay	Results	Follow-up
Glick and Goldstein (1987)	United States	RCT	Effectiveness of Aggression Replacement Training in Therapeutic Communities	60 male adolescents	15	Aggression Replacement Training (ART)	4 months and 2 weeks	ART leads to both quantitative ($p < .01$) and qualitative ($p < .05$) reductions in aggressive behaviors	No
Hausam et al. (2022)	Germany	Quasi-experimental study	Evaluation of recidivism rates after social therapy	111 male adolescents	Between 14 and 22 years	Social-therapeutic treatment	An average of 23.09 months	Post-treatment recidivism rates show no significant change; vocational training ($p = 0.001$) and educational training ($p = 0.063$) have proven to be effective	60.85 months (treatment group) 52.30 months (control group)
Kroll et al. (2002)	United Kingdom	Cohort study	Effectiveness of community-based treatment	101 male adolescents	14.9	Cognitive-behavioural approaches	3 months	Reduction of aggressive behaviors and improvement of social relationships	NAS (brief follow-up)
Lowenkamp et al. (2010)	United States	Quasi-experimental study	Evaluation of recidivism rates after community-based treatment	348 adolescents	NAS	Intrinsic aspects of therapeutic community	NAS	Therapeutic communities are effective in reducing recidivism rates	2 years
McMackin, Tansi and LaFratta (2004)	United States	Cohort study	Evaluation of recidivism rates after community-based treatment	162 adolescents	15.84	Intrinsic aspects of therapeutic community	An average of 7 months and 27 days	The longer individuals remain in therapeutic communities, the lower the recidivism rates ($p = .031$)	Between 1 and 20 years
Pealer (2017)	United States	Quasi-experimental study	Evaluation of recidivism rates after community-based treatment	447 male adolescents	Between 12 and 20 years	Intrinsic aspects of therapeutic community	An average of 6.5 months	Young offenders who undergo a program in therapeutic communities have a lower likelihood of re-incarceration (36.7%) compared to those who do not receive such rehabilitative intervention (43%)	3 years

Table 1. Studies on efficacy of rehabilitative treatment for juvenile offenders in therapeutic communities



Figure 2 – Risk of bias summary. Note. "+" indicates a low risk of bias. "–" indicates a high risk of bias. "?" indicates an unclear risk of bias.

Study	Confounding	Selection of participants	Classification of interventions	Deviation from intended interventions	Missing data	Measurement of outcomes	Selection of reported results	Overall
Hausam et al. (2022)	Low	Low	Low	Low	Low	Moderate	Low	Low
Lowenkamp et al. (2010)	Moderate	Low	Low	Low	Moderate	Low	Moderate	Moderate
Pealer (2017)	Low	Low	Low	Low	Low	Low	Moderate	Low

Table 2. Risk of bias judgments in nonrandomized studies of interventions (ROBINS-I) assessment

Study	Kroll et al. (2002)	McMackin, Tansi and LaFratta (2004)
Were the two groups similar and recruited from the same population?	Unclear	Yes
Were the exposures measured similarly to assign people to both exposed and unexposed groups?	Not applicable	Not applicable
Was the exposure measured in a valid and reliable way?	Yes	Yes
Were confounding factors identified?	Yes	No
Were strategies to deal with confounding factors stated?	No	Not applicable
Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)?	Yes	Yes
Were the outcomes measured in a valid and reliable way?	Yes	Yes
Was the follow up time reported and sufficient to be long enough for outcomes to occur?	No	Unclear
Was follow up complete, and if not, were the reasons to loss to follow up described and explored?	Not applicable	Yes
Were strategies to address incomplete follow up utilized?	Not applicable	Not applicable
Was appropriate statistical analysis used?	Unclear	Yes

Table 3. Risk of bias judgments in Cohort studies

honesty, justice, and awareness of others' rights and needs. Exposing young offenders to a series of moral dilemmas in a group setting elicits cognitive conflict, the resolution of which typically leads to higher levels of moral reasoning (Glick and Goldstein, 1987).

In the study by Kroll et al. (2002), cognitive-behavioral interventions, such as problem-solving strategies, were used to identify negative or distorted thoughts and the emotions associated with them, with the aim of challenging and replacing them with more realistic ways of thinking.

Finally, social therapy is a specific, complex, and integrated form of corrective treatment, consisting of a combination of psychotherapeutic, educational, vocational, and recreational interventions within a therapeutic setting, aimed at creating a social learning environment (Hausam et al., 2022).

Quality evaluation

Figure 2 summarizes the different aspects concerning the methodological quality of the RCT included in the review (Glick & Goldstein, 1987). The overall quality of the study was moderate, with some limitations regarding the method.

Table 2 shows ROBINS-I RoB of nonrandomized studies. Among the included studies, two of them were judged to have an overall low risk of bias (Hausam et al., 2022; Pealer, 2017), instead in one study (Lowenkamp et al., 2010) the overall risk of bias was moderate.

Risk of bias judgments in Cohort studies are shown in **Table 3**. The overall quality of both studies included was moderate (Kroll et al., 2002; McMackin, Tansi & LaFratta, 2004). Among the limits, the absence of strategies to deal with confounding factors when they were identified (Kroll et al., 2002) and the insufficient or unclear length of the follow-up period.

Considering the risk of bias in the included studies, this systematic review presents an overall moderate risk of bias.

Treatments' efficacy

The six included studies analyzed the effectiveness of various rehabilitation approaches within therapeutic communities. Three of them focused on the intrinsic func-

tioning of the therapeutic community (Lowenkamp et al., 2010; McMackin, Tansi & LaFratta, 2004; Pealer, 2017). One evaluated the effectiveness of ART (Glick & Goldstein, 1987), while another examined interventions based on the cognitive-behavioral approach (Kroll et al., 2002). Finally, although post-treatment recidivism data were reported across all studies, only one study assessed post-treatment recidivism as its primary outcome while investigating the effectiveness of social-therapeutic treatment for young offenders (Hausam et al., 2022). Where metrics from individual studies are not reported, this is due to their absence in the full texts of the studies included in the review.

In the study by McMackin et al. (2004), recidivism rates of 162 young offenders (mean age 15.84 years old) discharged from a therapeutic community in Massachusetts between 1976 and 1995 were examined, also considering the influence of the duration of stay in the community on recidivism. In this article, recidivism is defined as the occurrence of further convictions after rehabilitative treatment. The authors observed that a stay of at least 11 months resulted in no future convictions (p = .031). The effectiveness of the treatment remained significant even for chronic offenders, who made up 59% of the sample (n = 95). Although a chronic delinquent career, as expected, was positively associated with recidivism (p = .004), those who had participated in a community program lasting at least 11 months showed significantly lower recidivism rates compared to individuals who had stayed for less than 11 months (p = .026). Therefore, community-based rehabilitation treatment, especially if of long duration, appears to be effective in reducing recidivism rates.

Similarly, Lowenkamp et al. (2010) evaluated the effectiveness of the approach used in therapeutic communities in reducing criminal recidivism rates, which refers to subsequent convictions after rehabilitation. The experimental group consisted of a sample of young people (age not specified) who completed the community program in nine therapeutic communities located in Ohio in 2002 (N = 348). For the analyses, two comparison groups were used: a sample of youth released from Department of Youth Services institutions and a sample of youth under community supervision. The comparison between the three groups revealed that the therapeutic community had a greater effectiveness than the two control groups, despite a weak effect size. In particular, there were moderate positive treatment effects in therapeutic communities compared to interventions in Youth Services institutions and community supervision (respectively .04 and .07). Subsequently, the results were compared considering the risk level of the youth involved in the program: five of the nine therapeutic communities included in the study were mainly aimed at high-risk youth. For these participants, the approach used in the therapeutic communities proved to be more effective in reducing recidivism rates compared to the other two control groups. In contrast, therapeutic communities that also host lower-severity young offenders—where the percentage of high-risk youth is below 75%—showed virtually no effectiveness. These results suggest that participating in a therapeutic community program can be particularly effective if the individuals involved present high-risk levels.

Furthermore, in Pealer's (2017) study, the reduction of recidivism rates among young offenders (aged 12- 20 years) who underwent rehabilitation within therapeutic communities was the main focus of the investigation. The presence of a new period of incarceration was considered an indicator of recidivism. It emerged that young offenders who engaged in therapeutic community programs had a lower probability of being re-incarcerated (36.7%) compared to those who did not undergo such rehabilitation (43%), although the difference was not statistically significant. A second important aspect investigated was the impact of residential community treatment on cognitive distortions and psychological and social functioning. Regarding cognitive aspects, the *How I Think Questionnaire* was used to assess youths' cognitive distortions. The author highlighted how engaging in a therapeutic community program led to a significant reduction in self-centeredness (p = .040), lying (p = .005), and both overt (p = .043) and covert behaviors (p = .014). As for psychological and social aspects, there were statistically significant changes, in particular a decrease in depression levels (p = .041) and an increase in self-esteem (p = .001) and decision-making skills (p = .016), as highlighted by the *Client Self-Rating* scores. This demonstrates how therapeutic communities might be effective not only in reducing recidivism rates but also in cognitive restructuring and promoting psychological and social well-being.

To evaluate the effectiveness of ART, in the study conducted by Glick and Goldstein (1987), the 60 subjects involved were randomly assigned to three different conditions: ART (n = 24), which was the intervention of interest, motivational training (n = 24), and a control condition with no intervention (n = 12). At the conclusion of the study, the young offenders (mean age 15 years old) who completed ART were able to acquire and generalize the skills taught in SLT to a higher level than the other two comparison groups (p < .01). They also showed improvements both in terms of quantity (p < .01) and quality (p < .05) of aggressive behaviors exhibited within the therapeutic community. Finally, in the experimental condition, a decrease in impulsivity rates (p < .05) was also observed, demonstrating the effectiveness of ART in behavioral rehabilitation.

The study by Kroll et al. (2002) aimed to assess how the psychological, educational, and social needs of young offenders (mean age 14,9 years old) changed after a three-month stay in therapeutic communities and which types of interventions were effective in improving the overall conditions of the youth. Admission to safe care facilities, particularly those providing cognitive-behavioral interventions, was associated with improvements in aggression, substance abuse, relationships, and education. However, no improvements were recorded in the psychological conditions of the youth. These results suggest that commu-

nity-based intervention fails to fully meet the needs of the youth. Although participation in therapeutic communities was associated with a reduction in aggressive behavior, there was no psychological evaluation for those individuals whose aggression persisted.

Finally, the effectiveness of the sociotherapeutic treatment implemented in therapeutic communities was tested in the study by Hausam et al. (2022). The comparison was made with a control group that did not receive any treatment and involved an evaluation of recidivism rates, taking into account any new charges or arrests. The follow-up period was longer for the group that underwent sociotherapeutic treatment (M = 60.85 months), compared to the control group (M = 52.30 months). The age of the sample was not specified. Within the analyzed sample, two different types of recidivism were distinguished: non-violent/non-sexual recidivism (n = 90, 81.1%) and violent/sexual recidivism (n = 57, 51.4%). No significant differences were found between the treatment group (i.e., sociotherapeutic treatment) and the control group in either non-violent/non-sexual recidivism rates (82.2% vs 78.9%) or violent/sexual recidivism rates (53.4% vs 47.4%). However, analyzing the impact of specific components of the intervention on recidivism rates, distinguishing between non-violent/non-sexual and violent/sexual recidivism, it was observed that vocational training reduced the risk of violent/sexual recidivism by 31% (p = 0.001), while educational training was associated with a decrease in non-violent/non-sexual recidivism rates (p = 0.063).

Discussion

The results obtained suggest that rehabilitative treatment provided to young offenders in therapeutic communities can bring about favorable behavioral changes. When considering the post-treatment behavioral changes in terms of aggression, violence, and deviant behaviors, there is statistically significant effectiveness; however, when the focus of investigation is recidivism, contrasting results emerge. In many of the studies considered, the reduction in aggressive behavior is evaluated by using recidivism rates as an index, and therefore, the recurrence of criminal behavior. In the studies where the intervention is rooted in the therapeutic community approach, a decrease in recidivism rates is observed, particularly for high-risk individuals (Lowenkamp et al., 2010) who undergo a community program lasting at least 11 months (McMackin, Tansi & LaFratta, 2004). However, in Pealer's (2017) study, the reduction in recidivism rates was not statistically significant. One possible explanation could lie in the fact that the therapeutic community treatment model is based on a social learning approach (Veale et al., 2015). This model emphasizes the importance of learning vicariously by observing others; the risk is that dysfunctional behaviors may also be learned, thus destroying the prosocial networks that have been created up to that point. This aspect also appears in Lowenkamp and colleagues' (2010) study and is the reason why the intervention was found to be more effective for high-risk youth. Despite the model being centered on the social learning approach, the specific intervention methods used in the study were predominantly educational, with changes in attitudes and behavior occurring through discussions among community members. However, some research has shown that this type of technique is not as effective in reducing recidivism (e.g., Andrews et al., 1990; Taxman, 1999) and, furthermore, does not incorporate behavioral rehearsal techniques (e.g., role-playing), which have been shown to be effective in promoting behavioral change (Pealer, 2017).

Recidivism rates post-treatment are also the main focus in Hausam and colleagues' (2022) study, where, however, the intervention is sociotherapeutic. Nonetheless, the results show that this treatment has no effect on recidivism rates, which remain equally high in both the experimental and control groups. This result contradicts the Authors' expectations, considering that the sociotherapeutic treatment includes essential features that have been proven effective in the treatment of young offenders (e.g., cognitive-behavioral interventions with high-risk youth). One possible explanation could be that the experimental sample did not meet the Risk Need Responsivity (RNR): low-risk offenders may not have benefited from the treatment or, in fact, may have experienced negative effects. Furthermore, the control group was not entirely devoid of interventions, as they received an educational orientation, which is considered mandatory when the sample consists of young offenders.

If, instead of recidivism rates, we consider the reduction of aggressive behavior in general, the results show greater consistency and highlight a reduction in aggressive behaviors. In particular, ART and cognitive-behavioral interventions lead to both quantitative and qualitative reductions in aggressive behaviors exhibited within the therapeutic community (Glick & Goldstein, 1987; Kroll et al., 2002).

In conclusion, the evidence does not point to one intervention as being definitively more effective due to the heterogeneity of approaches used in the analyzed studies. However, most of them include elements of the cognitive-behavioral model, which is recognized as the most effective for the treatment of young offenders (e.g., Garrido & Morales, 2007; Genovés, Morales & Sánchez-Meca, 2006; Koehler et al., 2013; Pappas & Dent, 2023; Saxena & Sahai, 2024).

Several limitations affect the generalizability of the conclusions. First, the limited number of studies included highlights the scarcity of research conducted in this field.

A second aspect to consider is the type of study design and their quality. Most of the included studies were quasi-experimental (n = 3), which allow for a structured comparison between groups despite the absence of randomisation. The observational studies (n = 2), while useful for describing outcomes and identifying associations, provide even more limited support for causal inter-

pretations. The overall quality of the studies was found to be moderate and limiting.

Another critical point is that the sample used in the research is predominantly composed of male subjects, and when the sample is mixed, no gender distinction is made during the analysis phase. Therefore, considering that male gender has still been shown to be a specific risk factor for juvenile delinquency, there could be gender differences in the response to socio-rehabilitative treatment, which, at present, cannot be discussed (Binik et al., 2021).

Furthermore, although the sample consists entirely of adolescents, there is no evaluation of effectiveness that takes into account their specific age, to assess whether the rehabilitative intervention is more effective for a particular age group. Only in Pealer's (2017) study is an effectiveness evaluation based on the participants' age included, which shows that younger offenders, aged between 13 and 15, who participated in the program, had a significantly higher likelihood of being incarcerated after being discharged from the therapeutic community. Therefore, a suggestion for future research could be to identify an effective model for subjects under the age of 15, in order to differentiate the approaches based on the age of the target sample.

An often-overlooked aspect is the duration of stay in therapeutic communities, which is rarely evaluated in relation to the effectiveness of treatment, with the exception of McMackin and colleagues' study (2004). The duration of rehabilitation programs varied from 3 to 23 months, while in Lowenkamp and colleagues' study (2010), it is not specified. This heterogeneity limits the ability to compare the results reliably. Furthermore, excessively short treatment durations represent a significant limitation, as the literature suggests a correlation between longer treatment durations and a reduction in criminal activity (e.g., Condelli & Hubbard, 1994; Marcus et al., 2013).

An additional limitation concerns the lack of a uniform definition of the term "recidivism." In the various studies that use recidivism rates as an indicator of treatment effectiveness, the authors provide descriptions of the concept that present significant differences, thus limiting the overall assessment of effectiveness. The absence of a unified and measurable effectiveness indicator represents a common issue in the forensic field, where it is well known that no standardized methodology, based on shared scientific criteria, exists to accurately assess the effectiveness and impact of criminological treatment (Moretti et al., 2024; Travaini et al., 2024).

Another constraint relates to the follow-up duration, which varies between 2 and 20 years depending on the studies considered. This lack undermines the treatment effectiveness outcome, raising the suspicion that some individuals may have committed further crimes in the months following their discharge from the therapeutic community.

Despite the highlighted limitations, this systematic review represents the first synthesis of current scientific evidence on the treatment of young offenders, suggesting that residential community-based treatment may be effective in reducing criminal behavior. However, the scarcity of studies on the topic and the variability of the approaches used make it difficult to determine whether there is a more effective intervention for rehabilitating this specific group of offenders. This highlights the need for greater investment in forensic treatment research, with the goal of identifying the key elements on which an effective rehabilitative response should be based.

Therefore, further studies with a rigorous experimental design, a clear definition of recidivism, and long-term monitoring are needed to ensure greater generalizability of the results. Additionally, it is essential to include mixed samples to assess potential gender differences and to conduct research in other countries to address cultural biases and based on specific age groups to assess whether the effectiveness of the treatment varies across different age cohorts.

Conclusions

The studies included highlight how a rehabilitative approach based on a residential community model can reduce the risk of recidivism, proving more effective than purely punitive models. Regarding the specific intervention that proves most effective, there is no single answer, although it emerges that treatments incorporating cognitive-behavioral components lead to a reduction in criminal behavior. Since the studies conducted on the topic are still limited, it would therefore be desirable to conduct further research to deepen the topic and address the current knowledge gaps.

In this perspective, rehabilitation represents an essential element for a juvenile justice system focused on prevention and the protection of the minor's fundamental rights.

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