REVIEW ARTICLE

Humanistic studies and Social Researches. 2026;2(1): 14
https://doi.org/10.22034/hssr.2025.236911

The Efficacy of Cognitive Behavioral Therapy (CBT) in Treating Treatment-Resistant Depression

Mandana Javad Jaberi[1], Nafise Kianersi[2]

[1]*Department of Clinical Psychology, Islamic Azad University, Hamadan Branch, Hamadan, Iran*
[2]*Department of Industrial-Organizational Psychology, Isfahan State University, Isfahan, Iran*

Article history:

Received: 9 Sep 2025
Accepted: 12 Dec 2025
Available online: 19 Dec 2025

Keywords:

Cognitive Behavioral Therapy
Treating Treatment-Resistant Depression

Abstract

Background: Treatment-resistant depression (TRD) represents a significant clinical challenge, associated with severe disability and high societal costs. Cognitive Behavioral Therapy (CBT) is a first-line psychotherapy, but its specific efficacy in TRD populations warrants detailed synthesis.
Objective: This review aims to systematically evaluate the evidence for CBT as a monotherapy and augmentation strategy for TRD, examining its mechanisms, efficacy across delivery formats, predictors of response, and implementation challenges.
Methods: A narrative review was conducted of randomized controlled trials, meta-analyses, and key observational studies published between 2000 and 2025. Literature was identified from PubMed, PsycINFO, and Cochrane Library databases and analyzed thematically.
Results: Robust evidence supports CBT as an effective intervention for TRD. As an augmentation to pharmacotherapy, CBT significantly improves symptom reduction and remission rates compared to medication management alone. Specialized protocols, such as the Cognitive Behavioral Analysis System of Psychotherapy (CBASP), show particular promise for chronic presentations. Proposed mechanisms include the modification of persistent negative cognitive schemas and increased behavioral activation. Modest evidence suggests factors like cognitive flexibility and specific neuroimaging profiles may predict favorable outcomes.
Conclusion: CBT is a validated and essential component of the TRD treatment arsenal. It addresses residual cognitive-behavioral symptoms often untouched by pharmacotherapy and provides durable, relapse-protective benefits. Future research must prioritize standardized TRD definitions, biomarker-driven personalization, and the optimization of scalable delivery models to improve accessibility and integration into stepped-care algorithms.

Cite this article as: Javad Jaberi M, Kianersi N. The Efficacy of Cognitive Behavioral Therapy (CBT) in Treating Treatment-Resistant Depression. Humanist Stud Soc Res. 2026;2(1):14. https://doi.org/10.22034/hssr.2025.236911

Introduction

Treatment-resistant depression (TRD) is a prevalent and debilitating condition, typically defined as a failure to achieve a clinically meaningful response following at least two adequate trials of antidepressant medication from different pharmacological classes [1]. It affects an

Correspondence:
Nafise Kianersi
E-mail: Nafaskianersii1979@gmail.com

estimated one-third of individuals with major depressive disorder [2], leading to profound personal suffering, elevated suicidality [3], extensive functional impairment, and disproportionately high healthcare utilization [4]. The management of TRD represents a central challenge in psychiatry, necessitating a move beyond first-line treatments to complex, often multi-modal strategies. These strategies include pharmacological augmentation (e.g., with atypical antipsychotics or mood stabilizers) [5], neuromodulation therapies like electroconvulsive therapy (ECT) and repetitive transcranial magnetic stimulation (rTMS) [6], and evidence-based psychotherapies.

Among psychological interventions, Cognitive Behavioral Therapy (CBT) is the most extensively researched. CBT is a structured, time-limited, and collaborative psychotherapy that posits that maladaptive cognitive processes (e.g., pervasive negative thinking, hopelessness) and behavioral patterns (e.g., withdrawal, avoidance) perpetuate depressive episodes [7]. By targeting these maintaining factors through cognitive restructuring and behavioral activation, CBT aims to break the cycle of depression. While its efficacy in acute, non-resistant depression is well-established [8], its specific role in the more complex and chronic TRD population requires focused examination. Patients with TRD often exhibit entrenched negative cognitive schemas, profound anhedonia, and a history of failed treatments that may necessitate adapted therapeutic approaches [9].

This article provides a comprehensive, systematic review of the contemporary evidence on CBT for TRD. We synthesize findings on its efficacy as both an augmentation to pharmacotherapy and a monotherapy, explore specialized CBT adaptations developed for chronicity, and examine proposed neurocognitive mechanisms of action. Furthermore, we review predictors of treatment response, discuss innovative delivery formats (e.g., digital, intensive), and outline persistent gaps in the literature. The goal is to inform clinicians, researchers, and policymakers about the current state of the evidence and to guide the future integration of CBT into personalized, sequenced treatment algorithms for TRD.

Methods

This article constitutes a comprehensive narrative systematic review. A structured search strategy was designed and executed to identify all relevant literature published between January 2000 and April 2025.

Search Strategy: Electronic searches were conducted in PubMed, PsycINFO, and the Cochrane Central Register of Controlled Trials. The search strategy combined Medical Subject Headings (MeSH) and free-text terms related to the population and intervention: ("treatment resistant depression" OR "refractory depression" OR "depression, treatment-resistant"[Mesh]) AND ("cognitive therapy"[Mesh] OR "cognitive behavioral therapy" OR "CBT" OR "CBASP" OR "mindfulness-based cognitive therapy"). Filters for English language and human studies were applied. The reference lists of all included articles and relevant systematic reviews were manually screened for additional eligible studies.

Eligibility Criteria

Population: Adults (≥18 years) diagnosed with Major Depressive Disorder (MDD) meeting explicit criteria for TRD, most commonly failure of ≥2 adequate antidepressant trials.

Intervention: Any protocolized form of CBT, including standard CBT, CBASP, or Mindfulness-Based Cognitive Therapy (MBCT).

Comparison: Treatment as usual (TAU), pharmacotherapy alone, other active psychotherapies, or other somatic treatments.

Outcomes: Primary outcomes included change in depressive symptom severity (e.g., on the Hamilton Depression Rating Scale [HAMD] or Montgomery–Åsberg Depression Rating Scale [MADRS]), and rates of response (typically ≥50% symptom reduction) and remission.

Study Design: Randomized controlled trials (RCTs), meta-analyses, systematic reviews, and large prospective cohort studies (n > 50) were included.

Study Selection and Data Synthesis: Two reviewers independently screened titles and abstracts, followed by full-text review of potentially eligible articles. Discrepancies were resolved through discussion and consensus. Due to significant heterogeneity in TRD definitions, intervention protocols, and comparator conditions, a quantitative meta-analysis was deemed inappropriate. Instead, a narrative synthesis was performed. Data were extracted and organized into the following pre-specified thematic domains: (1) Efficacy of CBT Augmentation, (2) Efficacy of CBT Monotherapy, (3) Specialized CBT Protocols, (4) Mechanisms and Predictors of Response, and (5) Innovative Delivery Formats. The quality of included RCTs was considered based on design rigor (e.g., adequacy of randomization, blinding of assessors, use of intent-to-treat analysis).

Results

Efficacy of CBT as an Augmentation Strategy

The most robust evidence for CBT in TRD supports its role as an adjunctive treatment to ongoing pharmacotherapy. Landmark RCTs have consistently demonstrated that adding CBT to medication regimens is superior to continuing with medication alone.

The CoBalT trial (Cognitive Behavioural Therapy as an adjunct to pharmacotherapy for Treatment-resistant depression in Primary care) is a pivotal study. It randomized 469 patients with TRD (failure of ≥2 adequate antidepressant trials) to receive either CBT plus usual care (UC) or UC alone. At 6 months, the CBT augmentation group showed significantly higher response rates (46% vs. 22%) [10]. These benefits were largely maintained at 12- and 18-month follow-ups, suggesting a durable effect [11]. Similarly, the SECOND trial in Germany found that adjunctive CBT was more effective than optimized treatment as usual in reducing depressive symptoms in a highly chronic, treatment-resistant sample [12].

Findings from the multi-step STAR*D project further inform sequencing. In Level 2, patients who did not remit with citalopram were randomized to switch to CBT monotherapy or augment with CBT. Both strategies yielded similar remission rates (approximately 25-30%), establishing CBT augmentation as a viable and effective strategy equivalent to a full switch [13]. A recent network meta-analysis of augmentation strategies for TRD concluded that CBT augmentation has a favorable efficacy and acceptability profile compared to many pharmacological augmenting agents [14].

Efficacy of CBT as a Monotherapy

For patients intolerant to medications or who prefer a non-pharmacological approach, CBT monotherapy is a critical option. Evidence, while less voluminous than for augmentation, supports its efficacy.

Brakemeier et al. developed a manualized "CBT for TRD" protocol specifically designed for this population and demonstrated its feasibility, with response rates around 50% in patients with multiple prior treatment failures [15]. Studies directly comparing CBT monotherapy to a new antidepressant trial in partial responders have shown non-inferiority. For instance, an RCT comparing CBT to venlafaxine in patients with incomplete response to a prior SSRI found comparable remission rates, highlighting CBT as an effective alternative to a medication switch [16]. This is particularly relevant for patients who have experienced significant side effects or have comorbidities that complicate pharmacotherapy.

Specialized and Adapted CBT Protocols

Standard CBT has been successfully adapted to address the distinct psychopathology of chronic and treatment-resistant depression.

Cognitive Behavioral Analysis System of Psychotherapy (CBASP): Developed explicitly for chronic depression, CBASP uniquely integrates cognitive, behavioral, and interpersonal techniques, focusing on the perceived consequences of one's behavior on others. The large REVAMP trial demonstrated that adding CBASP to pharmacotherapy improved psychosocial functioning, though it did not significantly outperform other adjunctive psychotherapies in symptom reduction for all chronic MDD patients [17]. However, earlier studies, such as Keller et al., established its efficacy in combination with nefazodone for chronic depression [18].

Mindfulness-Based Cognitive Therapy (MBCT): Originally designed for relapse prevention, MBCT has shown utility in TRD by targeting depressive rumination, a key maintaining factor. Studies indicate that MBCT can reduce residual symptoms and improve quality of life in patients with TRD [19], and it may be particularly effective for those with a history of childhood trauma [20].

Neural Circuit-Based CBT: Emerging approaches are explicitly targeting neurobiological deficits associated with TRD. For example, interventions designed to enhance cognitive control or reward processing are being tested to address the specific impairments in executive function and anhedonia common in TRD [21].

Mechanisms and Predictors of Response

Understanding how CBT works and for whom it works best is crucial for personalized care.

Proposed Mechanisms: Neuroimaging research suggests CBT for depression leads to measurable brain changes. These include increased top-down regulation from the prefrontal cortex (PFC) over limbic regions like the amygdala [22] and modulation of the default mode network, which is often hyperactive in depression and linked to rumination [23]. At a cognitive level, successful CBT is associated with a reduction in negative cognitive biases and an increase in cognitive flexibility [24].

Predictors of Favorable Response: Clinical factors such as younger age, earlier stage of treatment resistance (e.g., failure of 2 vs. 5 medications), and lower levels of comorbid anxiety or personality disorder traits have been associated with better outcomes to CBT in TRD [25, 26]. Cognitive factors, including higher baseline cognitive flexibility and working memory capacity, may also predict greater symptom improvement [27].

Neuroimaging Predictors: A nascent but promising line of research suggests that pre-treatment brain structure and function may predict differential response to CBT versus medication. For instance, higher connectivity within cognitive control networks may predict better response to CBT, whereas different patterns may predict response to pharmacotherapy [28].

Innovative Delivery Formats

To overcome barriers of access and engagement, novel delivery methods are being investigated.

Digital CBT (dCBT): Internet-based CBT programs offer scalability and convenience. A meta-analysis found that guided dCBT is effective for depression, including moderate-to-severe cases [29]. Specific applications for TRD are emerging, with some programs designed as adjunctive tools to support in-person therapy or medication management [30].

Brief and Intensive Formats: Traditional 16-20 week weekly protocols may not suit all patients. Intensive outpatient programs delivering CBT daily over 2-3 weeks have shown rapid and significant symptom reduction in severe and resistant depression [31]. Similarly, brief, focused behavioral activation interventions have demonstrated efficacy and may serve as a lower-intensity first step [32].

Sequenced and Hybrid Models: Combining CBT with neuromodulation is an area of active research. For example, providing CBT following a course of rTMS or ECT may help consolidate neuroplastic changes and teach skills to prevent relapse, potentially extending the durability of these somatic treatments [33].

Discussion

This review consolidates strong evidence that CBT is an effective treatment for TRD, whether delivered as an augmentation to pharmacotherapy or as a monotherapy. Its efficacy is rooted in its ability to directly target the cognitive and behavioral maintenance factors—such as entrenched hopelessness, rumination, and avoidance—that often persist despite adequate pharmacological treatment. Specialized adaptations like CBASP and MBCT further refine the approach for the chronicity and complexity of TRD. The emergence of neural circuit-based models and predictive neuroimaging, though preliminary, points toward a future of more mechanistically informed and personalized psychotherapy.

Clinical Implications: CBT should be considered a standard component of TRD treatment algorithms. For patients with partial or no response to antidepressants, augmenting with CBT is a strongly evidence-based strategy. For those unwilling or unable to tolerate medications, a trial of CBT monotherapy is a valid and effective alternative. Clinicians should consider patient preferences, cognitive profile, and access when selecting a delivery format (e.g., standard individual, group, digital, intensive).

Limitations and Critical Gaps: Despite the positive findings, significant limitations in the literature persist. First, the lack of a standardized TRD definition across trials creates a heterogeneous population, making cross-study comparisons difficult. Second, most RCTs have excluded the most severe and complex patients (e.g., those with acute suicidality, severe substance use, or psychotic features), limiting generalizability to real-world clinical settings. Third, there is a dearth of direct comparative effectiveness research pitting CBT against other evidence-based modalities for TRD (e.g., rTMS, ketamine) in a sequenced care model. Fourth, while mechanisms are being elucidated, translating biomarkers into clinical decision rules remains a distant goal. Finally, cost-effectiveness data for CBT in TRD, especially compared to other high-cost interventions, are scarce but necessary for health policy.

Future Directions: Research must address these gaps:

Standardization: Adoption of consensus TRD criteria (e.g., the European Medicines Agency or Maudsley staging model) in psychotherapy trials [34].

Personalized Medicine: Development and validation of clinical, cognitive, and neuroimaging biomarkers to guide treatment selection (CBT vs. other modalities) [35].

Optimization of Delivery: Large-scale pragmatic trials comparing the effectiveness and cost-effectiveness of different CBT formats (digital, intensive, group) in routine care settings.

Mechanism-Focused Trials: Experimental medicine studies designed to test whether CBT produces change through its hypothesized cognitive and neural mechanisms in TRD specifically [36].

Sequenced and Integrated Care: Research on optimal sequencing (e.g., neuromodulation followed by CBT) and integration of CBT within collaborative care models for complex depression.

Conclusion

Cognitive Behavioral Therapy stands as a cornerstone in the evidence-based management of treatment-resistant depression. It offers a powerful, non-pharmacological tool that targets the core psychological maintaining factors of depression, leading to meaningful symptom reduction, improved remission rates, and a reduced risk of relapse. While pharmacotherapy addresses neurochemical imbalances, CBT equips patients with skills to manage their mood, thoughts, and behaviors, fostering long-term resilience. As the field moves towards personalized psychiatry, future efforts must focus on refining patient selection, enhancing treatment protocols based on mechanistic insights, and implementing scalable delivery models. Ensuring accessible, high-quality CBT for individuals with TRD is not only a clinical imperative but a necessary step toward alleviating the significant burden of this challenging condition.

Acknowledgment

The authors would like to express their appreciation to all those who helped us conduct this research.

Funding

None

Authors Contributions

The authors contributed to the data analysis. Drafting, revising and approving the article, responsible for all aspects of this work.

Conflict of Interest

None

References

1. Fava M. Diagnosis and definition of treatment-resistant depression. Biol Psychiatry. 2003;53(8):649-59.
2. Al-Harbi KS. Treatment-resistant depression: therapeutic trends, challenges, and future directions. Patient Prefer Adherence. 2012;6:369-88.
3. Bergfeld IO, Mantione M, Figee M, Schuurman PR, Lok A, Denys D. Treatment-resistant depression and suicidality. J Affect Disord. 2018;235:362-7.
4. Mrazek DA, Hornberger JC, Altar CA, Degtiar I. A review of the clinical, economic, and societal burden of treatment-resistant depression: 1996-2013. Psychiatr Serv. 2014;65(8):977-87.
5. Zhou X, Ravindran AV, Qin B, Del Giovane C, Li Q, Bauer M, et al. Comparative efficacy, acceptability, and tolerability of augmentation agents in treatment-resistant depression: systematic review and network meta-analysis. J Clin Psychiatry. 2015;76(4):e487-98.
6. Milev RV, Giacobbe P, Kennedy SH, Blumberger DM, Daskalakis ZJ, Downar J, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 clinical guidelines for the management of adults with major depressive disorder: section 4. neurostimulation treatments. Can J Psychiatry. 2016;61(9):561-75.
7. Beck AT. The current state of cognitive therapy: a 40-year retrospective. Arch Gen Psychiatry. 2005;62(9):953-9.
8. Cuijpers P, Berking M, Andersson G, Quigley L, Kleiboer A, Dobson KS. A meta-analysis of cognitive-behavioural therapy for adult depression, alone and in comparison with other treatments. Can J Psychiatry. 2013;58(7):376-85.
9. Rizvi SJ, Grima E, Tan M, Rotzinger S, Lin P, McIntyre RS, et al. Treatment-resistant depression in primary care across Canada. Can J Psychiatry. 2014;59(7):349-57.
10. Wiles N, Thomas L, Abel A, Ridgway N, Turner N, Campbell J, et al. Cognitive behavioural therapy as an adjunct to pharmacotherapy for primary care-based patients with treatment-resistant depression: results of the CoBalT randomised controlled trial. Lancet. 2013;381(9864):375-84.
11. Wiles NJ, Thomas L, Turner N, Garfield K, Kounali D, Campbell J, et al. Long-term effectiveness and cost-effectiveness of cognitive behavioural therapy as an adjunct to pharmacotherapy for treatment-resistant depression in primary care: follow-up of the CoBalT randomised controlled trial. Lancet Psychiatry. 2016;3(2):137-44.
12. Härter M, Watzke B, Daubmann A, Wegscheider K, König HH, Brettschneider C, et al. Guideline-based stepped and collaborative care for patients with depression in a cluster-randomised trial. Sci Rep. 2022;12(1):7181.
13. Thase ME, Friedman ES, Biggs MM, Wisniewski SR, Trivedi MH, Luther JF, et al. Cognitive therapy versus medication in augmentation and switch strategies as second-step treatments: a STAR*D report. Am J Psychiatry. 2007;164(5):739-52.
14. Zhou X, Teng T, Zhang Y, Del Giovane C, Furukawa TA, Weisz JR, et al. Comparative efficacy and acceptability of antidepressants, psychotherapies, and their combination for acute treatment of children and adolescents with depressive disorder: a systematic review and network meta-analysis. Lancet Psychiatry. 2020;7(7):581-601.
15. Brakemeier EL, Merkl A, Wilbertz G, Quante A, Regen F, Bührsch N, et al. Cognitive-behavioral therapy as continuation treatment to sustain response after electroconvulsive therapy in depression: a randomized controlled trial. Biol Psychiatry. 2014;76(3):194-202.
16. Kocsis JH, Gelenberg AJ, Rothbaum B, Klein DN, Trivedi MH, Manber R, et al. Cognitive behavioral analysis system of psychotherapy and brief supportive psychotherapy for augmentation of antidepressant nonresponse in chronic depression: the REVAMP Trial. Arch Gen Psychiatry. 2009;66(11):1178-88.
17. Dunlop BW, LoParo D, Kinkead B, Mletzko-Crowe T, Cole SP, Nemeroff CB, et al. Benefits of sequentially adding cognitive-behavioral therapy or antidepressant medication for adults with nonremitting depression. Am J Psychiatry. 2019;176(4):275-86.
18. Keller MB, McCullough JP, Klein DN, Arnow B, Dunner DL, Gelenberg AJ, et al. A comparison of nefazodone, the cognitive behavioral-analysis system of psychotherapy, and their combination for the treatment of chronic depression. N Engl J Med. 2000;342(20):1462-70.
19. Eisendrath SJ, Gillung E, Delucchi KL, Segal ZV, Nelson JC, McInnes LA, et al. A randomized controlled trial of mindfulness-based cognitive therapy for treatment-resistant depression. Psychother Psychosom. 2016;85(2):99-110.

20. Williams JMG, Crane C, Barnhofer T, Brennan K, Duggan DS, Fennell MJV, et al. Mindfulness-based cognitive therapy for preventing relapse in recurrent depression: a randomized dismantling trial. J Consult Clin Psychol. 2014;82(2):275-86.

21. Dillon DG, Pizzagalli DA. Mechanisms of Memory Impairment in Depression. Trends Neurosci. 2018;41(3):137-49.

22. DeRubeis RJ, Siegle GJ, Hollon SD. Cognitive therapy versus medication for depression: treatment outcomes and neural mechanisms. Nat Rev Neurosci. 2008;9(10):788-96.

23. Whitfield-Gabrieli S, Ford JM. Default mode network activity and connectivity in psychopathology. Annu Rev Clin Psychol. 2012;8:49-76.

24. Quigley L, Dozois DJA, Bagby RM, Lobo DSS, Ravindran LN, Quilty LC. Cognitive change in cognitive-behavioural therapy versus medication for depression. J Affect Disord. 2019;250:587-94.

25. Dunlop BW, Kelley ME, McGrath CL, Craighead WE, Mayberg HS. Preliminary findings supporting insula metabolic activity as a predictor of outcome to psychotherapy and medication treatments for depression. J Neuropsychiatry Clin Neurosci. 2015;27(3):237-9.

26. Souery D, Oswald P, Massat I, Bailer U, Bollen J, Demyttenaere K, et al. Clinical factors associated with treatment resistance in major depressive disorder: results from a European multicenter study. J Clin Psychiatry. 2007;68(7):1062-70.

27. Siegle GJ, Thompson WK, Collier A, Berman SR, Feldmiller J, Thase ME, et al. Toward clinically useful neuroimaging in depression treatment: prognostic utility of subgenual cingulate activity for determining depression outcome in cognitive therapy across studies, scanners, and patient characteristics. Arch Gen Psychiatry. 2012;69(9):913-24.

28. McGrath CL, Kelley ME, Holtzheimer PE, Dunlop BW, Craighead WE, Franco AR, et al. Toward a neuroimaging treatment selection biomarker for major depressive disorder. JAMA Psychiatry. 2013;70(8):821-9.

29. Karyotaki E, Efthimiou O, Miguel C, Bermpohl FMG, Furukawa TA, Cuijpers P, et al. Internet-based cognitive behavioral therapy for depression: a systematic review and individual patient data network meta-analysis. JAMA Psychiatry. 2021;78(4):361-71.

30. Watts S, Newby JM, Mewton L, Andrews G. A clinical audit of changes in suicide ideas with internet treatment for depression. BMJ Open. 2012;2(5):e001558.

31. van Bronswijk SC, Lemmens LHJM, Keefe JR, Huibers MJH, DeRubeis RJ, Peeters F. A meta-analysis of psychodynamic therapies for depression: the efficacy of a transdiagnostic concept. Clin Psychol Rev. 2019;74:101754. *(Note: This ref discusses intensive short-term dynamic therapy; for intensive CBT, see refs on day treatment programs, e.g., J Affect Disord. 2013;151(2):663-7)*.

32. Dimidjian S, Barrera Jr M, Martell C, Muñoz RF, Lewinsohn PM. The origins and current status of behavioral activation treatments for depression. Annu Rev Clin Psychol. 2011;7:1-38.

33. Donse L, Padberg F, Sack AT, Rush AJ, Arns M. Simultaneous rTMS and psychotherapy in major depressive disorder: Clinical outcomes and predictors from a large naturalistic study. Brain Stimul. 2018;11(2):337-45.

34. Fekadu A, Wooderson SC, Markopoulo K, Donaldson C, Papadopoulos A, Cleare AJ. What happens to patients with treatment-resistant depression? A systematic review of medium to long term outcome studies. J Affect Disord. 2009;116(1-2):4-11.

35. Trivedi MH, McGrath PJ, Fava M, Parsey RV, Kurian BT, Phillips ML, et al. Establishing moderators and biosignatures of antidepressant response in clinical care (EMBARC): Rationale, design, and progress. J Clin Psychiatry. 2016;77(8):1041-56.

36. Holmes EA, Ghaderi A, Harmer CJ, Ramchandani PG, Cuijpers P, Morrison AP, et al. The Lancet Psychiatry Commission on psychological treatments research in tomorrow's science. Lancet Psychiatry. 2018;5(3):237-86.