REVIEW ARTICLE

Humanistic studies and Social Researches. 2026;2(1): 18
https://doi.org/10.22034/hssr.2025.236910

A Comprehensive Review of Theoretical Models and Behavioral Interventions for Anger Management

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Article history:

Received: 3 Octs 2025
Accepted: 16 Dec 2025
Available online: 25 Dec 2025

Keywords:

Anger
Aggression
Anger Management
Cognitive-Behavioral Therapy
Relaxation, Mindfulness
Acceptance and Commitment Therapy
Third-Wave Therapies

Abstract

Background: Dysregulated anger presents a significant public health concern, linked to interpersonal violence, cardiovascular morbidity, and a range of psychiatric disorders. Effective intervention requires a firm grounding in evolving psychological models and empirical evidence.
Objective: This review aims to synthesize contemporary theoretical models of anger etiology and evaluate the efficacy of first-, second-, and third-wave behavioral therapy interventions.
Methods: A narrative review methodology was employed. Peer-reviewed articles, seminal texts, and meta-analyses published between 1975-2025 were identified via PubMed, PsycINFO, and Google Scholar using keywords including "anger management," "cognitive-behavioral therapy," "aggression," and "mindfulness." Theoretical and intervention studies were selected for their influence and methodological rigor.
Results: The state-trait, cognitive-neoassociationistic, and general aggression models provide robust, complementary frameworks for understanding anger. Cognitive-behavioral therapy (CBT) remains the most empirically supported intervention, with meta-analyses demonstrating moderate-to-large effect sizes (e.g., g = 0.71). Third-wave acceptance- and mindfulness-based approaches (e.g., ACT, DBT) show growing empirical support for enhancing emotional regulation and addressing experiential avoidance, a core maintenance factor.
Conclusion: While CBT is the gold standard, integrative treatment tailoring specific techniques (e.g., cognitive restructuring, exposure, mindfulness) to individual functional assessments is advocated. Future research must focus on mechanisms of change, long-term outcomes, and culturally adapted applications to optimize treatment efficacy and accessibility.

Cite this article as: Amiri M, Tajadod R, Daneshi Moghadam P. A Comprehensive Review of Theoretical Models and Behavioral Interventions for Anger Management. Humanist Stud Soc Res. 2026;2(1):18. https://doi.org/10.22034/hssr.2025.236910

Introduction

Anger represents a fundamental, evolutionarily conserved emotional response, hardwired into human neurophysiology to signal threat, rectify injustice, and mobilize resources for self-defense [1]. As a normal emotional state, it operates on a continuum from mild irritation to intense rage, accompanied by distinct autonomic arousal patterns and action tendencies [2]. When expressed constructively, anger can facilitate assertive communication, fuel social change, and

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enhance problem-solving [3]. However, when its expression becomes chronic, disproportionate, or poorly regulated, anger transitions from an adaptive signal to a significant clinical and public health burden. Pathological anger is a potent transdiagnostic feature, intricately linked to a spectrum of psychiatric conditions including Intermittent Explosive Disorder (IED), Borderline Personality Disorder (BPD), Post-Traumatic Stress Disorder (PTSD), depression, and substance use disorders [4,5]. Its repercussions extend far beyond the individual, manifesting in domestic violence, workplace aggression, hazardous driving, and broader societal violence, imposing substantial economic costs through healthcare utilization, criminal justice involvement, and lost productivity [6,7].

The physiological toll of chronic anger is particularly alarming, with robust epidemiological and psychophysiological research establishing a clear association between anger proneness, hostile affect, and the development and exacerbation of cardiovascular disease [8]. Mechanisms such as repeated sympathetic nervous system hyperarousal, endothelial dysfunction, and pro-inflammatory cytokine release contribute to hypertension, coronary artery disease, and adverse cardiac events [9]. This biopsychosocial complexity necessitates interventions that target not only overt behavioral expressions but also the underlying cognitive, emotional, and physiological processes.

The field of anger management has undergone significant theoretical and clinical evolution. Early approaches, rooted in behaviorism, focused primarily on symptom reduction through techniques like relaxation and exposure [10]. The "cognitive revolution" of the late 20th century led to the development of integrated cognitive-behavioral models that recognized the pivotal role of appraisal, attribution, and belief systems in generating and sustaining anger [11]. More recently, the "third wave" of behavioral therapies has shifted focus toward metacognitive awareness, acceptance, and values-based action, offering novel strategies for working with anger's persistent and intrusive nature [12]. This progression reflects a deepening understanding of anger from a simple stimulus-response phenomenon to a complex interplay of neurobiological, psychological, and social factors.

This review has three primary aims: first, to synthesize the dominant contemporary theoretical models that explain the etiology, maintenance, and expression of dysfunctional anger; second, to critically evaluate the empirical evidence for behavioral and cognitive-behavioral interventions across the first, second, and third waves of therapy; and third, to identify gaps in the current literature and propose directions for future research and clinical practice. By integrating foundational theories with cutting-edge intervention science, this article provides a comprehensive roadmap for clinicians and researchers committed to addressing the multifaceted challenge of anger dysregulation.

Foundational Theoretical Models of Anger

State-Trait Anger Theory (Spielberger)

Spielberger's model provides the foundational psychometric framework for distinguishing between the transient experience and the enduring disposition toward anger [13]. *State anger* is conceptualized as a psychophysiological condition that fluctuates over time, characterized by subjective feelings ranging from mild annoyance to intense fury and accompanied by autonomic nervous system arousal. Trait anger, in contrast, represents a stable personality dimension involving a predisposition to perceive a wide range of situations as annoying, frustrating, or unjust, coupled with a tendency to respond to such provocations with frequent and intense elevations in *state anger* [14].

Research consistently demonstrates that individuals high in *trait anger* exhibit a lower threshold for provocation, engage in more hostile rumination, and display greater cardiovascular reactivity (e.g., elevated blood pressure and heart rate) during conflict [15]. This heightened reactivity is not merely subjective; neuroimaging studies suggest that *trait anger* correlates with increased amygdala activity and reduced prefrontal cortex regulation in response to threat cues, indicating a neurobiological basis for the disposition [16]. The *State-Trait Anger* Expression Inventory (STAXI-2), derived from this model, remains a gold-standard assessment tool, measuring not only the experience of anger but also its expression (e.g., anger-out, anger-in) and control [17].

Cognitive-Neoassociationistic Model (Berkowitz)

Building on earlier frustration-aggression hypotheses, Berkowitz's cognitive-neoassociationistic model emphasizes the automatic, associative processes that initiate angry and aggressive impulses [18]. The model posits that any aversive event—whether physical pain, psychological discomfort, frustration, or even unpleasant environmental conditions like heat—generates negative affect. This negative affect automatically primes or activates aggression-related feelings, thoughts, memories, and motor programs through associative networks in memory [19].

This initial, "primitive" reaction is fast, automatic, and can occur below conscious awareness. It is subsequently subject to modulation by higher-order, slower cognitive processes, such as appraisals of intent, attributions of blame, and considerations of potential consequences [20]. This two-stage process helps explain phenomena like impulsive "road rage" or reactive

aggression, where the speed of the associative process overwhelms regulatory capacities. The model also accounts for "triggered displacement," where anger from an unrelated aversive event (e.g., work stress) lowers the threshold for aggression in a subsequent situation (e.g., a family argument) [21].

The General Aggression Model (GAM)

The General Aggression Model (GAM) is a comprehensive, integrative meta-theory that synthesizes elements from social learning, cognitive, and affective neuroscience perspectives [22]. It outlines a multi-stage episodic process to explain a single aggressive encounter. The process begins with inputs consisting of person factors (e.g., trait hostility, attitudes, genetic predispositions) and situation factors (e.g., provocation, pain, alcohol cues). These inputs influence the individual's present internal state, which comprises three interconnected routes: affect (e.g., hostile feelings), cognition (e.g., aggressive scripts, hostile attributions), and arousal (e.g., physiological excitation) [23].

This internal state then influences appraisal and decision processes. An initial, automatic "impulsive" appraisal may lead directly to an aggressive outcome. However, if sufficient resources (e.g., time, cognitive capacity, motivation) are available, a more thoughtful, controlled "reappraisal" can occur, potentially leading to a non-aggressive response [24]. A key strength of the GAM is its incorporation of long-term development and learning. The outcomes of repeated episodes feed back into the individual's knowledge structures (e.g., beliefs, perceptual schemata, behavioral scripts), making aggressive responses more accessible and likely in the future. This cyclical process robustly explains the development and maintenance of chronic hostile attribution bias—the tendency to perceive ambiguous actions by others as intentionally hostile—a major cognitive risk factor for aggression [25].

Review of Interventions

First-Wave Behavioral Interventions

These interventions, grounded in classical and operant conditioning principles, target the physiological arousal and maladaptive behavioral components of anger.

- **Relaxation Training (RT):** Based on the reciprocal inhibition principle (that one cannot be simultaneously anxious/angry and relaxed), RT aims to create a conditioned relaxation response incompatible with anger arousal. Progressive Muscle Relaxation (PMR), developed by Jacobson, involves systematically tensing and relaxing major muscle groups to teach discrimination and release of physical tension [26]. Diaphragmatic breathing focuses on slowing and deepening the breath to counteract sympathetic nervous system dominance. Applied Relaxation, a more advanced variant, teaches clients to quickly identify early anger cues and deploy abbreviated relaxation techniques in real-time within provocative situations [27].
- **Exposure-Based Techniques:** These methods aim to break the conditioned link between anger triggers and aggressive responses through habituation. Systematic desensitization pairs relaxation with gradual, controlled imaginal exposure to a hierarchy of anger-provoking scenarios [28]. Stress Inoculation Training (SIT) for anger, developed by Novaco, is a more comprehensive program that includes an exposure ("application and follow-through") phase. Here, clients rehearse coping skills (e.g., cognitive restructuring, relaxation) while visualizing increasingly challenging provocations, thereby building resilience and self-efficacy [29].

Second-Wave: Cognitive-Behavioral Therapy (CBT)

CBT represents the integration of cognitive and behavioral theories and is the most extensively researched and empirically supported treatment for anger dysregulation. It operates on the principle that maladaptive cognitions mediate the relationship between external events and emotional/behavioral responses.

- **Cognitive Restructuring:** This is the cornerstone cognitive intervention. Clients are taught to monitor their internal dialogue during anger episodes and identify specific cognitive distortions or anger-eliciting appraisals. Common distortions include catastrophizing ("This is unbearable"), overgeneralization ("You always do this"), demandingness ("People should treat me fairly"), and hostile attribution bias ("They did that to disrespect me") [30]. Through Socratic questioning and behavioral experiments, clients learn to challenge the evidence for these thoughts and develop more balanced, functional alternative appraisals.
- **Coping Skills Training:** Novaco's model provides a structured, phase-based approach: 1) Cognitive Preparation: Clients receive psychoeducation to understand anger as a learned habit with cognitive, physiological, and behavioral components, often visualized as a cycle; 2) Skill Acquisition: Clients learn a toolkit of skills including cognitive restructuring, relaxation/arousal reduction, and communication/assertiveness training; 3) Application and Rehearsal: Skills are practiced via role-play, imaginal rehearsal, and graded in vivo assignments to ensure

generalization from therapy to real-world contexts [31].

- **Problem-Solving Training:** For anger stemming from recurrent, frustrating life problems, structured problem-solving offers a behavioral alternative to aggression. Clients learn a stepwise method: defining the problem objectively, brainstorming potential solutions, evaluating the pros and cons of each, selecting and implementing a plan, and reviewing the outcome [32].

Third-Wave: Mindfulness and Acceptance-Based Therapies

The "third wave" shifts therapeutic focus from direct symptom control to changing the individual's relationship with internal experiences (thoughts, feelings, sensations) through mindfulness, acceptance, and values-oriented action.

- **Dialectical Behavior Therapy (DBT):** Originally developed for BPD, DBT's skills training modules are highly applicable to anger. The Emotion Regulation module teaches skills like "opposite action" (acting opposite to the anger urge), "checking the facts" to reduce unwarranted anger, and mindfulness of current emotion. The Distress Tolerance module provides crisis survival skills (e.g., distraction, self-soothing) to help individuals withstand anger urges without resorting to aggressive or self-destructive acts [33]. Research supports DBT's efficacy in reducing anger and aggression in both clinical and forensic populations [34].
- **Acceptance and Commitment Therapy (ACT):** ACT targets experiential avoidance (the struggle to suppress or avoid anger, which paradoxically amplifies it) and cognitive fusion (being "hooked" by angry thoughts). Through mindfulness exercises and metaphors, ACT cultivates psychological flexibility: the ability to consciously contact the present moment, fully and without defense, and to persist in or change behavior in the service of chosen values [35]. For an angry client, this might mean learning to feel the physiological surge of anger without immediately acting on it, noticing angry thoughts as mere words, and choosing to respond assertively based on the value of having respectful relationships, rather than reacting aggressively [36].
- **Mindfulness-Based Interventions (MBIs):** Programs like Mindfulness-Based Stress Reduction (MBSR) cultivate a non-judgmental, present-moment awareness. This practice can "de-automate" the anger response by creating a critical pause between trigger and reaction, allowing space for choice. Mindfulness also reduces reactivity to negative thoughts and increases emotional awareness, helping individuals recognize early warning signs of anger escalation [37].

Results: Synthesis of Empirical Evidence

The efficacy of these interventions is supported by a substantial body of research, though the strength of evidence varies.

- **CBT Efficacy:** Multiple meta-analyses affirm CBT's status as the gold standard. A seminal meta-analysis by DiGiuseppe & Tafrate found a mean effect size of 0.71 for CBT compared to no-treatment controls across 50 studies, with larger effects for younger participants and those in controlled settings [38]. A more recent meta-analysis by Lee & DiGiuseppe confirmed these findings, reporting that CBT consistently outperforms waitlist and placebo conditions, with treatment gains maintained at follow-up periods [39]. CBT has demonstrated effectiveness across diverse populations, including incarcerated offenders, veterans with PTSD, adolescents with conduct problems, and adults with intellectual disabilities [40,41].
- **Relaxation & Exposure:** While generally less powerful than full CBT packages, relaxation-based interventions produce significant, though small-to-moderate, effects on anger reduction [42]. The exposure component within treatments like SIT is considered critical for ensuring skills generalize beyond the therapy room. Imaginal and in vivo exposure helps reduce emotional reactivity to specific triggers and builds confidence in coping ability [29].
- **Third-Wave Interventions:** Empirical support is promising and growing. Randomized controlled trials show DBT significantly reduces anger, hostility, and aggression in individuals with BPD and in forensic populations [34,43]. ACT has demonstrated efficacy in reducing anger, aggression, and hostility while improving anger control in adults, adolescents, and workplace settings [36,44]. A meta-analysis of mindfulness-based interventions for aggression found small but significant overall effects (Hedges' $g = 0.27$), with larger effects for clinical samples and when mindfulness was combined with other therapeutic components [45].

Discussion

This comprehensive review underscores that effective anger management is fundamentally an integrative endeavor, requiring a clear theoretical understanding of the cognitive, physiological, and behavioral channels through which anger operates. The reviewed models are not mutually exclusive; rather, they offer complementary lenses. Spielberger's model provides essential measurement precision, Berkowitz's model explains the automatic ignition of anger, and the GAM offers a dynamic, process-oriented framework that

integrates person, situation, and learning history. Together, they inform a holistic view of anger dysregulation.

Clinical Implications and Personalized Treatment: The evidence supports a movement toward functional analysis-driven and personalized intervention. A one-size-fits-all protocol is insufficient. Clinicians must conduct detailed assessments to identify the primary maintaining factors for a given individual. For clients with high physiological reactivity and impulsivity, front-line interventions should target arousal reduction (biofeedback, applied relaxation) and distress tolerance (DBT skills) [27,33]. For those whose anger is fueled by entrenched hostile cognitions and rumination, cognitive restructuring and defusion (ACT) techniques are paramount [30,35]. Clients with skill deficits in communication or problem-solving benefit from direct behavioral training in assertiveness and structured problem-solving [32]. Often, a sequenced approach is optimal, starting with stabilization (arousal reduction), then moving to cognitive change, and finally to behavioral skill building and values-based action.

Limitations of the Current Evidence Base: Despite considerable progress, several limitations persist. First, high attrition rates, particularly in court-mandated or involuntary populations, threaten the validity and generalizability of outcomes and require specific engagement strategies [46]. Second, while outcome studies are plentiful, there is a relative paucity of research on the specific mechanisms of change within multi-component packages. Is reduced aggression primarily due to decreased arousal, altered appraisals, increased self-efficacy, or enhanced emotion regulation skills? Dismantling studies are needed [47]. Third, long-term follow-up data (>2 years) is scarce, leaving questions about the durability of treatment effects unanswered. Fourth, most research has been conducted in Western, educated, industrialized, rich, and democratic (WEIRD) contexts. Anger expression, social norms, and help-seeking behaviors are profoundly culturally shaped; thus, the field urgently requires more culturally adapted and validated assessment tools and interventions [48].

Future Directions: Future research should prioritize several key areas: 1) Mechanisms of Change: Utilizing sophisticated methodologies like ecological momentary assessment (EMA) and mediation analysis within RCTs to identify active treatment ingredients [49]. 2) Personalized Medicine Approaches: Exploring biomarkers (e.g., heart rate variability, amygdala reactivity) and person-centered analytics to match individuals to optimal treatment pathways [50]. 3) Technological Integration: Developing and rigorously testing digital tools, such as virtual reality for immersive exposure therapy or smartphone apps for real-time skill coaching and relapse prevention [51]. 4) Prevention and Community-Based Interventions: Shifting focus upstream to develop and evaluate school- and community-based programs that build emotional regulation skills proactively, particularly in at-risk youth [52].

Conclusion

The landscape of anger management has evolved from rudimentary behavioral techniques to a sophisticated, theoretically rich field offering a continuum of evidence-based interventions. While cognitive-behavioral therapy remains the most extensively validated and widely practiced approach, the emergence of third-wave therapies provides powerful, complementary tools for addressing the experiential avoidance and cognitive fusion that often maintain chronic anger dysregulation. The future of effective anger intervention lies not in doctrinal adherence to a single model, but in the flexible, idiographic, and process-informed application of these techniques. By grounding practice in functional assessment, leveraging the strengths of different therapeutic waves, and embracing innovation in research and delivery, clinicians can more effectively help individuals transform their relationship with anger, moving from reactive impulsivity to mindful, values-congruent living.

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. Averill JR. Studies on anger and aggression: implications for theories of emotion. Am Psychol. 1983 Nov;38(11):1145-60.
2. Kassinove H, Tafrate RC. Anger management: the complete treatment guidebook for practitioners. Atascadero, CA: Impact Publishers; 2019.

3. Lerner JS, Keltner D. Fear, anger, and risk. J Pers Soc Psychol. 2001 Jul;81(1):146-59.
4. Painuly N, Sharan P, Mattoo SK. Relationship of anger and anger attacks with depression. Eur Arch Psychiatry Clin Neurosci. 2005 Apr;255(4):215-22.
5. Olatunji BO, Ciesielski BG, Tolin DF. Fear and loathing: a meta-analytic review of the specificity of anger in PTSD. Behav Ther. 2010 Mar;41(1):93-105.
6. Swogger MT, Walsh Z, Kosson DS, Cashman-Brown S, Caine ED. Psychopathy and aggression: a meta-analytic review. Psychol Crime Law. 2012;18(7):621-43.
7. Kessler RC, Mickelson KD, Barber C, Wang P. The association between chronic medical conditions and work impairment. In: Rossi PH, editor. Caring and doing for others: social responsibility in the domains of family, work, and community. Chicago: University of Chicago Press; 2001. p. 403-26.
8. Chida Y, Steptoe A. The association of anger and hostility with future coronary heart disease: a meta-analytic review of prospective evidence. J Am Coll Cardiol. 2009 Mar 17;53(11):936-46.
9. Boyle SH, Jackson WG, Suarez EC. Hostility, anger, and cardiovascular reactivity during interpersonal stress in healthy young men. J Behav Med. 2007 Oct;30(5):429-38.
10. Novaco RW. Anger control: the development and evaluation of an experimental treatment. Lexington, MA: D.C. Heath; 1975.
11. Beck AT. Cognitive therapy and the emotional disorders. New York: International Universities Press; 1976.
12. Hayes SC, Villatte M, Levin M, Hildebrandt M. Open, aware, and active: contextual approaches as an emerging trend in the behavioral and cognitive therapies. Annu Rev Clin Psychol. 2011;7:141-68.
13. Spielberger CD. State-Trait Anger Expression Inventory-2 (STAXI-2). Odessa, FL: Psychological Assessment Resources; 1999.
14. Spielberger CD, Sydeman SJ, Owen AE, Marsh BJ. Measuring anxiety and anger with the State-Trait Anxiety Inventory (STAI) and the State-Trait Anger Expression Inventory (STAXI). In: Maruish ME, editor. The use of psychological testing for treatment planning and outcomes assessment. 2nd ed. Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 1999. p. 993-1021.
15. Williams JE, Paton CC, Siegler IC, Eigenbrodt ML, Nieto FJ, Tyroler HA. Anger proneness predicts coronary heart disease risk: prospective analysis from the atherosclerosis risk in communities (ARIC) study. Circulation. 2000 May 2;101(17):2034-9.
16. Passamonti L, Crockett MJ, Apergis-Schoute AM, Clark L, Rowe JB, Calder AJ, et al. Effects of acute tryptophan depletion on prefrontal-amygdala connectivity while viewing facial signals of aggression. Biol Psychiatry. 2012 Jan 15;71(1):36-43.
17. Spielberger CD, Reheiser EC. Assessment of emotions: anxiety, anger, depression, and curiosity. Appl Psychol Health Well Being. 2009 Jul;1(3):271-302.
18. Berkowitz L. On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. Am Psychol. 1990 Apr;45(4):494-503.
19. Berkowitz L. Frustration-aggression hypothesis: examination and reformulation. Psychol Bull. 1989 Jul;106(1):59-73.
20. Anderson CA, Bushman BJ. Human aggression. Annu Rev Psychol. 2002;53:27-51.
21. Bushman BJ, Baumeister RF, Phillips CM. Do people aggress to improve their mood? Catharsis beliefs, affect regulation opportunity, and aggressive responding. J Pers Soc Psychol. 2001 Jul;81(1):17-32.
22. Allen JJ, Anderson CA. The General Aggression Model. In: Bushman BJ, editor. Aggression and Violence: A Social Psychological Perspective. New York: Routledge; 2016. p. 15-33.
23. DeWall CN, Anderson CA, Bushman BJ. The general aggression model: theoretical extensions to violence. Psychol Violence. 2011 Jul;1(3):245-58.
24. Anderson CA, Carnagey NL. Causal effects of violent sports video games on aggression: Is it competitiveness or violent content? J Exp Soc Psychol. 2009 Jul;45(4):731-9.
25. Orobio de Castro B, Veerman JW, Koops W, Bosch JD, Monshouwer HJ. Hostile attribution of intent and aggressive behavior: a meta-analysis. Child Dev. 2002 Jul-Aug;73(4):916-34.
26. Jacobson E. Progressive relaxation. Chicago: University of Chicago Press; 1938.
27. Öst LG. Applied relaxation: description of a coping technique and review of controlled studies. Behav Res Ther. 1987;25(5):397-409.
28. Wolpe J. Psychotherapy by reciprocal inhibition. Stanford, CA: Stanford University Press; 1958.
29. Meichenbaum D. Stress inoculation training: a preventative and treatment approach. In: Lehrer PM, Woolfolk RL, Sime WE, editors. Principles and practice of stress management. 3rd ed. New York: Guilford Press; 2007. p. 497-516.
30. Beck AT, Emery G, Greenberg RL. Anxiety disorders and phobias: a cognitive perspective. New York: Basic Books; 1985.
31. Novaco RW. Anger dysregulation: its assessment and treatment. In: Trafton JA, Gifford EV, editors. Toward a science of clinical psychology: laboratory evaluations and interventions. New York: Nova Science Publishers; 2008. p. 77-97.

32. D'Zurilla TJ, Nezu AM. Problem-solving therapy: a positive approach to clinical intervention. 3rd ed. New York: Springer Publishing Company; 2007.
33. Linehan MM. Cognitive-behavioral treatment of borderline personality disorder. New York: Guilford Press; 1993.
34. Linehan MM, Korslund KE, Harned MS, Gallop RJ, Lungu A, Neacsiu AD, et al. Dialectical behavior therapy for high suicide risk in individuals with borderline personality disorder: a randomized clinical trial and component analysis. JAMA Psychiatry. 2015 May;72(5):475-82.
35. Hayes SC, Strosahl KD, Wilson KG. Acceptance and Commitment Therapy: The process and practice of mindful change. 2nd ed. New York: Guilford Press; 2011.
36. Ciarrochi J, Bilich L, Godsell C. Psychological flexibility as a mechanism of change in acceptance and commitment therapy. In: Baer RA, editor. Assessing mindfulness and acceptance processes in clients: illuminating the theory and practice of change. Oakland, CA: New Harbinger Publications; 2010. p. 51-75.
37. Chiesa A, Serretti A. Mindfulness-based stress reduction for stress management in healthy people: a review and meta-analysis. J Altern Complement Med. 2009 May;15(5):593-600.
38. DiGiuseppe R, Tafrate RC. Anger treatment for adults: a meta-analytic review. Clin Psychol Sci Pract. 2003;10(1):70-84.
39. Lee AH, DiGiuseppe R. Anger and aggression treatments: a review of meta-analyses. Curr Opin Psychol. 2018 Feb;19:65-74.
40. Landenberger NA, Lipsey MW. The positive effects of cognitive-behavioral programs for offenders: A meta-analysis of factors associated with effective treatment. J Exp Criminol. 2005 Dec;1(4):451-76.
41. Saini M. A meta-analysis of the psychological treatment of anger: developing guidelines for evidence-based practice. J Am Acad Psychiatry Law. 2009;37(4):473-88.
42. Grodnitzky GR, Tafrate RC. Imaginal exposure for anger reduction in adult outpatients: a pilot study. J Behav Ther Exp Psychiatry. 2000 Sep;31(3-4):259-79.
43. McCann RA, Ball EM, Ivanoff A. DBT with an inpatient forensic population: The CMHIP forensic model. Cogn Behav Pract. 2000;7(4):447-56.
44. Zarling A, Lawrence E, Marchman J. A randomized controlled trial of acceptance and commitment therapy for aggressive behavior. J Consult Clin Psychol. 2015 Feb;83(1):199-212.
45. Wright S, Day A, Howells K. Mindfulness and the treatment of anger problems. Aggress Violent Behav. 2009;14(5):396-401.
46. Henwood KS, Chou S, Browne KD. A systematic review and meta-analysis on the effectiveness of CBT informed anger management. Aggress Violent Behav. 2015;25:280-92.
47. Kazdin AE. Mediators and mechanisms of change in psychotherapy research. Annu Rev Clin Psychol. 2007;3:1-27.
48. Myers HF, Thompson VL. The impact of racism and ethnic bias in the diagnosis and treatment of African Americans. In: Bernal G, Trimble JE, Burlew AK, Leong FTL, editors. Handbook of racial and ethnic minority psychology. Thousand Oaks, CA: Sage Publications; 2003. p. 509-26.
49. Shiffman S, Stone AA, Hufford MR. Ecological momentary assessment. Annu Rev Clin Psychol. 2008;4:1-32.
50. Insel T, Cuthbert B, Garvey M, Heinssen R, Pine DS, Quinn K, et al. Research domain criteria (RDoC): toward a new classification framework for research on mental disorders. Am J Psychiatry. 2010 Jul;167(7):748-51.
51. Rizzo A, Shilling R. Clinical virtual reality tools to advance the prevention, assessment, and treatment of PTSD. Eur J Psychotraumatol. 2017;8(sup5):1414560.
52. Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB. The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. Child Dev. 2011 Jan-Feb;82(1):405-32.