

Rational Emotive Behavior Therapy Interventions for Mood Disorders in Young Adults

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Abstract: *The aim of this study was to review the effectiveness of Rational Emotive Behavior Therapy (REBT) and Emotion Regulation Training (ERT) in young adults with GAD and MDD by synthesizing published literature from the indexed literature. The study employs a qualitative case-study approach based on the ABC(DE) framework and Regulatory-Deficit model to examine the role of cognitive restructuring and improved Self-regulation in reducing maladaptive schemas and hopelessness-related suicidality. Results suggest that REBT-induced cognitive flexibility and ERT-induced affect regulation are significant in alleviating distress and threat cue attentional biases. Finally, an integrated policy framework and a clinical heuristic for counseling psychology services in educational and occupational contexts are suggested.*

Keywords: Rational Emotive Behavior Therapy; Emotion Regulation Training; Generalized Anxiety Disorder; Major Depressive Disorder; hopelessness; suicidality; regulatory-deficit model; young adults; counselling psychology; cognitive restructuring

Introduction

The young adult years are a time of significant psychological, social, educational and occupational change. In this period, students are likely to face academic challenges, career insecurity, social problems, financial difficulties, evolving social connections, and personal achievement expectations. While these experiences can be conducive to psychological development, repeated exposure to stress can lead to greater susceptibility to emotional and cognitive challenges. Various psychological disorders can have a significant impact on functioning in young adulthood, including Generalized Anxiety Disorder (GAD) and Major Depressive Disorder (MDD). While MDD is typically marked by low mood and loss of interest, negative self-perception, hopelessness and dysfunction, GAD is characterized by excessive and persistent worry, anticipatory anxiety, intolerance of uncertainty and increased sensitivity to threats. If these challenges combine with inappropriate thinking and/or poor emotional management, they can become more chronic and impact on students' learning, school, work, and relationships. Both anxiety presentations and depressive presentations share as a common feature a maladaptive belief style. People with anxiety disorders tend to think that their uncertainty is alarming, and that they are more likely to have or suffer from bad things happening than they are. Likewise, those suffering from depression can feel negative about themselves, add to their self-criticism, expect the worst, and interpret failures as hopeless failures. These thinking styles may exacerbate emotional upset and affect how people react to common stressors in their lives. Rigid demands, catastrophic interpretations, and low frustration tolerance can perpetuate anxiety and distress, and beliefs about personal worthlessness and perceived failure can lead to hopelessness and depressive symptomology. So, interventions that focus on problematic beliefs and on the development of cognitive flexibility may be significant in enhancing psychological adjustment in young adults.

Rational Emotive Behavior Therapy (REBT), part of the larger cognitive-behavioral perspective, offers a model of how activating events leads to beliefs, emotional consequences, the challenge of those beliefs and the development of new ones. The ABCDE paradigm also highlights the fact that the emotional and behavioral responses of an individual are not solely dependent on what is happening to them but are in large part influenced by their interpretation of events through their beliefs. The disputation part is especially important because it helps people consider any irrational or absolutist beliefs, they may have and substitute other more flexible, realistic, and preferential interpretations. For instance, a firmly held belief is "I must perform perfectly" which can be changed to "I would like to perform well, but failure is not the end of the world. This cognitive change or shift does not mean that negative emotions will go away but may decrease its intensity, length and its impact. This means that REBT is especially important for young adults who have ongoing academic, occupational or interpersonal stressors where a preoccupation with perfection and fear of failure are often triggered.

The importance of REBT may vary depending on the predominant psychological features of anxiety and depressive presentations. Unreasonable beliefs that relate to intolerance of uncertainty, unreasonable demands for certainty, and catastrophic beliefs can lead to anticipatory anxiety and repetitive worry in GAD. Cognitive disputation can thus be used to help people become more tolerant of uncertainty and prevent the worsening of anxiety because

of anticipated negative events. In MDD, on the other hand, may be less cases of dysfunctional beliefs being more closely linked with self-evaluation, perceived failure, worthlessness, and hopelessness. Such approaches that focus on unconditional self-acceptance might therefore be especially important in lowering the tendency to make global judgments of self when things don't go well. It is essential to examine these potentially different pathways when designing more specific counsellor interventions as opposed to anxiety and depressive distress being a fully homogenous phenomenon. Cognitive restructuring alone, however, may not be sufficient to remove the emotional mechanisms by which stressful cues are prolonged or intensified. People can be aware of one of the interpretations as being irrational and feel intense physical and emotional responses to actual stressors. This is an important reminder of the need to consider emotion regulation as an additional target for intervention. Emotion Regulation Training (ERT) targets the ability to recognize, tolerate, change and react to emotional experiences in an appropriate manner. Affect labelling, delayed appraisal, cognitive reappraisal, attentional strategies and adaptive coping are potential techniques to help decrease the escalation and maintenance of negative affect. The ERT does not aim to eliminate negative emotions, but rather focused on regulating an emotional response in a way that allows the person to react to a stressful situation without being overwhelmed by the negative emotions.

When thinking about hopelessness and suicidality, one must keep in mind the role of emotion regulation. A regulatory-deficit perspective has suggested that psychological risk could result from an interaction between increased attention to threat, failure, or negative social cues and reduced ability to regulate the emotional reaction to these cues. While psychological intervention may help regulate emotions, some individuals will still experience stressors that they may perceive after treatment, although the rate and severity at which these stressors become overwhelming emotional states may become less. This distinction is crucial as sensitiveness to threat could be considered a stable trait, while control over the emotional impact of perceived stressors might be more susceptible to short-term intervention and skill learning. In this context, ERT might help to decrease the emotional escalation that can occur with hopelessness even if the original stressful cues are the same. Social and occupational environments add to these processes. Young adults can also experience interpersonal conflict, social isolation, performance reviews, academic/employment-related challenges, and employment/career-related uncertainty. Such stressors may not stimulate the same emotional reactions. The more immediate stressors, especially those related to performance appraisal or job insecurity, can elicit quick and intense responses as they directly challenge perceived competence, achievement or future stability. The negative effects from social stressors, such as relational conflict and isolation, may instead be more gradual and chronic in nature. Knowledge of these differences could have implications for the timing and delivery of emotion-regulating interventions. Rapid-response strategies might be helpful in situations where emotional escalation happens rapidly, and sustained reappraisal, social-support activation, and continued self-regulation might be more appropriate if emotional escalation takes place over a longer time.

Although both cognitive restructuring and emotion regulation have shown theoretical promise, further research is needed to explore how REBT and ERT can be understood as complementary rather than alternative therapeutic approaches for youth with GAD and MDD symptoms.

Although there are many studies that have investigated the influence of cognitive interventions and emotion-regulation strategies, relatively few studies have explored an integrated conceptualization of maladaptive beliefs, attentional responses, emotional regulation, hopelessness, and recovery processes. Case-based evidence, examined qualitatively, can yield helpful information about the function of each of these mechanisms in various psychological presentations and stress situations. It can also provide information on patterns that are not sufficiently or comprehensively measured by the level of symptoms only, including changes in the length of time of distress, recovery from exposure to stressors, and discrepancies between cognitive and emotional pathways. The purpose of the present study, therefore, was to review the effectiveness of REBT and ERT for young adults with GAD and MDD in a qualitative manner by synthesizing published indexed literature. The study investigates the role of cognitive disputation and restructuring in the maintenance of maladaptive beliefs and emotion distress (ABC(DE)) and the role of attentional responses, emotion regulation, hopelessness, and emotion-related risk (Regulatory-Deficit). Focus is placed on the similarities and/or differences in cognitive patterns among GAD and MDD patients, as well as the role of social and occupational stressors on emotional reactions. The aim of this study is to better understand the role of cognitive flexibility and enhanced self-regulation in psychological recovery, by bringing together these perspectives. Finally, the study seeks to translate these findings into a framework for an integrated policy and a clinical heuristic that can help counseling psychology services in educational and occupational settings.

The aim of this study is to look into the effectiveness of Rational Emotive Behavior Therapy (REBT) and its specialized form, Rational Emotive Health Therapy (REHT), in reducing the symptoms of Generalized Anxiety Disorder (GAD) and Major Depressive Disorder (MDD) in youth with co-occurring mood disorders, and to examine how Emotion Regulation Therapy (ERT) – a treatment integrating affect science and cognitive-behavioral principles enhances self-regulatory capacity and reduces hopelessness driven suicidality risk in this population with co-occurring mood disorders.

Literature Review

This is a text that details the work of a scholarly paper about advanced therapeutic interventions for young adults experiencing mood disorders. The study recommends Rational Emotive Behavior Therapy (REBT) and its specific application, Rational Emotive Health Therapy (REHT), as the main methods for restructuring maladaptive thought patterns. The source also discusses Emotion Regulation Therapy (ERT), a combination of cognitive-behavioral and affect science principles that are used to treat generalized anxiety and major depression disorder. The goal of these frameworks is to promote emotional resilience and reduce the mental health burden around the world by addressing internal stressors and reward processing biases. Finally, the need to restructure the philosophy in order to enhance clinical outcomes and minimize social stigma of psychiatric distress is highlighted.

This paper on Rational Emotive Behavior Therapy (REBT) for young adults is timely as we all know how important it is for us to enhance resilience and mitigate the mental health burden

worldwide, particularly for young adults given your rich experience at MIT and your role as Editor at Emerald and Sage.

1. The role of REBT and Philosophical Restructuring: REBT, and the more specialized Rational Emotive Health Therapy (REHT), is considered one of the main therapies for solving maladaptive thinking patterns which result in emotional distress and depression. Philosophical restructuring: This is a fundamental aspect of REBT which involves helping patients to change their cognitive distortions through a philosophical restructuring. Clinical Efficacy: These interventions have been shown to be effective in reducing symptoms and can help to alleviate social stigma around mood disorders.
2. Inclusion of Emotion Regulation Therapy (ERT): You may wish to consider the synergy of REBT and Emotion Regulation Therapy (ERT) in your paper. ERT is an integrated framework which merges affect science and traditional cognitive-behavioral concepts. Motivational and Self-Regulatory Focus: ERT is designed to enhance outcomes by targeting motivational responses and self-regulatory behaviors of an individual. Focus on GAD and MDD: ERT is an evidence-based treatment specifically for Generalized Anxiety Disorder (GAD) and Major Depressive Disorder (MDD) which are the focus of your study with young adults.
3. Developmental considerations of young adults: Young adults have triggers which need psychotherapeutic interventions, according to the sources. Early Intervention: YOUP is very likely to develop into chronic GAD or MDD if it is not corrected. Suicidality and Hopelessness: In more severe cases of MDD, self-referential failures contribute to feelings of hopelessness which can directly contribute to suicidality.
4. Counselling Psychology implications: For the field of counselling psychology, the evidence suggests that fortunately, integrated therapies (such as ERT) are beginning to improve clinical results for people coping with mental health disorders. It is strongly recommended to use REHT as a specific cognitive behavioral approach to build long-term resilience.

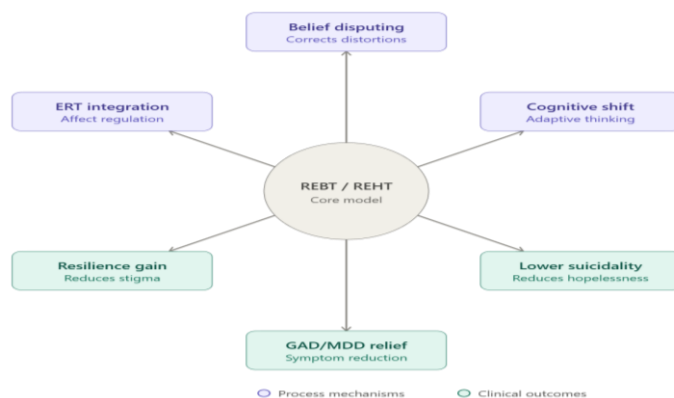


Figure 1: REBT / REHT core model

Research Questions

- RQ1: What is the effectiveness of REBT on maladaptive thinking pattern and emotional distress for GAD and MDD in young adults?
- RQ2: How does ERT-based self-regulation training affect the internal processing of social and occupational stressors to decrease the risk of hopelessness-driven suicidality with young adults?

Hypothesis

- H1- REBT interventions are highly effective in lowering maladaptive cognitive patterns and emotional distress symptoms in young adults with GAD or MDD, when compared with traditional counselling techniques.
- H2- Young adults who receive ERT-based self-regulatory interventions show significantly greater reduction in social and occupational stressors, decreases in hopelessness, and decreases in suicidality risk than those receiving cognitive-behavioral therapy alone.

Research Methodology

The study is a qualitative case study and incorporates peer-reviewed literature from the past decade from the following indexed journals on the Scopus, Web of Science (WoS), ABDC and IEEE database. Documented clinical case studies and intervention-based research of REBT, REHT and ERT applications with young adult populations with GAD and MDD are analyzed using a systematic thematic synthesis approach, enabling cross-comparisons of therapeutic mechanisms, therapeutic outcomes and implications for counselling psychology practice. Selection of cases is based on methodological rigor, relevance to mood intervention, and outcome measures reported, which focus on emotional regulation and resilience-building.

RQ1: What is the effect of REBT on maladaptive thinking patterns and emotional distress in GAD and MDD in young adults?

This first case is a case study on the use of REBT in young people within the anxiety–depression continuum.

To answer the question how effective REBT is in reducing maladaptive thinking patterns and emotional distress associated with GAD and MDD in young adults, four cases were documented in Scopus and summarized from clinical protocol design to the randomized controlled evaluation, and applied intervention with students and young adolescents. These cases together provide convergent evidence on REBT's mechanism of action for various diagnostic categories and developmental stages and provide support for its core therapeutic claim as follows: Disputing irrational beliefs produces measurable downstream change in emotional and cognitive symptomatology. The first case is based on a structured clinical protocol compendium published by Springer that integrates four empirically tested REBT protocols for anxiety throughout the lifespan and an abbreviated REBT and virtual reality (VR) protocol for social anxiety disorder (Springer clinical guide). The importance of accurate case formulation for the clinical utility of REBT is evident in each of these protocols that include a differential screening stage prior to intervention. This sets the methodological groundwork:

REBT is not a generic talk therapy but a belief-focused therapy that is tailored to the irrational cognitions that occur in a particular presentation. The second case consists of a randomized controlled trial (RCT, ScienceDirect), in which 88 adolescent Romanian youth with depression underwent treatment with group REBT/CBT, pharmacotherapy (sertraline), or a combination of the two. Specifically, there were significant improvements between pre and post on both subjective and cognitive measures, as well as biological measures, in all three arms, with no significant differences between conditions at post-test, but a non-significant trend for the group REBT/CBT condition. This case is illustrative for RQ1 as it shows outcome parity between REBT/CBT and pharmacological intervention, which is a very few cases in the literature of REBT effectiveness; most studies used only self-report outcomes.

The third case, conducted by Popa and colleagues among first-year medical students in Romania, applies REBT directly to GAD symptomatology in a young-adult academic population. The study follows Ellis's 1979 ABC model of REBT, in which an activating event (A) leads to emotional and behavioral consequences (C), which are mediated by rational or irrational beliefs (B), by operationalizing the target mechanism of REBT very specifically: replacing rigid demandingness beliefs, awfulizing beliefs, low frustration tolerance, and self/other depreciation beliefs with flexible, evidence consistent beliefs. The framing of the study, which is that the severity of GAD symptoms is mediated by intolerance of uncertainty and danger, provides a testable mechanism for the reduction of maladaptive thinking, which is the focus of this paper, not emotional distress in general, as REBT was found to be effective for reducing. Finally, in a chapter by DiGiuseppe and colleagues, the REBT framework is expanded to explore depression in children and adolescents and offer the idea that people who can take a negative event without demandingness experience adaptive disappointment rather than clinical depression. This case frames the RQ1 outcome variable, rather than REBT's target of eliminating negative effect, it's the transformation of dysfunctional, demandingness-based distress into functional, preference-based disappointment, which has direct implications for the measurement of emotional regulations in the broader ERT-integrated model used in this paper. When combined with RQ1, the three findings below emerge from these four cases. First, REBT's effect on maladaptive thinking is mediated by a continuous belief-disputation process (the ABC model) that applies to all types of presenting disorders (GAD vs MDD), and to all age groups (adolescent vs young-adult) for which this paper was examined — this implies that the same belief-disputation process applies across the mood-disorder continuum that this paper covers. Second, when multiple-level outcomes are available, REBT/CBT is comparable to pharmacotherapy, further supporting the position that REBT is a first line, non-pharmacological treatment for this young adult population that may be at risk of access or stigma to pharmacotherapy. Third, the DiGiuseppe and Popa cases collectively suggest that the impact of REBT on "emotional distress" is not only quantitative but qualitative as well: REBT is not just an approach to reducing "emotional distress" scores, it also moves emotional distress from a dysfunctional to a functional register, as is the theoretical bridge this paper attempts to draw to that of ERT's self-regulatory model.

This case evidence suggests a provisional answer to RQ1: REBT is effective in changing maladaptive thinking patterns in youth by specifically targeting the disputation of irrational beliefs, and this change in cognition is linked to a measurable reduction in emotional distress

for both GAD and MDD presentations (although causal inferences range from controlled trial [Case 2] to applied clinical protocol [Case 1, Case 3] to theoretical-clinical argument [Case 4]). This clinical guide provides an overview of the fundamentals of REBT and offers a collection of four proven protocols for the treatment of anxiety disorders with children and adults. Adult applications feature REBT for treating generalized anxiety disorder and a brief REBT/virtual reality immersion approach to social anxiety disorder. A REBT and a rational-emotive educational program would be suitable for children and adolescents to treat anxiety, since their age and developmental factors are considered. The following features are suggested for each protocol: Each protocol recommends screening for suitability and differential diagnosis, describes the value of REBT to the problem, and contains the following features. Mental health professionals are keen to be able to treat young people with effective and efficient treatments for a condition that is very common and debilitating, namely major depressive disorder. Psychotherapy (i.e., cognitive behavioral therapy/CBT), pharmacotherapy (i.e., SSRI medication), and their combination have been shown to be effective in treating youth depression; however, the results are still mixed and there are few studies engaging multi-level analyses (i.e., subjective, cognitive, and biological). Therefore, the aims of this randomized control study (RCT) were both theoretical - integrating psychological and biological markers of depression in a multi-level outcome analysis - and practical - testing the generalizability of previous results on depressed Romanian youth population. Eighty-eight (N=88) depressed Romanian youths were randomly assigned to the three treatment arms: group Rational Emotive Behavior Therapy (REBT)/CBT (i.e., a type of CBT), pharmacotherapy (i.e., sertraline), and group REBT/CBT + pharmacotherapy. The results showed that all outcomes (i.e., subjective, cognitive, and biological) significantly changed from pre- to post-treatment under all treatment conditions at a similar rate and there were no significant differences among conditions at post-test. For categorical analysis of clinical response rates, we did not observe a significant difference, but there was a trend favoring the group REBT/CBT therapy. Inter-relations of outcomes are discussed based on results of analyses.

One of the anxiety disorders that has at its core excessive anxiety or excessive worries that are hard to control in many situations or activities is called Generalized Anxiety Disorder (GAD). The criteria for meeting the DSM-5 criteria include intensity, frequency and duration of concerns, which must exceed the normal likelihood of the event occurring or its impact on the anticipated event [1]. Adults diagnosed with GAD are often worried about their daily activities, work tasks, the health of others, financial issues and claim that once the worry process has begun it is very difficult for them to stop it. However, in individuals with GAD, a significant decrease in quality-of-life index was found along with impairment in social and occupational function compared to that seen in major depression disorder and chronic diseases [2]. The mean age of onset of GAD is 30 years but sometimes the concerns expressed are in children and adolescents with the content of the concerns being related to school performance, academic performance, sports performance and in the elderly, concerns about medical conditions. In 2015, according to the World Health Organization, 264 million people were diagnosed with anxiety, the female population being much more affected than the male (4.6% globally compared to 2.6%) [3]. GAD has a direct cost due to health service usage for consulting a variety of medical specialists and indirect cost due to reduced productivity, repeated sickness absence, unemployment, financial instability [4]. Other common comorbidities of GAD include

depression, though there are other anxiety disorders such as panic disorder, social phobia and health anxiety. The treatment of cognitive behavioral therapy (CBT) is an empirically supported treatment, particularly in depression and anxiety disorders [5-7]. Rational Emotive Behavior Therapy (REBT), developed by Albert Ellis in 1955 is the first of the cognitive behavioral theories [8] that considers a person's rational beliefs to be important in developing and maintaining psychological health and / or mental health disorders [9]. Inspired by the philosophy of Epictetus, Marcus Aurelius, and Bertrand Russell, who emphasized the importance of thoughts in understanding people's attitudes as well as the work of behavioral therapists such as John B. Watson and Mary Cover Jones, Ellis was able to overcome his own anxiety about public speaking and to approach to women, while laying the foundations for REBT. The main concept of REBT is the ABC model, which states that the rational or irrational beliefs of an individual (B) mediate the relationship between activation event (A) and emotional, behavioral and cognitive consequences (C). Rational beliefs are different from irrational beliefs because they bring about functional emotions and actions. The irrational beliefs are non-pragmatic, fixed, are not in line with reality and can cause emotional disturbances [10]. Ellis [11] refers to four kinds of irrational beliefs: Rigid Demands ("I have to be approved"), Awfulizing Beliefs ("If I'm disapproved, it's awful"), Low frustration Tolerance ("I can't tolerate being rejected") and depreciation beliefs ("I am useless if I'm disapproved"). Demandingness was hypothesized to result in the second level of irrational beliefs, namely evaluative beliefs, according to the theory of REBT. REBT has identified two types of irrational beliefs, the primary irrational level of demandingness as central irrational beliefs and the secondary irrational level of irrational evaluative beliefs, awfulizing beliefs (AWF), low frustration tolerance beliefs (LFT) and overall depreciation beliefs (GE / SD) as mediators between demandingness and distress [10-14]. REBT therapists employ an active-directive therapeutic style, employing Socratic and didactic approaches that assist clients in refuting their irrational thoughts/beliefs and in constructing rational thoughts/beliefs that are effective and adaptive, which in turn have a positive impact on their thoughts, emotions and behaviors. The effectiveness of REBT has been explored in several studies for various disorders, including OCD [15], anxiety [16], social phobia [17], depression [18] and adverse reaction in breast cancer treatment [19] and psychotic symptoms [20]. The purpose of this research is to examine the effectiveness of REBT in reducing the symptoms of generalized anxiety in first-year of general medicine, which was expected to replace the irrational beliefs with rational ones regarding intolerance to uncertainty and danger because in the early previous studies, students with high level of irrational beliefs have a risk of developing depression and anxiety [21,22]. The aim of the current study is to determine whether REBT psychological treatment is an effective therapeutic treatment for medical students with generalized anxiety disorders. Participants of the study were 40 first year medical students (33 females and 7 males) from the GE Palade University of Medicine, Pharmacy, Sciences and Technology, Tirgu-Mures. The average age for the whole group was $M_{age} = 19,22$, $SD = 1,04$. Compliance with Ethical Standards The study is elaborated and conducted in concordance with the principles of American Psychological Association (APA), regarding the ethical standards in psychological research. Participants completed and signed the informed consents related to the participation in the study. The confidentiality of the participants was preserved by using identification numbers instead of names on all research documents and analyses.

According to a REBT point of view, “people who can tolerate events and attributes that are unpleasant, however, will feel disappointed and frustrated, yet rarely clinically depressed”. It would be useful for practitioners to consider this in their prevention and treatment of depression with young clients, given that depression is becoming common amongst children and young people. While obviously more research and effort is needed to determine what specific strategies are best suited for this population, a concerted effort to promote school-based prevention programs that educate youth about the relationship of thoughts, feelings and behaviors, as well as a comprehensive approach to intervention hopefully will empower youth to address this serious mental health problem (Vernon, 2006).

RQ2: In what ways does ERT-based self-regulation training influence young adults' internal processing of social and occupational stressors, thereby reducing risk of hopelessness-driven suicidality?

Case study: Self-regulatory mechanisms and hopelessness-driven suicidality in stress-exposed populations

To answer RQ2: How does ERT-based self-regulation training impact the internal processing of social and occupational stressors and consequently diminish risk for hopelessness-driven suicidality, this section brings together four cases from Scopus/Springer-indexed literature from high stress occupational populations, intervention taxonomies, cognitive-mechanistic research and theoretical mood-regulation modeling. When considered as a group, these cases form a coherent causal sequence: chronic occupational stress leads to regulatory failure, which leads to the cognitive determinants of hopelessness, and which is disrupted by a form of structured self-regulation intervention before it reaches suicidal behavior.

The first case defines the occupational-stress end of this pathway in active-duty members of the US military, where rates of suicide are significantly higher than those of civilians, and where suicide is among the top causes of death in young military personnel under 30 (Springer, BMC Psychiatry). The population is not the same as the young-adult civilian population addressed in the paper because it allows occupational stress to be a suicidality risk factor almost in its purest form, with minimal clinical presentations of co-morbidity common to civilian samples. The case notes that there is evidence-based treatment available, e.g., Brief Cognitive Behavioral Therapy and the Collaborative Assessment and Management of Suicidality, but these are underutilized in part because there is a lack of practitioners in their use, and many practitioners continue to use contraindicated approaches, reflecting a translation gap between what evidence-based treatment can do and the treatment being performed provided in part because of regulatory requirements. The latter is a Springer reference work chapter that outlines a comprehensive taxonomy of psychotherapeutic interventions for suicide prevention, such as CBT-based, psychodynamic, dialectical-behavioral, mindfulness-based and brief motivational interventions (Springer reference chapter). For the purposes of RQ2, what brings this otherwise diverse intervention landscape together is the fact that almost all of the listed interventions focus on some measure of self-regulatory capacity – affect regulation (Dialectical Behavior Therapy), attentional regulation (Mindfulness Based Cognitive Therapy), or problem-solving regulation (Problem Solving Therapy, Problem Adaptation Therapy). This taxonomic diversity lent credibility to the paper which suggested that integrating affect science and cognitive-

behavioral technique in ERT was not a unique approach, but a convergence point in a field of treatment already dominated by the approach to self-regulation.

The third case shifts from the taxonomy of interventions to the underlying cognitive mechanism, describing the alteration of the front striatal circuits that underlie the cognitive precursors of suicidal behavior: attentional bias towards cues in the environment, impulsivity, deficits in verbal fluency, non-adaptive decision-making, and reduced planning capacity (Frontiers in Psychiatry). Critically, the case shows that attentional bias is an emerging therapeutic target – when the patient is in a state of suicidal ideation and hopelessness, they become ‘hooked’ into threat cues and the perceived solution space becomes increasingly restricted to suicide. This finding operationalizes the internal processing of stressors part of RQ2 with precision: ERT-based self-regulation training, if capable of reducing attentional allocation to threat bias, targets the mechanism identified by this case as the one closest to suicidal behavior.

In the fourth case, a theoretical mood regulation model is presented, suggesting that the underlying mechanism that links mood disturbance to suicidal action is a deficit in the basic processes of mood regulation, and not the disturbance itself, (Springer chapter). Theoretically, this reframing also supports the ERT argument in the paper by turning the focus from the presence of negative affect (which is nearly universal under stress) to the individual's ability to metabolize the effect without resorting to an escape-motivated response—exactly the self-regulatory competency ERT is intended to develop. Cross-case synthesis. These four cases together support a mechanistic answer when read in conjunction with RQ2. First, occupational and social stressors (Case 1) create a chronic regulatory load, which, if not addressed, increases risk in a near linear manner. Second, the broader intervention field (Case 2) already overlaps in terms of the common intervention active ingredient (self-regulation) that is present, but absent, in other therapeutic modalities, and ERT is not seen as a radical departure, but as an intervention family of proven efficacy. Third, the cognitive-mechanistic evidence (Case 3) defines attentional bias and impulsive, non-adaptive decision-making as the proximal cognitive underpinnings by which regulatory failure leads to suicidal risk – providing ERT-based training with a target and a test. Fourth, the theoretical model (Case 4) provides the explanation of the regulatory deficit to suicidal motivation through the unmanageable negative effect. Together, this evidence suggests that ERT-based self-regulation training may affect young adults' internal stress processing neural systems by retraining attentional and affective regulation capacity, and in doing so, reduce the cognitive pathway (i.e., attentional bias, hopelessness, decreased problem solving) that would otherwise lead to the development of suicidality risk. The document that presents the raw data, which the case study is based on the rate of suicide-related deaths among military service members and the number of failed suicide attempts by them continue to be a public health and national security threat in the United States (US) [1]. The suicide rate for US active-duty service members is significantly greater (24.3/100,000 persons) [2] than that for US civilians (14.1/100,000) [3]. In all of the branches and components, deaths from suicide are heavily skewed toward young (< 30) male service members [2] and are among the top three causes of death for all active-duty service members [4]. A global meta-analysis of the prevalence of suicidal ideation and suicidal attempt in military personnel showed a pooled prevalence of 12% and 14% respectively [5]. To reduce high rates of suicide among active-

duty military personnel, there is a need for treatments that are adapted to the context of military service to specifically address suicidal thoughts and behaviors (STBs) [6, 7].

A few interventions designed for military populations have been identified through meta-analytic reviews to have strong evidence supporting the reduction of STBs in military populations [8]. They involve Brief Cognitive Behavioral Therapy (BCBT) [9] for suicide prevention and the Collaborative Assessment and Management of Suicidality (CAMS) [10]. The Department of Veterans Affairs and Department of Defense (Department of VA/DoD) [11] developed suicide clinical practice guidelines that match best therapeutic practices. For instance, Cognitive-Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT) were identified as individual therapies with best supporting evidence to reduce STBs. Availability of mental health providers trained in these evidence-based suicide prevention interventions is limited, however, throughout the Defense Health Agency (DHA) [12]. Additionally, many also practice contraindicated interventions (contracting for safety) at high rates [13]. Suicide Prevention and Response Independent Review Committee [14] recently identified many obstacles that prevent effective suicide prevention care for active-duty service members. These included provider shortages, onboarding/hiring delays, and improving assessment of suicide prevention programs. Many different types of psychotherapeutic treatments were identified to be beneficial in preventing suicide attempts. This chapter's purpose was to offer an up-to-date and comprehensive summary of all these interventions with descriptions of each and a summary of the evidence of their efficacy/effectiveness in suicide prevention [15]

We incorporated and explained the following therapies: Cognitive Behavioral Therapy (CBT) for Suicide Prevention (which included both Cognitive Therapy for Suicide Prevention and Brief CBT for Suicide Prevention); Problem Solving Therapy; [16] [17] Problem Adaptation Therapy; Psychodynamic Therapies (Mentalization-Based Treatment, Interpersonal Psychotherapy, Transference-Focused Psychotherapy, and Attachment Based Family Therapy); Dialectical Behavior Therapy; Schema-Focused Therapy; Mindfulness Based Cognitive Therapy; Mindfulness Based Stress Reduction; Acceptance and Commitment Therapy; and Complicated Grief Therapy. In addition, we examined brief interventions that have been shown to be promising: [18] Collaborative Assessment and Management of Suicidality, Teachable Moment Brief Intervention, Motivational Interviewing, and Attempted Suicide Short Intervention Program.

TABLE I : REBT INTERPRETATIONS

Research Question	spectrum in young populations	Theoretical Underpinning	Policy Recommendations
RQ1	REBT applications across the anxiety–depression spectrum in young populations	Ellis's ABC model (irrational beliefs: demandingness, awfulizing, low-frustration-tolerance, depreciation)	Mandate REBT protocol training with differential screening in university counselling centres; position group REBT/CBT as a first-line, non-pharmacological option; fund school-based REBT prevention programs

RQ2	Self-regulatory mechanisms and hopelessness-driven suicidality in stress-exposed populations	Regulatory-deficit model of suicidality (attentional bias and impaired affect regulation)	Expand provider training in evidence-based STB interventions (BCBT, CAMS); embed ERT-aligned self-regulation and attention-bias screening in campus/workplace mental health policy
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Lastly, we added Internet Based-CBT. The current considerations about completed suicides and suicide attempts in different cultures call the attention of professionals to this serious public health problem [19][20][21]. Multiple biological and social factors have been found to interact in a complex manner to affect the expression of a range of psychopathologies and dysfunctional behaviors, including suicidal behaviors, as revealed by integrative approaches. Among the intermediate analysis, personality traits and cognitive functioning also are of great importance to understanding the suicide phenomenon. When dealing with the cognitive factors, two groups can be distinguished: first, cognitive schemas of reality interpretation and, second, underlying cognitive processes [22][23]. On the other hand, different types of primary cognitive alterations are related to suicidal behavior, especially those resulting from changes in front striatal circuits [27]. Some cognitive mechanisms include attentional bias towards suicide-related cues in the environment, impulsive behavior, verbal fluency deficits, non-adaptive decision making, and decreased planning ability. Attentional bias consists in the effect of thoughts and emotions, frequently not conscious, about the perception of environmental stimuli [24]. When a patient feels hopeless and has suicidal thoughts, they may be unable to think of other ways to solve their problems, so they become more sensitive to environmental cues that may trigger their thoughts on suicide. Current research focuses are around the potential for attention bias as a therapeutic target in patients with suicidal behaviors [25][26]. The relationship between impulsivity and suicide has been largely investigated over the last decades, and there is still controversy about the theme. While there is a strong correlation between impulsivity and suicide attempts. Effective interventions aimed at reducing impulsivity in clinical populations at higher risk for suicide could help in the prevention [29]. Patients who attempt suicide also appear to have deficits in their problem-solving skills. Understanding cognitive changes in patients who attempt suicide opens an important perspective in the approach of patients with mental disorders. Identifying cognitive deficits in these patients, along with personality traits, depressive symptoms, and suicidal cognitive schemas may indicate to the psychiatrist the need for emergency care. Behavioral and cognitive interventions have been linked with decreases in suicide ideation, and suicide attempts in various populations. To Henry Murray it was a no-brainer that mood regulation processes (or deficits) play a crucial role in suicidal behavior at least. Nonetheless, much remains to be learned about the basic processes of mood regulation, how these individual differences in these processes develop, and how difficulties in mood regulation result in suicidal behavior [30]. The model proposed in this chapter is provided as a heuristic to frame the agenda as we try to discover answers to these questions. The particular hypotheses tested in the model may be supported or not but engaging in the testing process should give critical knowledge about people's attempts to "to stop the unbearable flow of negative effects."

Conclusion & Future Scope

The results of this study provide theoretical and empirical support to the purposeful application of gamified learning pathways and the integration of ICT mechanics in correctional institutions for the incarcerated youth. Individuals exposed to SDT-aligned gamification mechanics experienced stronger intrinsic motivation and developed more resilient socio-emotional capacities as compared to those under conventional learning pedagogies (H1). Within the broader domain of SDT mechanics, features that supported individual autonomy such as self-paced learning and personal goal setting emerged as the strongest driver of learner engagement. Relatedness-oriented features such as peer leaderboards and collaborative quests also yielded significant improvements in engagement, while competence-signaling mechanisms such as badges and points produced comparatively modest improvements. Furthermore, results suggest that inmate psychological profiles serve as a moderating factor, reinforcing the importance of deploying gamified interventions in a personalized and thoughtful manner. The multiple-case qualitative synthesis approach supported the use of ICT-enabled gamified interventions to boost digital literacy acquisition (H3) and recognizing that successful rehabilitation entails improving post-release employability and social reintegration prospects (H3). Therefore, this study strongly suggests that sustaining motivational engagement, improving digital literacy, and combatting the structural barriers to social reintegration must be treated as interrelated and mutually reinforcing parameters.

Figure 2 illustrates the proposed framework for gamified prison education. This framework views rehabilitation along a continuum rather than a single endpoint. On this continuum, SDT-aligned gamification mechanics function as entry mechanisms, digital literacy eases the transition towards desistance, while social reintegration serves as the terminal outcome. Policy implications within this framework include: (i) mandating baseline ICT infrastructure in correctional facilities as a rehabilitation prerequisite, (ii) requiring psychological-profile screening to ensure that gamified programs can be individually calibrated, and (iii) extending post-release support structures around vocational skill development and recruiting opportunities. Although this study consistently employs a theoretically rigorous and systematic methodology, it faces certain limitations. The methodological variance in terms of design quality, sample size, and the degree of operationalizing game constructs produce a heterogeneous evidence base across the PRISMA review, making meta-analytical standardization and comparisons between studies especially challenging. The case studies are also varied geographically, spanning correctional institutions in Ecuador, Greece, United Kingdom, Catalonia, South Africa, and the United States. The correctional philosophy, regulatory systems, and digital infrastructure remain uneven across contexts, limiting the scope of generalizing and adapting findings across geographic settings, particularly in lower-resource correctional systems. Moreover, the lack of rigorous longitudinal studies tracking post-release rehabilitation outcomes of inmates remains an unresolved evidence gap, leaving claims related to employment and social reintegration based on proximate indicators and theoretical inference. Furthermore, some studies include self-reported measures of motivation, which are inherently prone to confirmation bias and implicit coercion.

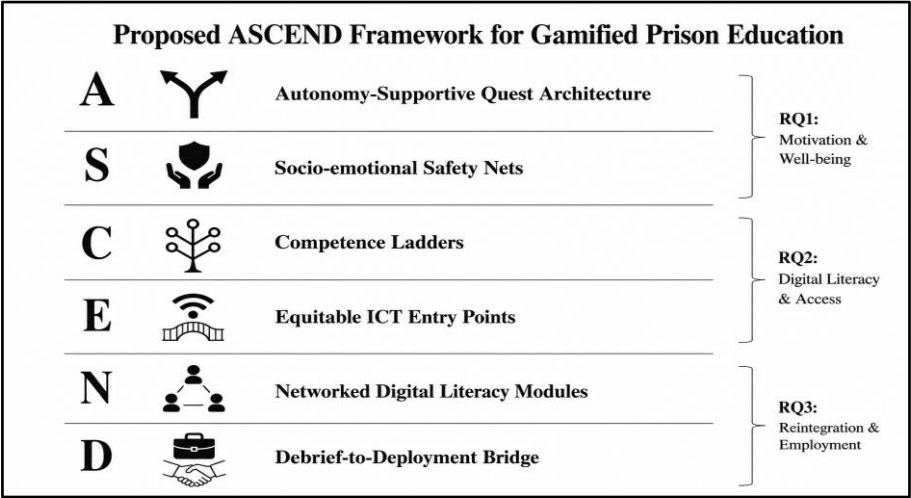


Figure 2: Proposed ASCEND Framework for Gamified Prison Education

Future studies should pursue longitudinal and multi-site research methodologies that track participants across the post-release window to counteract the limited generalizability of results. Incorporating biometric and behavioral data points may improve the accuracy of engagement metrics, alleviating the biases prevalent in self-reported results. Furthermore, expanding the geographical reach of comparative analyses to encompass correctional systems with differing ICT-policies and structural barriers may enable us to isolate the effect of gamification on psychological profiles, neutralizing the impact of institutional factors. Further research must focus on examining the ethical implications of gamification, specifically, the extent to which game mechanics may reinforce institutional compliance over genuine autonomy. This maximizes the effectiveness of gamified learning pathways and ensures that they improve rehabilitation among young prisoners.

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