

The Effectiveness of Expressive Writing Therapy in Improving Emotion Regulation Among Mothers with Childhood Maltreatment Experiences

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Abstract

Childhood maltreatment is associated with long-term difficulties in emotion regulation that may persist into adulthood and influence parenting practices. Mothers with histories of childhood maltreatment are particularly vulnerable to emotional dysregulation, increasing the risk of maladaptive parenting responses and the intergenerational transmission of trauma. Therefore, this study aimed to examine the effectiveness of Expressive Writing Therapy (EWT) in improving emotion regulation among mothers with a history of childhood maltreatment. Using a Single-Case Experimental Design (SCED) with a Multiple Baseline Across Participants approach, the intervention was administered to three mothers who demonstrated difficulties in emotion regulation. Childhood maltreatment experiences were identified using the Childhood Trauma Questionnaire–Short Form (CTQ-SF), while emotion regulation was assessed using the Difficulties in Emotion Regulation Scale–Short Form (DERS-SF). CTQ-SF screening confirmed histories of severe emotional abuse among all participants, with one participant additionally reporting severe physical abuse, emotional neglect, and physical neglect. The intervention consisted of four structured expressive writing sessions conducted over a two-week period. Data were analyzed through visual inspection, trend analysis, level change analysis, variability analysis, and Non-overlap of All Pairs (NAP) statistics. The findings demonstrated consistent improvements in emotion regulation across all participants following the intervention. Aggregate NAP analysis indicated large treatment effects, with the strongest improvements observed in impulse control and emotion regulation strategies (NAP = 100%), followed by nonacceptance and goal-directed behavior. Participants also reported reductions in trauma-related emotional responses, particularly emotional suppression and rumination, which had developed in relation to their childhood maltreatment experiences. These improvements appeared to occur through emotional exposure, cognitive processing, and enhanced self-regulation facilitated by expressive writing. The findings suggest that Expressive Writing Therapy is an effective and accessible intervention for improving emotion regulation and reducing trauma-related emotional difficulties among mothers with childhood maltreatment histories. The intervention may contribute to preventing the intergenerational transmission of trauma by promoting healthier emotional functioning and more adaptive parenting responses.

Keywords: Expressive Writing Therapy, Emotion Regulation, Childhood Maltreatment, Childhood Trauma, Mothers.

1 INTRODUCTION

Emotion regulation abilities develop from childhood through interactions among biological, cognitive, and environmental factors [1]. Adaptive emotion regulation enables individuals to respond to emotional situations in accordance with environmental demands; however, negative childhood experiences, particularly child maltreatment, have been shown to hinder the development of these abilities [2], [3].

According to the World Health Organization WHO [4], child maltreatment includes physical,

emotional, and sexual abuse, as well as neglect. Trickett et al. [5] further classified maltreatment into four main forms: physical abuse, sexual abuse, emotional abuse, and neglect. All of these forms are traumatic because they occur within close relationships, thereby disrupting both biological and psychological development in children. Long-term consequences include an increased risk of depression, anxiety, post-traumatic stress disorder (PTSD), and emotion dysregulation. Unresolved trauma may lead individuals to adopt maladaptive emotion regulation strategies such as repression (unconscious suppression), suppression (conscious inhibition of



emotional expression), avoidance, and rumination. These patterns worsen mental health and increase vulnerability to impulsive emotional reactions and social withdrawal [6], [7].

The conditions and characteristics described above directly affect parenting quality. Mothers with histories of child maltreatment often experience difficulties expressing warmth, are more reactive to stress, and tend to use maladaptive avoidance strategies, thereby increasing the risk of perpetuating the intergenerational cycle of trauma. Although protective factors such as secure attachment and social support may foster resilience, many survivors of maltreatment continue to struggle with adaptive emotion regulation. Therefore, based on the issues outlined above, effective psychological interventions are urgently needed.

Expressive Writing Therapy (EWT), introduced by Pennebaker and Beall [8], offers a simple yet profound approach for processing trauma through structured emotional writing. Its mechanisms include cognitive restructuring through the formation of coherent narratives about traumatic experiences, emotional exposure within a safe context that reduces avoidance and suppression symptoms, and enhancement of self-awareness and self-regulation [9], [10]. Previous studies have demonstrated that EWT is effective in reducing emotional distress and trauma symptoms, while also improving emotion regulation across various populations, including survivors of violence [11], [12]. Although evidence supporting the effectiveness of EWT is substantial, research specifically targeting mothers with histories of child maltreatment remains limited. In fact, improving emotion regulation in this population has dual implications, namely promoting mothers' psychological recovery while simultaneously enhancing the quality of child caregiving.

Based on these conditions, this study aims to examine the effectiveness of Expressive Writing Therapy in improving emotion regulation among mothers with histories of child maltreatment, so that it may serve as a relevant, low-cost, and easily applicable intervention strategy to prevent the recurrence of the intergenerational cycle of trauma.

2 LITERATURE REVIEW

2.1 Child Maltreatment

Child maltreatment is a general term encompassing various forms of abuse and neglect toward children. As defined by the World Health Organization [4], child maltreatment refers to physical, sexual, emotional/psychological abuse, as well as neglect, committed by parents, caregivers, or authority figures toward individuals aged 0–17 years. This phenomenon represents a serious public health issue and a violation of human rights, with long-term

consequences for children's physical and mental health, academic achievement, and social functioning. The Indonesian Child Protection Commission (KPAI) further emphasizes that violence against children includes acts causing physical, sexual, or psychological harm, ranging from physical assault and humiliation to sexual exploitation. Trickett et al. [5] classified child maltreatment into four main forms: physical abuse, sexual abuse, psychological or emotional maltreatment, and neglect. These forms of abuse may arise from socio-cultural, psychological, social learning, family dynamic, and neurological factors, and contribute to emotional trauma, behavioral disorders, physical health problems, and an increased risk of intergenerational cycles of violence.

2.2 Emotion Regulation

Emotion regulation refers to the processes individuals use to influence the emotions they experience, when those emotions arise, and how they are expressed, with the aim of maintaining mental health, well-being, and optimal social functioning [13]. Through the process model of emotion regulation, Gross identified five major strategies: situation selection and modification, attentional deployment, cognitive change or cognitive reappraisal, and response modulation. Adaptive strategies such as reappraisal have been shown to enhance psychological well-being, whereas maladaptive strategies such as suppression tend to be associated with stress and interpersonal difficulties [13].

Gratz and Roemer [14] later expanded this concept through the emotion dysregulation model, which highlights six major dimensions of difficulty: nonacceptance, goals, impulse, strategies, awareness, and clarity. Emotion regulation may also be understood through cognitive, behavioral, and acceptance-based approaches, each emphasizing changes in thinking patterns, verbal and nonverbal emotional expression, and acceptance of emotions without judgment. Difficulties in emotion regulation are influenced by various factors, including childhood traumatic experiences, particularly child maltreatment, low social support, limited emotional skills, genetic and biological factors, and mental health conditions such as depression, anxiety, or PTSD [14], [15], [16].

2.3 Expressive Writing

Expressive Writing Therapy was first introduced by Pennebaker in the late 1980s [9] and has since been empirically shown to provide psychological and physiological benefits. This therapy involves writing deeply about emotional or traumatic experiences for 15–20 minutes over several consecutive days [9]. Research has demonstrated that it can reduce stress, depression,

and anxiety [17], [18], [19], increase self-efficacy and subjective well-being [20], [21], support trauma recovery and reduce PTSD symptoms [22], and improve physical health through enhanced immune functioning [23].

Its main paradigms include cognitive processes that facilitate meaning-making, disinhibition/exposure that provides opportunities for the release of suppressed emotions [9], [24], and self-regulation that enhances individuals' control over [24]. Pennebaker and Chung [25] also emphasized its benefits in changing attitudes, increasing creativity, improving social relationships, and reducing substance dependence. In addition, Expressive Writing Therapy helps individuals achieve catharsis, gain new insights, experience a sense of letting go, and demonstrate improvements in biological functioning [9]. Further studies have shown its effectiveness in reducing PTSD symptoms among trauma survivors, patients with psychosis, and war veterans [26], [27], although findings are not always consistent due to differences in participant characteristics, causes of trauma, and symptom severity [27]. Thus, Expressive Writing Therapy is regarded as a simple yet promising intervention for improving both mental and physical health.

2.4 Research Framework

Maladaptive parenting patterns during childhood, including physical abuse, emotional abuse, and neglect, have been shown to contribute to trauma that disrupts the development of emotion regulation in adulthood. This trauma leads to dissociation, emotional numbness, and impairments in executive functioning that hinder individuals' ability to recognize, accept, and regulate emotions adaptively [28], [29]. Consequently, individuals experience difficulties across various dimensions of emotion regulation as described by Gratz and Roemer [14] in the Difficulties in Emotion Regulation Scale (DERS), including nonacceptance, difficulties engaging in goal-directed behavior, impaired impulse control, limited awareness and emotional clarity, and restricted access to adaptive regulation strategies. These barriers lead survivors of child maltreatment to rely on maladaptive coping strategies such as avoidance, denial, suppression, rumination, and destructive behaviors, which further [13], [30].

Expressive Writing Therapy (EWT) is considered a potential intervention because it operates through three paradigms that directly address emotion regulation difficulties resulting from trauma. First, the cognitive paradigm helps individuals construct coherent narratives of traumatic experiences, thereby strengthening emotional clarity and awareness [9]. Second, the emotional exposure paradigm provides a safe space for confronting previously suppressed negative emotions,

thereby increasing emotional acceptance while reducing emotional reactivity [31], [32]. Third, the self-regulation paradigm encourages the development of adaptive psychological distancing from traumatic experiences, enabling individuals to better control impulses, maintain goal-directed behavior during intense emotional states, and access healthier emotion regulation strategies [33].

Thus, EWT not only supports the recovery of cognitive and emotional functioning, but also improves the parenting quality of mothers with histories of child maltreatment, thereby contributing to breaking the transgenerational cycle of maladaptive parenting.

3 RESEARCH METHODS

3.1 Research Design

This study employed a Single-Case Experimental Design (SCED) using a multiple baseline across participants approach. This design was selected because it enables researchers to examine individual changes in emotion regulation over time following the implementation of the intervention.

3.2 Participants

The participants consisted of three mothers with histories of childhood maltreatment. Participants were selected using purposive sampling based on several inclusion criteria. First, participants had histories of childhood maltreatment identified through the Childhood Trauma Questionnaire – Short Form (CTQ-SF) and semi-structured interviews adapted from the Adult Attachment Interview (AAI). Second, participants demonstrated emotion regulation difficulties based on the Difficulties in Emotion Regulation Scale – Short Form (DERS-SF). Third, participants were willing to complete all expressive writing sessions. Fourth, participants had support from their spouses to facilitate emotional engagement throughout the intervention process. Fifth, participants demonstrated relatively stable economic conditions to support consistent participation in the intervention.

The Adult Attachment Interview (AAI) has been widely used to explore the long-term psychological impacts of caregiving experiences, including emotion regulation functioning in adulthood. However, because the AAI requires intensive training and certification for administration and coding, the interview questions in this study were adapted to maintain its core principles without requiring formal certification. The adapted interview explored participants' childhood emotional experiences, particularly maltreatment experiences, and their impacts on current emotional dynamics and parenting patterns.

3.3 Instruments

The research instruments consisted of two primary measurement tools. The first was the Difficulties in Emotion Regulation Scale – Short Form (DERS-SF), which was used to measure difficulties in emotion regulation across six dimensions: nonacceptance, goals, impulsivity, awareness, strategies, and clarity. This instrument consists of 18 items and was translated and adapted into Indonesian by Danasasmita et al. (2024), demonstrating good reliability (Cronbach's Alpha = 0.89; test–retest = 0.67).

The second instrument was the Childhood Trauma Questionnaire – Short Form (CTQ-SF), which was used during the initial screening stage to identify experiences of child maltreatment. This instrument consists of 28 items with five primary subscales: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect, and demonstrated good reliability (Cronbach's Alpha = 0.85). The Indonesian version of the CTQ-SF was translated by Andriyani (2022). The combination of these two instruments enabled researchers to obtain comprehensive data regarding participants' emotion regulation conditions and histories of childhood trauma that formed the basis of this study.

3.4 Research Procedure

The research procedure in this study consisted of four main stages. First was the preparation and recruitment stage, during which participants were screened using the Childhood Trauma Questionnaire–Short Form (CTQ-SF) to identify histories of child maltreatment, followed by anamnesis interviews based on the Adult Attachment Interview (AAI), as well as completion of the Difficulties in Emotion Regulation Scale–Short Form (DERS-SF) to screen for difficulties in emotion regulation. Participants who met the criteria then signed informed consent forms.

Second was the initial assessment (baseline) stage, during which participants completed the DERS-SF according to the number of baseline measurements specified in the multiple baseline design (A = 3, B = 2, C = 1). Afterward, participants proceeded to the expressive writing intervention stage with varying numbers of intervention points (A = 2, B = 3, C = 4), resulting in a total of five measurements for each participant (T1–T5). The intervention was conducted over two weeks, with two sessions per week at consistent intervals, and each session lasted 15–20 minutes. Data were collected through both the DERS-SF and direct observation to monitor changes in emotion regulation. The next stage involved periodic measurement (staggered time series), in which differences in the

number of baseline and intervention phases across participants enhanced internal validity.

The entire process was conducted online following the APA telepsychology guidelines, including evaluation of participant eligibility, informed consent, data security, technological readiness, and emotional risk management by involving husbands as companions (who had already been provided with support-system skills training) while participants engaged in the expressive writing therapy process. This approach ensured that the study was conducted ethically, safely, and in accordance with standards of online psychological practice.

3.5 Data Analysis

Data analysis in this study combined visual, statistical, and qualitative approaches. Visual analysis was conducted by plotting Difficulties in Emotion Regulation Scale–Short Form (DERS-SF) scores into time-series graphs to examine patterns of change from the baseline phase to the intervention phase. Visual inspection included three primary aspects: level changes, trend direction, and variability. Level changes were evaluated by comparing the final baseline scores with the initial intervention scores as well as mean scores across phases, whereas trends were analyzed based on the direction of data shifts (decreasing, increasing, or stable) within each phase. Variability was assessed through score fluctuations around the mean, providing an overview of the stability of participants' responses to the intervention. These three aspects provided preliminary indications regarding the effects of the intervention on emotion regulation.

In addition to visual analysis, this study applied statistical analysis for Single-Case Experimental Design using the Non-overlap of All Pairs (NAP) method [34]. This technique calculates the extent to which intervention scores do not overlap with baseline scores by comparing all pairs of data points. NAP values were then interpreted according to categories of small effect (0–65%), moderate effect (66–92%), and large effect (93–100%) [35]. Cross-participant synthesis was conducted to evaluate the consistency of score reductions, the congruence of trend changes, and the strength of intervention effects. Internal validity assessment referred to the principles of the staggered multiple baseline design, in which changes were considered valid only if they consistently appeared after the intervention began. This approach strengthened the causal inference that expressive writing intervention was the primary factor influencing changes in emotion regulation rather than other external variables [36].

In addition to quantitative data, this study also analyzed the content of participants' writing during expressive writing sessions as supporting qualitative

data. The analysis focused on themes emerging within participants' narratives, such as traumatic childhood memories, feelings toward significant figures, and reflections on emotional experiences. Changes in emotional expression, narrative structure, and the ability to reflect on experiences were observed as additional indicators of improved emotion regulation. This approach provided a richer understanding of the internalization process involved in expressive writing intervention while simultaneously strengthening findings from the quantitative data.

4 RESULTS AND DISCUSSION

4.1 Participant Description

4.1.1 Participant A

Participant A, identified by the initials ITA, was 34 years old, married, and had two children aged 3 and 7 years. She was the third of three siblings in a family characterized by an imbalanced dynamic in which the father was passive while the mother was dominant and perfectionistic. A's childhood was marked by criticism and high demands, where emotional expressions such as sadness and crying were perceived as signs of weakness, and maternal criticism was experienced as punishment. Results from the Childhood Trauma Questionnaire (CTQ) showed the highest score in emotional abuse, with a score of 18 (Severe), confirming significant experiences of emotional abuse. There was no alternative caregiver figure who provided emotional support, and the loss of her father at the age of 10 further intensified her feelings of loneliness, emotional confusion, and difficulties in developing healthy interpersonal relationships.

Emotional suppression led A to develop perfectionism as a strategy to gain acceptance, which subsequently resulted in rumination and excessive recurrent guilt. Initial results from the Difficulties in Emotion Regulation Scale (DERS) indicated significant difficulties in recognizing, understanding, and managing emotions, as well as controlling impulses. As a maladaptive coping strategy, A had engaged in self-harm behaviors, including banging her head, hitting her head, and cutting herself; some of these behaviors still occurred when she experienced frustration in parenting situations. Although she attempted to become a warm and caring mother, A frequently lost control, demanded obedience, and imposed high expectations on her children so they would be accepted by others, driven by fears of being judged as a failed parent. Her emotional outbursts were consistently followed by feelings of guilt, reflecting an internal conflict between her desire to be a nurturing mother and the reactive patterns shaped by her childhood experiences.

A's relationship with her mother was currently ambivalent. Although she appreciated her mother's

sacrifices, she did not feel fully emotionally accepted, resulting in difficulties maintaining her own needs, feelings, and personal boundaries. A also struggled to establish close interpersonal relationships and tended to withdraw from friends when feeling uncomfortable, leading to limited social relationships. Nevertheless, she had a supportive spouse who provided a safe space for emotional expression. Overall, childhood experiences involving persistent criticism, emotional suppression, perfectionism, rumination, and complex trauma contributed to patterns of extreme emotionality, emotion regulation difficulties, rejection sensitivity, and affected A's current parenting style and interpersonal interactions.

4.1.2 Participant B

Participant B, identified by the initials SP, was 33 years old, married, and had two children aged 4 years and 1 year. She was the second child of her biological parents and had three younger siblings from different fathers following her mother's remarriage. Since the age of two, B had been raised by her stepfather, who replaced the role of her biological father. She only discovered that her stepfather was not her biological father shortly before her marriage, and her biological father refused to meet her. The absence and neglect of her biological father, combined with the harsh attitude of her stepfather, created emotional wounds, lowered her self-esteem, and fostered a strong need for validation from others.

B's mother was known to be perfectionistic and dominant in parenting, maintaining high standards in caring for her children and husband. In B's perception, her mother was a perfect figure, leading her to internalize the belief that failure to meet such standards equated to failure as both an individual and a future mother. These childhood experiences were reflected in the Childhood Trauma Questionnaire (CTQ) results, with the highest score in emotional abuse at 25 (Severe), indicating experiences of emotional abuse and emotional neglect, despite the absence of physical abuse.

When her children rejected the food she prepared or behaved contrary to her expectations, B felt that they did not appreciate her efforts, which triggered feelings of inadequacy as a mother and perceptions that she was not as good as her own mother. These feelings of rejection evoked emotional reactivity, causing B to yell at, harshly scold, or even throw her child onto the bed. These emotional outbursts were not merely responses to the child's behavior, but were also triggers for childhood memories in which B had learned that mistakes and rejection reflected personal inadequacy. Emotional suppression since childhood, the internalization of high standards, and these reactive patterns contributed to rumination, which reinforced guilt, anxiety, and

difficulties in emotion regulation. Initial results from the Difficulties in Emotion Regulation Scale (DERS) indicated that B experienced difficulties recognizing, understanding, and regulating emotions, as well as controlling impulses, such that emotional reactivity and rumination mutually reinforced one another within the parenting context. Although she aspired to become a calm and warm mother, in reality B was easily triggered and reacted harshly, followed consistently by feelings of guilt that highlighted her internal conflict.

B's relationship with her mother was ambivalent because she regarded her mother as admirable, yet did not want to become like her and believed that her own children felt uncomfortable with her parenting style. In social relationships, B often felt guilty even when she was not at fault and tended to withdraw when uncomfortable, limiting the quality of her interpersonal relationships. She had a supportive spouse who provided emotional support. Overall, childhood experiences involving persistent criticism, emotional suppression, perfectionism, reactivity, and rumination contributed to intense emotional patterns, difficulties in emotion regulation, sensitivity to rejection, and influenced B's current parenting style and interpersonal interactions.

4.1.3 Participant C

Participant C, identified by the initial W, was 30 years old, married, and had two children aged 5 and 2 years. She was the third of four siblings in a Sundanese Muslim family. Her childhood was characterized by emotional disconnection because from infancy through elementary school she was primarily cared for by relatives from her mother's side during the daytime, while spending evenings with her parents. This caregiving pattern prevented the development of strong emotional attachment with her parents. Even when at home, C faced parents who were busy, emotionally uninvolved, and frequently abusive. Whenever she sought attention, which was a normal developmental need for a child, she was instead verbally abused, beaten with belts or brooms, forced to eat chili peppers when crying, splashed with water, or publicly humiliated. Her needs were perceived as signs of ingratitude, leading her to suppress her feelings and emotional expressions in order to avoid punishment.

In addition, she constantly felt compared to her siblings, especially by her mother, which reinforced beliefs that she was worthless and unwanted. Results from the Childhood Trauma Questionnaire (CTQ) indicated severe scores for emotional abuse (18), physical abuse (22), emotional neglect (22), and physical neglect (14), while sexual abuse was categorized as none (5). These findings confirmed consistent exposure to complex trauma throughout childhood.

The suppression patterns formed during childhood continued into adulthood. However, the emotions she suppressed did not disappear; instead, they accumulated and eventually erupted in the form of extreme anger. Within the parenting context, this became evident when her children behaved clingily or sought attention. Situations that were developmentally normal for children were unconsciously perceived by C as disturbances because she had learned during childhood that seeking attention was associated with problems, wrongdoing, or ingratitude. These unconscious patterns caused her to become easily irritated and angry when her children sought affection. At the same time, C did not want to physically abuse her children as she had once experienced, leading her to redirect her anger toward herself through behaviors such as banging her head against walls. Thus, past emotional suppression not only created an accumulation of poorly managed emotions but also shaped a distorted perception of normal child behavior in the present.

Furthermore, C was trapped in rumination, characterized by repetitive thoughts about past negative experiences and persistent feelings of worthlessness without resolution. She frequently cried, experienced guilt, and was highly sensitive to criticism, even regarding minor matters. These patterns originated from experiences of discrimination within the family, where she was consistently negatively compared to others and rarely received acknowledgment. Consequently, every criticism or minor failure in the present was perceived as repeated evidence that she was not good enough or unworthy of love. Rumination not only maintained her childhood psychological wounds but also exacerbated her emotional dysregulation. This was consistent with C's high initial Difficulties in Emotion Regulation Scale (DERS) scores, particularly in the dimensions of impulse control difficulties, nonacceptance of negative emotions, and limited access to adaptive emotion regulation strategies.

In terms of interpersonal functioning, C demonstrated rigid and highly guarded relational patterns. She tended to distance herself from her extended family because she had never experienced a sense of safety within the family environment during childhood. Relationships with her parents remained marked by emotional wounds and lacked warm communication. Her relationship with her sister involved minimal communication and considerable tension, whereas her younger brother provided more emotional support. In broader social settings, she felt awkward when attempting to build closeness, frequently worried about being judged, and became easily offended by comments perceived as criticism. Regarding her marital relationship, C described it as ambivalent. On one hand, her husband provided support and attempted to calm her, yet on the other hand she often felt

misunderstood. When overwhelmed emotionally, she struggled to accept her husband's support and preferred to withdraw or express anger, although she later regretted these reactions. These dynamics indicate that childhood trauma, suppression, and rumination were closely intertwined with the quality of C's emotion regulation and interaction patterns within both family and social life.

4.2 Visual Analysis of Time Series Graphs and Table

Table 1. Changes in DERS Scores

Participant	Baseline 1	Baseline 2	Baseline 3	Mid	Post 1
A	66/90	76/90	75/90	60/90	40/90
B	-	73/90	71/90	53/90	34/90
C	-	-	63/90	49/90	45/90

Table 1 presents the visual analysis of participants' emotion regulation changes based on DERS scores across baseline and intervention phases. Visual inspection was conducted to observe changes in score direction, consistency, and reductions following the implementation of expressive writing therapy. Overall, all participants demonstrated gradual decreases in DERS scores during the intervention phase, indicating improvements in emotion regulation abilities after participating in the expressive writing sessions.

4.3 Level Change Analysis

Level change analysis was used to assess changes in emotion regulation from the baseline phase to the intervention phase, including both changes that emerged immediately after the first session (immediate level change) and overall mean changes (mean level change) [37].

4.3.1 Participant A

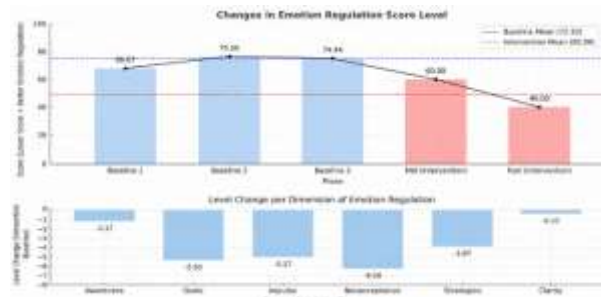


Figure 1. Changes in Emotion Regulation Score Levels and Dimension-Specific Level Change in Participant A

Immediate changes were observed in nonacceptance (-7 points), impulse (-6 points), and goals (-6 points), indicating a direct effect of the intervention in improving emotional acceptance and

reducing reactivity. In terms of mean level change, all dimensions showed decreases, with an overall average reduction of -22.33 points.

The first-session writing demonstrated emotional exposure through expressions of hurt, rejection, and childhood wounds. In subsequent sessions, cognitive processing emerged as A began to recognize the connection between her parents' parenting style and the way she currently reacted toward her children. This process then developed into cognitive reappraisal, reflected in her ability to reinterpret the meaning of her experiences and identify more adaptive alternative responses. Thus, changes in A's emotion regulation followed a transitional process from emotional release toward reflection and cognitive restructuring.

4.3.2 Participant B



Figure 2. Changes in Emotion Regulation Score Levels and Dimension-Specific Level Change in Participant B

Immediate changes were clearly evident in impulse (-8 points) and strategies (-8 points), as well as goals and nonacceptance (each -6 points), indicating a rapid response to the intervention. In terms of mean level change, all dimensions decreased, with an overall average reduction of -33.33 points, representing the largest decrease among all participants.

The first-session writing revealed strong emotional exposure related to criticism, comparison, and unfair treatment from her mother. In subsequent sessions, cognitive processing emerged as B began to understand that these past wounds contributed to her tendency to yell at her children. This development progressed toward self-distancing and cognitive reappraisal, as reflected in her ability to restrain impulses, evaluate her emotions more objectively, and consider new parenting strategies. The writing process helped B reduce the intensity of rumination and develop more stable and constructive emotion regulation.

4.3.3 Participant C



Figure 3. Changes in Emotion Regulation Score Levels and Dimension-Specific Level Change in Participant C

Immediate changes were observed in impulse (−5 points), strategies (−4 points), and goals (−4 points), while awareness actually increased (+1 point), indicating the emergence of emotional awareness that had previously been suppressed. In terms of mean level change, the overall average reduction reached −18.75 points, with improvement patterns across nearly all dimensions.

The first-session writing demonstrated intense emotional exposure through experiences of physical and verbal abuse, as well as emotional rejection, although it was already accompanied by some degree of cognitive processing when C linked her parents' treatment to the way she responded to her children. In subsequent sessions, this reflective process became stronger, as reflected in her acknowledgment of feelings of overwhelm, anger outbursts, and self-harming behaviors, accompanied by efforts toward self-regulation such as distancing herself when emotions escalated and reevaluating the causes of her emotional reactions. Although the strategies she employed were still relatively simple, the writing process provided a safe space to explore past wounds, connect them with current parenting challenges, and begin developing a more reflective understanding of herself.

4.4 Level Change Analysis

Trend change analysis was used to examine the direction of changes in emotion regulation scores over time. The calculation was conducted using slope values, where a negative slope indicates a decrease in DERS scores, reflecting improvement in emotion regulation. Thus, trend changes may serve as indicators of the intervention's effectiveness in helping participants manage their emotions [36].

4.4.1 Participant A

The scores from baseline to post-intervention were 66, 76, 75, 60, and 40. The calculation produced a

slope value of −6.8, indicating a consistent downward trend in scores from the baseline phase to the intervention phase. This decline suggests gradual improvements in emotion regulation following the intervention.

4.4.2 Participant B

The scores from baseline to post-intervention were 73, 71, 53, 34, and 29. The slope calculation resulted in a value of −12.5, which was steeper than that of Participant A. This finding indicates faster and stronger changes in emotion regulation, with scores decreasing significantly immediately after the intervention and continuing consistently throughout the post-intervention phase.

4.4.3 Participant C

The scores from the mid-intervention phase to post 3 were 49, 45, 43, and 40, with a slope value of −2.90. This change demonstrated a more gradual decline compared to Participants A and B, but still indicated improvements in emotion regulation. Because only one baseline data point was available, the slope could not be calculated for the initial phase; therefore, the trend analysis focused on the intervention phase. Nevertheless, these results still demonstrated consistent positive changes [37], [38].

4.5 Variability

Variability refers to the extent of score dispersion around the mean, which is measured using the standard deviation [39]. In single-case design, variability helps assess data stability across phases. Low variability indicates stable changes, whereas high variability reflects greater fluctuations [40]. Changes in variability were analyzed using the difference in standard deviation between the intervention and baseline phases (Δ Variability).

4.5.1 Participant A

The baseline standard deviation of 5.51 increased to 14.4 during the intervention phase (Δ Variability = 8.89). This value falls at the upper limit of the low variability category, indicating increased fluctuations while still remaining stable. Participant A's emotion regulation scores decreased consistently and in a controlled manner, reflecting a positive response to the intervention.

4.5.2 Participant B

The baseline standard deviation of 1.41 increased to 12.66 during the intervention phase (Δ Variability =

11.25). Although there was a considerable increase in fluctuation compared to the highly stable baseline, the SD value remained within the low variability category. This finding indicates consistent changes in emotion regulation toward more adaptive functioning with healthy variation.

4.5.3 Participant C

Because Participant C had only a single baseline measurement, a proxy baseline from Participant A (SD = 5.51) was used. Participant C's intervention standard deviation was 10, resulting in a Δ Variability of 4.49. This value also remained within the low variability category, indicating mild but stable fluctuations as well as gradual and adaptive improvements in emotion regulation.

4.6 NAP

The Nonoverlap of All Pairs (NAP) analysis was used to examine the extent to which intervention-phase data did not overlap with baseline-phase data. The smaller the overlap, the stronger the intervention effect on score changes [34]. The categorization results indicate that NAP values can be interpreted into three levels of intervention effect, as shown below:

Table 2. Interpretation of Intervention Effect

NAP Range (%)	Interpretation of Intervention Effect
0% – 65%	Small effect
66% – 92%	Moderate effect
93% – 100%	Large effect

4.6.1 NAP Analysis for Each Participant

4.6.1.1 Participant A

The NAP analysis for Participant A showed varying therapeutic effects across emotion regulation dimensions. The highest values were obtained for the dimensions of goals, impulsivity, nonacceptance, and strategies, each reaching 100%, whereas the lowest value appeared in awareness (58.3%), with a moderate score in clarity (66.7%). The total NAP score of 92% placed the effect of Expressive Writing Therapy (EWT) in the moderate category. This pattern suggests that although awareness of emotions remained limited, the participant was able to develop adaptive strategies and cognitive clarity in regulating emotions.

The most dominant EWT paradigm in Participant A was cognitive processing. Through writing, she was able to reorganize emotional experiences in a more structured way and derive more adaptive meanings from them. This process provided space for the participant to clarify feelings that were initially confusing and to develop new strategies for dealing with stressful situations. The dominance of cognitive processing

strengthened the strategies and clarity dimensions, consistent with the theory of Gratz and Roemer [14], which emphasizes the importance of understanding and clarity in emotion regulation, as well as supporting the development of healthier cognitive restructuring.

4.6.1.2 Participant B

Participant B obtained very high scores across nearly all emotion regulation dimensions. Scores of 100% were achieved in awareness, impulsivity, nonacceptance, strategies, and clarity, while the goals dimension was slightly lower at 91.7%. Overall, the total NAP score of 92% also fell within the moderate category. This finding indicates that EWT contributed substantially to strengthening self-regulation abilities, particularly in delaying impulses, accepting emotions, and applying adaptive strategies.

The emotional exposure provided through expressive writing facilitated improved evaluation of situations, representing the cognitive processing paradigm that ultimately promoted better self-regulation in Participant B. Expressive writing functioned as a means of internalization, enabling the individual to direct herself more effectively toward goals and maintain consistency in emotion regulation. The writing process also helped create psychological distance from intense emotions, allowing B to reevaluate situations more calmly before reacting. This mechanism supports findings emphasizing that self-regulation is a fundamental basis for adaptive emotion management, particularly among individuals with traumatic experiences, because it integrates emotional awareness with behavioral control.

4.6.1.3 Participant C

For Participant C, a baseline proxy was used because only one baseline point was available. Baseline data from Participant A, which were more stable, were used as a comparison to ensure that the NAP calculation remained valid according to the principles of multiple baseline across participants [35], [37]. This approach maintained the integrity of the design despite the limited individual baseline.

The NAP results for Participant C showed scores of 100% in the dimensions of goals, impulsivity, nonacceptance, and strategies, while lower values were observed in awareness (70.8%) and clarity (70.8%). The total NAP score of 91% indicated that the therapy effect was within the moderate category. This pattern suggests that although emotional awareness and clarity were still limited, the ability to control impulses, establish goals, and develop adaptive strategies improved significantly.

The dominant paradigms observed in Participant C were a combination of emotional exposure and

cognitive processing. Through EWT, the participant was first re-exposed to emotions that had previously been suppressed, thereby opening access to emotional experiences that had long been avoided. This stage was then followed by cognitive processing, in which the emerging emotions were reorganized into a more coherent and meaningful narrative framework. This dual mechanism explains the consistent improvements observed in certain regulation dimensions, even though awareness and clarity had not yet developed optimally, as the participant still required more time to recognize emotions spontaneously.

4.6.2 Dimension-Level Aggregate Analysis

The aggregate Nonoverlap of All Pairs (NAP) analysis across the three participants demonstrated varying effects of Expressive Writing Therapy (EWT) on the dimensions of emotion regulation measured using the Difficulties in Emotion Regulation Scale [14].

4.6.2.1 Nonacceptance

The nonacceptance of emotional responses dimension showed a NAP score of 97.2%. This finding indicates that EWT was effective in helping participants accept negative emotions without rejection or self-blame tendencies. The dominant mechanism operating initially was emotional exposure, in which participants were confronted again with emotional experiences that had previously been suppressed, followed by cognitive processing that enabled the reframing of experiences into more adaptive meanings. This suggests that expressive writing can reduce emotional resistance and increase acceptance of subjective experiences, in this case the childhood experiences of Participants A, B, and C that were reactivated by current parenting conditions.

4.6.2.2 Goals

In the difficulties engaging in goal-directed behavior dimension, the NAP score reached 95.4%. This figure indicates that EWT contributed to improving participants' ability to maintain focus on goals despite experiencing strong emotions. The expressive writing process facilitated the reorganization of life priorities, enabling participants to balance personal needs with parenting roles. Cognitive processing played a role in meaning restructuring, while self-regulation supported goal-directed behavior over the long term.

4.6.2.3 Impulsivity

The impulse control difficulties dimension obtained a NAP score of 100%, indicating that EWT was highly effective in reducing tendencies toward impulsive behavior when negative emotions intensified.

Expressive writing helped participants create psychological distance from intense emotions, allowing impulses to be inhibited before manifesting into maladaptive behavior. In addition, cognitive processing strengthened awareness of behavioral consequences, thereby enabling the selection of more constructive responses. These findings are consistent with research by [41] regarding the role of expressive writing in enhancing self-control.

4.6.2.4 Strategies

The limited access to emotion regulation strategies dimension achieved the maximum NAP score of 100%. These results indicate that participants succeeded in identifying and developing new, more adaptive strategies for dealing with emotional situations, such as reflective writing, pausing before responding, or seeking social support. The primary mechanism involved was cognitive processing, as participants were able to organize emotional experiences into more coherent and meaningful narratives. In addition, emotional exposure encouraged individuals to seek new ways of confronting negative emotions, while self-regulation strengthened the consistency of applying these strategies in daily life.

4.6.2.5 Awareness

The lack of emotional awareness dimension showed a NAP score of 68.5%, which was relatively low compared to other dimensions. This finding indicates that although EWT contributed to increased emotional awareness, some participants still experienced difficulties recognizing and labeling emerging emotions. The emotional exposure mechanism should theoretically enhance awareness through direct exposure to previously avoided emotions. However, dissociative mechanisms resulting from childhood trauma [28] hindered spontaneous access to emotions. Therefore, improvements in awareness through EWT remained limited and required repeated practice for more optimal outcomes.

4.6.2.6 Clarity

The lack of emotional clarity dimension obtained a NAP score of 87.0%. This figure indicates that participants became increasingly able to understand and differentiate the types of emotions they experienced. The expressive writing process contributed to clarifying the meaning of initially vague emotional experiences through cognitive processing mechanisms. Thus, although initial emotional awareness (awareness) remained limited, the ability to achieve emotional clarity (clarity) demonstrated greater improvement due to the cognitive restructuring facilitated by EWT.

4.6.3 Aggregate NAP Analysis of Emotion Regulation

The combined Nonoverlap of All Pairs (NAP) analysis demonstrated that Expressive Writing Therapy (EWT) produced a very large effect on improving emotion regulation among mothers with a history of child maltreatment. The total NAP score reached 100%, meaning that all intervention data pairs were better than baseline without any overlap. At the dimensional level, EWT demonstrated large effects on impulse control difficulties (100%), limited access to strategies (100%), nonacceptance (97.2%), and goal-directed behavior (95.4%). Meanwhile, emotional clarity (87.0%) was categorized as moderate, and emotional awareness (68.5%) was categorized as moderate at the lower threshold, indicating that emotional awareness was more difficult to improve compared to the other dimensions.

Overall, these findings suggest that EWT effectively integrates the mechanisms of emotional exposure, cognitive processing, and self-regulation in supporting the recovery of emotion regulation. The expressive writing process helped participants re-engage with previously suppressed negative emotions, reframe traumatic experiences in a more adaptive way, and develop new and constructive emotion management strategies.

The greatest challenge was found in the awareness dimension. The NAP score of 68.5% indicates that some participants still experienced barriers in recognizing and labeling emotions in real time. These obstacles may be explained by mechanisms of dissociation and affective avoidance resulting from child maltreatment experiences, which disrupt spontaneous access to emotional signals [28]. In contrast, the clarity dimension, which obtained a NAP score of 87.0%, suggests that although initial awareness remained limited, participants became more capable of explaining and differentiating emotional experiences once these were expressed in written narratives. The cognitive processing mechanism, which required participants to reorganize experiences into coherent stories, enabled greater emotional clarity even when awareness had not yet fully developed.

Thus, EWT appears to be more effective in strengthening emotional clarity than in building spontaneous awareness, due to the reflective nature of expressive writing. To optimize outcomes, additional practices such as mindfulness, guided expressive writing, and emotion labeling techniques may be used to enhance awareness, which in turn may further strengthen clarity and support more comprehensive emotion regulation.

5 CONCLUSION

This findings of this study indicate that Expressive Writing Therapy (EWT) reduced trauma-related symptoms experienced by the participants, particularly suppression and rumination, and ultimately proved effective in improving emotion regulation among all three participants with histories of child maltreatment. The Single-Case Experimental Design (SCEDs) using a multiple baseline across participants ensured that the observed changes were attributable to the intervention rather than maturation or other factors such as time. This was reflected in the consistent pattern of improvement across all three participants, in which enhanced emotion regulation abilities emerged consistently after the therapy was administered, despite differences in baseline duration among participants. Even for Participant C, who had only one baseline measurement, effectiveness was still confirmed through the use of a proxy baseline. The Nonoverlap of All Pairs (NAP) analysis further supported these findings, with a total score of 100%, indicating a large effect of EWT on emotion regulation, particularly in the dimensions of impulse control difficulties (100%), strategies (100%), nonacceptance (97.2%), and goals (95.4%).

However, the two foundational dimensions of emotion regulation, namely awareness (68.5%) and clarity (87.0%), showed comparatively lower results, indicating that real-time emotional awareness and clarity of emotional understanding remained challenging due to the long-term impact of childhood trauma. Therefore, future studies are recommended to expand the number of participants, extend the baseline phase and long-term follow-up period, and integrate EWT with body- and mind-based interventions such as mindfulness, Mindfulness-Based Awareness Training (MABT), or trauma-sensitive yoga. Other reflective approaches, including mindfulness-based interventions, emotional intelligence training, Cognitive Behavioral Therapy (CBT), and Emotion-Focused Therapy (EFT), may also be relevant for strengthening these two dimensions. Thus, EWT has been shown to be a powerful intervention for cognitive restructuring, emotional exposure, and strengthening self-regulation, although optimizing the awareness and clarity dimensions may still require additional interventions.

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