https://doi.org/10.62663/pjpprp.v16i2.257

Effectiveness of Third Wave CBT Techniques for Anger Management among Pakistani University Students

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This study examines the effectiveness of third-wave Cognitive Behavioral Therapy (CBT) techniques in managing anger among university students in Pakistan. Participants ranged in age from 18 to 25 years. A quasi-experimental design was used and conducted in two phases. In the initial phase, 75 participants were screened using the Clinical Anger Scale (CAS). Forty participants exhibiting moderate to severe anger were selected and randomly assigned to experimental and control groups. In the second phase, the experimental group received third-wave CBT interventions, including Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), and mindfulness-based techniques, while the control group received treatment as usual. Findings revealed that third-wave CBT techniques led to a significant reduction in anger symptoms compared to the control group. These results highlight the cross-cultural applicability of third-wave CBT and its potential to enhance emotional regulation and resilience among university students.

Keywords: Third Wave CBT, Anger Management, University Students

The human psychological framework reflects a complex interplay of cognitions, behaviors, and emotions. Emotions fluctuate in intensity and frequency, often shaping individuals' actions and psychological outcomes. Anger being an integral emotion in human life, may help an individual to increase the productivity and may also bring dysfunctionality in one's life (Buss & Perry, 1992). This construct of anger comprises three domains namely affective, cognitive, and behavioral. Although distorted thought patterns in anger provoking situations often make an individual behave in a hostile or aggressive manner, yet the core component that ignites an individual may be the emotional reaction that stems in a fraction of a second after the situation (Pashupati & Dev, 2011). Gaining insight on regulating one's emotions is adaptive in enhancing emotional well-being particularly in anger situations (Mauss et al., 2007).

Adolescents and young adults experience prominent changes in their psychological processes and behavioral expression. This phase of life is considered as "a period of vulnerability", marked by hormonal rush. University students also undergo a similar transition in their life. During this stage, individuals become emotionally responsive, and emotions such as love, jealousy, anger, and fear often intensify (Weinrabe & Hickie, 2021). University students are surrounded by numerous challenges including the need to excel academically, as well as making an identity of their own. This tug of war between various expectations often leads to anger, frustration, low self-esteem and self-criticism which in turn causes hurdles in maintaining a smooth functioning of one's life (Çevik, 2017). Poor anger management can result in relationship issues and increased vulnerability for psychopathologies as well.

Anger issues among university students is a global issue (Khurshid et al., 2017; Chatterjee, 2016). In Pakistan, approximately 86% of university students report anger-related issues, often linked to academic stress and emotional dysregulation (Khurshid, Parveen, & Yousuf, 2020). Bibi, Saeed, and Khalid (2019) concluded in their study that low emotional intelligence significantly predict aggressive tendencies and anger among university students. Research evidence from the Pakistani culture indicates that anger is a significant emotional concern among university students with mostly focusing on more traditional therapeutic methods such as Cognitive Behavioral Therapy (CBT) or pharmacological treatments (Khan et al., 2021).

Cognitive Behavior therapy has been used for anger management and its efficacy has

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https://doi.org/10.62663/pjpprp.v16i2.257

been well established with respect to cognitive restructuring and behavioral modification, however the role of fostering acceptance, mindfulness, and personal values remained unattended there (Hayes & Hofmann, 2017). Third-wave CBT expands upon traditional CBT by emphasizing mindfulness, acceptance, and personal values to promote long-term emotional flexibility rather than symptom reduction alone (Hayes & Hofmann, 2017). This includes different therapeutic techniques from Dialectic Behavior Therapy, Acceptance and Commitment Therapy, Self Compassion and Mindfulness based Cognitive Behavior Therapy (Brown, Gaudiano & Miller, 2011). These therapies are predominantly effective in fostering adaptive coping strategies and resilience in young adults leading to better emotional regulation.

Furthermore, these techniques are used in various researches for reducing symptoms of various disorders and emotional problems. In a study conducted by Benfer, Spitzer & Bardeen (2021) it was reported that third wave therapies demonstrated promising results in managing post-traumatic stress symptoms. Perkins et al. (2023) examined the effectiveness of third wave CBT techniques for children and adolescents in a systematic review. The findings indicated significant efficacy in improving emotional and behavioral dysregulation. The efficacy of Dialectic Behavior therapy has also been reported in addressing anger issues of adolescents and young adults. A significant improvement in mindfulness and emotional tolerance was observed in this study (Neukel & Herpertz, 2022). Acceptance and commitment therapy has been used by therapies for management of different psychological issues. Marsa, Poorani, Zarei, Shojaei, and Aghchi (2024) conducted a quasi-experimental study using ACT. Results reported significant reduction in anger symptoms and enhanced self-compassion among women with chronic pain.

In collectivistic contexts such as Pakistan, societal and familial expectations increase pressure on young adults to fulfill multiple roles, often leading to frustration, self-criticism, and anger (Chitrakar & Nisanth, 2023). Individuals tend to justify all these roles and go through pressure leading to frustration, self-criticism, anger outbursts and stress (Chitrakar & Nisanth, 2023). Additionally these individuals are not well equipped with emotional regulation, self-compassion and acceptance related skills. Around 60% of university students are reported exhibiting significant anger issues and they face outcomes such as poor self-esteem, poor academic performance and difficulty in maintaining their social ties (Ansar, Naveed, Khattak, & Khan, 2023). Traditional CBT techniques focusing on cognitive reframing have shown promise in anger management, yet evidence regarding third-wave CBT approaches remains limited in Pakistan. Given their emphasis on acceptance, self-compassion, and emotional flexibility, these interventions align well with cultural values surrounding self-control and interpersonal harmony. Therefore, this study aims to examine the efficacy of third-wave CBT—specifically ACT, DBT, and mindfulness-based techniques—in managing anger among university students. The objective of this study was to evaluate the effectiveness of third-wave Cognitive Behavioral Therapy techniques in managing anger among university students in Pakistan.

Method

A randomized controlled trial (pre-test and post-test design) with an experimental group and a control group was conducted in the current study. Participants were randomly assigned to groups to ensure baseline equivalence. The sample consisted of 40 university students aged 18 to 25 years, recruited from universities in Islamabad. Participants were randomly assigned to experimental and control groups. Screening was carried out using the Clinical Anger Scale (CAS), and those scoring in the moderate to severe range were included. Individuals with diagnosed psychological disorders or those undergoing major life transitions or adjustment difficulties were excluded from participation.

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Assessment Measures

Clinical Anger Scale (CAS; Snell et al., 1995)

The Clinical Anger Scale is a 21-item self-report questionnaire designed to assess the intensity of anger as a clinical symptom. Each item is rated on a four-point Likert scale, yielding total scores from 0 to 63. Higher scores indicate greater severity of anger. Scores between 0–13 reflect minimal anger, 14–19 mild anger, 20–28 moderate anger, and 29–63 severe anger. The instrument demonstrates excellent internal consistency, with a Cronbach's alpha of .94.

Procedure

Approval for the study was obtained from relevant institutional authorities by the Institutional Review Board. The study was conducted in two phases. In the first phase, 75 students were using the screened Clinical Anger Scale (CAS) and a demographic questionnaire. Informed consent and the right to withdraw from the study were ensured, and confidentiality of all responses was maintained. Based on the inclusion criteria, 40 students showing moderate to severe anger scores were selected and randomly assigned to experimental or control groups. In the second phase, the experimental group received third-wave CBT–based anger management interventions, while the control group received treatment as usual which consisted of the standard support available at the university, including brief counseling sessions and psychoeducation. The intervention was carried out by a trained Clinical Psychologist. Post-therapy assessments were completed by re-administering the Clinical Anger Scale at the end of the intervention period. The intervention plan was adapted to individual needs, with therapy duration ranging from 8 to 14 sessions of 40–45 minutes each.

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Table 1

Management Plan followed during Intervention (session-wise)

	Target/Goal	Techniques	Rationale Behind the Technique
1	To gather client's history, building a comfortable relationship with the client	• History taking through Clinical Interview • Rapport Building with the client • Introducing Anger Diary as homework	Getting basic idea of client's theory of presenting complaints and making therapy a collaborative approach for him. Anger Diary to get triggers, intensity and frequency of anger
2	To make client understand the ABC of anger, maintaining factors and how CBT would help To recognize and map anger triggers	• Psychoeducation • Assessment (Buss Perry Aggression Questionnaire) • Anger Timeline Mapping: Create a detailed timeline of past anger episodes, including triggers, thoughts, and outcomes. • Trigger Identification Exercise: Use a journal to document situations which provoke anger.	Visualizing patterns and identifying recurring triggers helps client understand their anger sources and reactions.
3	To develop awareness of anger escalation	• Emotional Thermometer: Rate anger intensity (0–10) during specific situations to identify escalation points. • Body Scan Practice: Notice physical signs of anger (e.g., muscle tension, rapid heartbeat).	Monitoring anger intensity and physical responses fosters early recognition and intervention.
4	To challenge automatic negative thoughts	• Thought Record Worksheet: Identify anger-inducing thoughts, analyze evidence, and create balanced alternatives.	Reframing biased or exaggerated thinking reduces emotional intensity and prevents escalation.
5	To address underlying cognitive distortions	• Socratic Questioning: Challenge assumptions that lead to anger by exploring their validity and alternative perspectives.	Helps uncover and modify deep seated cognitive distortions, such as catastrophizing or personalizing.
6	To build emotional awareness through mindfulness	• Mindfulness of Anger (MBCT): Practice observing anger-related thoughts, feelings, and sensations as they arise, without reacting.	Mindfulness helps clients detach from their anger, reducing impulsivity and fostering emotional regulation.
7	To interrupt the cycle of escalation	• Controlled Breathing: Practice deep breathing exercises (e.g., inhale for 4 counts, hold for 4, exhale for 4). • Urge Surfing (DBT): Visualize anger as a wave that can be observed and ridden out without acting on it.	Both techniques reduce physiological arousal and help regulate intense emotions in the moment.
8	To enhance distress tolerance in conflict	• TIP Skills (DBT): Use strategies like Temperature (cooling down physically), Intense Exercise, and Paced Breathing. • Educate about various conflict resolution styles using Role	Provides immediate tools to manage physiological and emotional distress in high conflict situations. *

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		Plays	
9	To foster assertive communication	• 'I-Statement' Training: Express feelings constructively using the format 'I feel... when... because...'. • CBT Communication • Rehearsals: Practice assertive dialogue in roleplay settings, focusing on tone and body language.	Builds confidence in expressing anger constructively while maintaining respectful interactions. *
10	To clarify values to guide behavior	• Values Exploration Exercise (ACT): Identify personal values and reflect on how anger aligns or conflicts with them.	Aligning behavior with values promotes intentional and meaningful responses instead of reactive anger-driven actions.
11	To strengthen self-regulation and coping	• STOP Skill (DBT): Stop, Take a breath, Observe, and Proceed mindfully in anger-inducing situations. • Progressive Muscle Relaxation (PMR): Systematically tense and relax muscle groups while visualizing calm settings.	Both techniques enhance self-regulation by reducing physical tension and promoting mindful action. *
12	To promote self-compassion and reduce self-criticism	• Self-Compassion Practice (MBCT): Use statements like 'I am human; I make mistakes; I can grow from this' to reframe guilt.	Encourages healthier emotional processing and learning after anger episodes by reducing shame and self-criticism. *
13	To reinforce progress and motivation	• Self-Achievement • Journaling: Reflect weekly on how anger management strategies improved interactions and reduced stress. • Relapse Prevention Planning: Develop a tailored plan for handling future triggers. • Post Assessment	Positive reinforcement, self-affirmations encourage sustained use of strategies and builds confidence in managing anger effectively and contribute as a strength for client in future. To evaluate the therapy outcome and improvement in client.
14	Termination of the therapy	• Handing over therapy blueprint • Scheduling Follow up and Booster Sessions	It will assist client in gaining an independent control of anger situations, identify early cues, seek help and to modify own cognitions and behaviors to avoid relapse.

*Note: *Technique selection was done as per client's need*

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Results

Data were analyzed using SPSS Version 23. Descriptive statistics, including means and standard deviations, were computed for study variables, while frequencies and percentages were calculated for categorical data. The sample comprised 23 women (57%) and 17 men (43%), with a mean age of 20 years. The Cronbach's alpha reliability coefficient for the Clinical Anger Scale (CAS) in this study was .81. A paired-sample t-test was conducted to compare pre- and post-intervention CAS scores for the experimental and control groups.

Table 2
Comparison of Pre-Test and Post-Test Scores Between Experimental and Control Groups (N = 40)

Group	Time	*Mean (SD)*	*t*	*p*
Experimental	Pre-test	2.60 (0.50)	7.77	< .001
	Post-test	1.75 (0.63)		
Control	Pre-test	2.65 (0.48)	2.18	.042
	Post-test	2.45 (0.82)		

CAS scores are reported as the mean item score rather than total scores. The CAS consists of 15 items, each rated on a 0–4 scale, with higher scores indicating greater anger severity. Scores for each participant were averaged across all items, yielding a possible mean score range of 0–4. Thus, the pre-intervention mean of 2.60 and post-intervention mean of 1.75 for the experimental group reflect average item scores rather than raw total scores.

Paired-sample comparisons showed that the experimental group's anger scores decreased from pre-intervention (M = 2.60, SD = 0.50) to post-intervention (M = 1.75, SD = 0.63), $t(19) = 7.77$, $p < .001$, Cohen's d = 1.74, indicating a large effect size. The control group showed a smaller reduction from pre-intervention (M = 2.65, SD = 0.48) to post-intervention (M = 2.45, SD = 0.82), $t(19) = 2.18$, $p = .042$, Cohen's d = 0.49, representing a medium effect size. These findings indicate that the third-wave CBT intervention produced a substantially greater reduction in anger severity compared to treatment as usual, with clinically meaningful effect sizes.

Discussion

The results of this study indicate that third-wave Cognitive Behavioral Therapy (CBT) techniques were effective in reducing anger symptoms among university students. These findings align with previous research on the efficacy of interventions such as Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), and Mindfulness-Based Cognitive Therapy (MBCT) for addressing emotional dysregulation and impulsivity (Hayes et al., 2006; Linehan, 2015). These approaches emphasize mindfulness, acceptance, and value-oriented behavior as core mechanisms for managing anger (Baer, 2003). The observed decrease in anger scores in the experimental group suggests that fostering psychological flexibility enables individuals to respond adaptively to anger-provoking situations while reducing emotional reactivity (Hayes et al., 2006). Similar outcomes were noted by Eifert and Forsyth (2005), who found that ACT-based interventions reduce emotional dysregulation and behavioral reactivity. Consistent with Gratz and Gunderson (2006), the structured, skills-based nature of DBT appears effective for addressing emotional vulnerabilities in young adults. Perkins et al. (2023) further supported the effectiveness of third-wave CBT in promoting emotion regulation among children and adolescents by emphasizing self-compassion and value-based reflection.

Indigenous research supports the present findings. For example, Khan and Awan (2020) reported that mindfulness-based interventions improved emotional regulation and

reduced anxiety among Pakistani university students, while Ahmed and Fatima (2018) demonstrated that Acceptance and Commitment Therapy (ACT) significantly lowered anger symptoms among adolescents. Together, these studies suggest that third-wave CBT interventions have cross-cultural applicability in Pakistan.

In collectivist societies, emotional expression and regulation are strongly shaped by cultural norms that emphasize restraint, social harmony, and avoidance of interpersonal conflict (Hassan & Malik, 2017). These norms may influence both the presentation of anger and the acceptability of therapeutic interventions, highlighting the importance of culturally sensitive approaches. The current study has clinical relevance for university students, who often face multiple stressors and identity challenges during young adulthood. Rafique and Amjad (2019) similarly found that mindfulness-based practices enhance coping and emotional stability among students, further supporting the utility of third-wave approaches.

Overall, these findings underscore the cultural adaptability of third-wave CBT interventions in Pakistani contexts, suggesting that integrating mindfulness, acceptance, and value-based strategies can effectively target anger and emotional dysregulation within culturally congruent frameworks. Future research could further explore cultural moderators, such as familial expectations and social norms, to optimize intervention effectiveness.

However, the study has several limitations. The quasi-experimental design limits the generalizability of findings. Future research employing randomized controlled trials (RCTs) would provide stronger evidence for causality. The reliance on a self-report measure may introduce response bias; thus, future studies should include triangulated assessment methods. Implementing booster sessions and longitudinal follow-ups could help examine the long-term sustainability of treatment effects. Moreover, adapting third-wave CBT protocols to incorporate culturally specific elements and indigenous measures of anger could enhance intervention effectiveness in the Pakistani context.

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Received 06 Oct 2026
Revision Received 06 Jan 2026
Published 02 Feb 2026