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Effectiveness of a Lived-Experience-Based Acceptance and Commitment Program on Social Anxiety and Academic Resilience in Students with Stuttering Disorder: A Single-Subject Study

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ABSTRACT

Background: Stuttering is one of the most prevalent neurodevelopmental disorders of childhood, commonly emerging during early developmental periods and frequently persisting throughout the school years. This condition is associated with numerous psychological consequences, including social anxiety and diminished academic resilience, which can significantly impair students' educational performance and overall quality of life.

Aims: The present study aimed to investigate the effectiveness of a lived-experience-based acceptance and commitment therapy (ACT) program on social anxiety and academic resilience in students with stuttering disorder.

Methods: The research adopted a single-subject design with a non-concurrent multiple baselines across participants. The statistical population comprised all senior high school students with stuttering disorder in Khoy City, Iran, during the 2021-2022 academic year. Three participants were selected through convenience sampling. Data were collected using the Social Anxiety Questionnaire (Connor et al., 2013) and the Academic Resilience Questionnaire (Samuels, 2017) at baseline, intervention, and follow-up stages. The lived-experience-based ACT program (Bardel et al., 2022) was delivered over eight intervention sessions. Data were analyzed using visual and graphical analysis methods.

Results: The results of visual analysis revealed that the lived-experience-based ACT program significantly reduced social anxiety and significantly increased academic resilience among students with stuttering disorder. These improvements were maintained during the follow-up phase, indicating the sustainability of the intervention effects.

Conclusion: Acceptance and commitment therapy, through teaching and enhancing effective strategies and techniques including acceptance, cognitive defusion, mindfulness, and committed action, enables students to develop a realistic perspective toward their condition and overcome the adverse consequences of their disorder. Accordingly, implementation of this program is recommended for individuals with stuttering disorder and other developmental disabilities.

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Extended Abstract

Introduction

Speech disorders are characterized by defects in the production of speech sounds, fluency, or the flow of speech in the transmission and use of the verbal symbolic system. Stuttering is a communication disorder that disrupts the harmonious and smooth flow of speech through repetitions, involuntary prolongations, interruptions, or involuntary blocks in sounds, syllables, and words. The prevalence of stuttering among adolescents is approximately 5%, with an overall prevalence of speech disorders reported at 20%. The age of onset between 2 and 7 years has been identified as the period of greatest prevalence (American Psychiatric Association, 2023). Speech disorders encompass a range of conditions including delayed expressive language development, speech sound disorders, speech delay, stuttering, and specific speech problems (Balci et al., 2024). Stuttering is a multifaceted communication disorder that can significantly impact an individual's communicative abilities (Den Hoed & Fisher, 2020; Neumann, 2024). Individuals with stuttering face psychological challenges such as emotional disturbance and depression (Aghili et al., 2025; Mei et al., 2018), low cognitive flexibility (Gillard et al., 2018), and perceptual speech problems (Bahreini & Sanagouye, 2019). Given that stuttering often remains untreated during adolescence, it frequently assumes a chronic course (Hildebrand et al., 2020).

Social anxiety is among the most prevalent and debilitating psychological consequences experienced by individuals who stutter. This condition is characterized by an intense and pervasive fear of social situations in which the individual is likely to be subjected to negative evaluation, judgment, or humiliation by others (Milic et al., 2022). Among students who stutter, this anxiety frequently extends beyond the typical fear of public speaking, evolving into a chronic and pervasive experience that profoundly affects quality of life, interpersonal relationships, and academic performance. Research has demonstrated that approximately 50% of adolescents who stutter meet the diagnostic criteria for social anxiety disorder, a rate substantially higher than that observed in the general population (Kikuchi et al., 2023). Findings indicate that students who stutter and experience social anxiety report significantly higher levels of recurrent negative self-referential thoughts, tension, and trembling during public speaking, with these risk factors increasing the likelihood of avoidant behaviors such as school absenteeism (Ansari, 2019, Samuels, 2017).

The mehanisms underlying the development of social anxiety in individuals who stutter represent a multifaceted process in which individual, interpersonal, and environmental factors interact dynamically. Etiological models suggest that negative peer experiences, including rejection, teasing, and bullying, coupled with the individual's negative perception of their own communicative abilities, constitute the primary pathway for the development of social anxiety in this population (Omidvar et al., 2021). This vicious cycle operates as follows: stuttering elicits negative reactions from peers, these reactions undermine the individual's communicative self-efficacy, and consequently, through avoidance of social situations, the individual loses opportunities to correct negative experiences, thereby deepening their anxiety. Within the academic context, this anxiety intensifies when students are required to respond in class, deliver oral presentations, or participate in group activities—situations that can trigger physiological symptoms of anxiety including palpitations, sweating, voice tremors, and muscular tension (Cannon et al., 2022). In other words, students who stutter, rather than focusing on the content of learning, often become preoccupied with concerns about their presentation style and the judgments of others, which constitutes a significant barrier to active and effective participation in the learning process. Recent research has demonstrated that acceptance and commitment therapy (ACT), through reducing experiential avoidance and enhancing psychological flexibility, can significantly alleviate social anxiety symptoms in these students (Bardel et al., 2023).

Academic resilience is defined as the capacity of students to effectively cope with challenges, obstacles, and stressors within the learning environment and to achieve academic success despite

exposure to threats and adversities (Seçer & Ulaş, 2022; Kim & Lee, 2025). This construct extends beyond a mere personality trait, representing a dynamic and acquirable process that develops through the continuous interaction between the individual and protective and risk factors within the academic environment (Frisby et al., 2025). For students with stuttering disorder, the importance of academic resilience is magnified, as they face not only typical academic challenges but also disorder-specific obstacles such as fear of oral responses, anxiety about classroom presentations, difficulties interacting with peers and teachers, and sometimes painful experiences of judgment and ridicule (Berchiatti et al., 2022). Research has demonstrated that this population exhibits significantly lower academic resilience compared to their peers, rendering them more vulnerable to academic failure, diminished motivation, and even school dropout (Zimmer-Gembeck, 2024, Saeedmanesh and Babaei, 2019). Academic resilience specifically encompasses key components including effective communication skills, future-oriented thinking, and problem-solving abilities coupled with positive thinking when confronting difficulties—components that are frequently observed at lower levels among students with stuttering disorder (Bardel et al., 2023).

Extensive research has established that academic resilience is not merely an innate capacity but rather a teachable skill that can be enhanced through appropriate psychological interventions. Factors such as academic self-efficacy, social support, effective coping styles, and emotion regulation abilities represent the most significant predictors of academic resilience (Zimmer-Gembeck, 2024). In this context, acceptance and commitment therapy (ACT), by providing a framework for accepting difficult experiences and committing to value-directed action, can facilitate the enhancement of resilience. This approach, on the one hand, assists students in distancing themselves from negative thought cycles and self-blame through mindfulness training and cognitive defusion, and on the other hand, strengthens motivation and future orientation through the identification of values and the establishment of congruent goals. Research findings indicate that increased psychological flexibility through the practice of acceptance and committed action is directly associated with enhanced components such as communication skills and future orientation in students with stuttering disorder, which in turn significantly improves their capacity to overcome academic obstacles (Bardel et al., 2023; Frisby et al., 2025). In essence, a student who learns to accept negative thoughts and emotions while persisting toward their goals demonstrates greater flexibility and persistence when facing academic failures and challenges—this is academic resilience in practice.

This therapeutic rationale is particularly salient for individuals with speech disorders, given that the extant literature has documented a wide array of intervention strategies targeting the psychological sequelae of such conditions; however, a growing consensus underscores the need to move beyond symptom reduction toward fostering active acceptance of distressing and anxiety-provoking cognitions—a shift that ACT is uniquely positioned to address (Eising et al., 2019). Accordingly, the application of ACT in this population not only aligns with the resilience-building framework delineated above but also offers a principled, process-based pathway for transforming maladaptive avoidance into committed, value-consistent action.

One of the effective therapeutic approaches in Iran is acceptance and commitment therapy (Shahmiri et al., 2024; Pasyar et al., 2023; Sedighrad et al., 2021), which has also been proposed for children with stuttering disorder. Recently, the third wave of psychological therapies, including acceptance and commitment therapy, which has demonstrated effectiveness across multiple domains, has attracted the attention of specialists (Murphy et al., 2024). Acceptance and commitment therapy is a cognitive-behavioral approach (Bergman & Keitel, 2020) grounded in relational frame theory (Lahdelma et al., 2022) and functional contextualism (Hayes et al., 2006). This therapeutic modality is applied with a fundamentally different perspective regarding the role of cognition and emotions in psychological problems (Bergman & Keitel, 2020). The aim of acceptance and commitment therapy is to cultivate psychological flexibility in response to thoughts,

emotions, and feelings (Isavand et al., 2024) through processes of mindfulness, acceptance, and behavioral change (Hayes et al., 2013). The six core processes of acceptance and commitment therapy include acceptance, cognitive defusion, self-as-context (observing self), contact with the present moment, values, and committed action, which together, through methods, exercises, homework, and metaphors, lead to psychological flexibility (Harris, 2006).

Acceptance involves creating space for thoughts, feelings, and emotions without attempting to change or escape from them (Gillard et al., 2018). Defusion serves to prevent cognitive fusion, meaning that we recognize our thoughts as separate from ourselves and as nothing more than temporary private events (Murphy et al., 2024; Harris, 2006). Self-as-context or observing self refers to the continuous awareness of the self that does not change (Bahreini & Sanagouye, 2019). Contact with the present moment involves bringing full awareness to the here-and-now experience, with openness, interest, acceptance, focus, and complete engagement with what is being done (Harris, 2006; Johnson & Bennett, 2023). Values represent the compass and core element in acceptance and commitment therapy, comprising domains of life that are meaningful to the individual (Reilly et al., 2019). Committed action encompasses behaviors and actions that align with the individual's values and goals (Johnson & Bennett, 2023).

Growing evidence supports the effectiveness of acceptance and commitment therapy across various age groups and psychological conditions, with meta-analyses confirming these findings. Overall, evidence-based models of acceptance and commitment therapy indicate its effectiveness in promoting mental health and psychological well-being across different populations (Gillard et al., 2018), particularly in addressing psychological problems in adolescents (Soulok, 2020).

Regarding the rationale for the effectiveness of acceptance and commitment therapy with children and adolescents, it is noteworthy that this treatment applies the same fundamental processes used with adults and operates through similar mechanisms (Bergman & Keitel, 2020). Beilby et al. (2012) indicated in their findings that research evidence supports acceptance and commitment therapy as an effective intervention with statistically significant improvements in psychosocial functioning, readiness for change and treatment, utilization of mindfulness skills, and speech mastery, emphasizing its applicability and potential effectiveness in the speech-language domain for evidence-based practice. Studies in child and adolescent populations support the implementation of mindfulness-based interventions, as children are less prone than adults to literal interpretation of words and thus more readily grasp abstract concepts through metaphors and experiential methods. Moreover, because children allocate less time to experiential avoidance, they are better able through acceptance and commitment training to prevent or ameliorate maladaptive and inflexible psychological patterns. Given this premise, this method is expected to be effective with adolescents as well; furthermore, acceptance and commitment therapy assists adolescents in examining the nature of matters, thereby accelerating the development of abstract thinking during this developmental period.

Acceptance and commitment therapy endeavors to enhance the psychological relationship between the individual and their thoughts and feelings, rather than changing cognitions, and through acceptance, defusion, and contact with the present moment, ultimately facilitates committed action aligned with the individual's goals and values. Furthermore, acceptance and commitment therapy comprises components that, according to research evidence, lead to increased psychological flexibility. The absence of acceptance and commitment components to alleviate psychological distress, burnout, and stress justifies the necessity of the present study. On the other hand, evidence-based practices welcome the re-examination of intervention approaches for neurodevelopmental disorders (Bergman & Keitel, 2020).

The present study is conducted in alignment with the objectives of evidence-based practices in the field of individuals with stuttering disorder. It aims to implement the most current "acceptance and commitment training" package and evaluate its

effectiveness on social anxiety and academic resilience in students with stuttering disorder.

In sum, the foregoing literature establishes that stuttering disorder extends beyond a speech-motor impairment, encompassing profound psychological consequences—most notably social anxiety and compromised academic resilience—that critically undermine students' academic performance, interpersonal relationships, and overall quality of life. Although acceptance and commitment therapy (ACT) has demonstrated robust efficacy in fostering psychological flexibility and mitigating anxiety-related symptoms across diverse clinical and non-clinical populations, its specific application to simultaneously address both social anxiety and academic resilience among adolescents who stutter remains conspicuously understudied, particularly within the Iranian educational and cultural context. This empirical gap is theoretically and clinically significant, given the chronic nature of stuttering during adolescence and the paucity of culturally-adapted, evidence-based psychological interventions tailored to this vulnerable group. In terms of theoretical significance, the present study contributes to the expanding body of knowledge on ACT's underlying mechanisms—namely, acceptance, cognitive defusion, and value-directed action—in relation to neurodevelopmental disorders, thereby refining and extending contemporary conceptualizations of resilience-building in special populations. From a practical standpoint, the findings are expected to equip educational psychologists, speech-language pathologists, and school counselors with a standardized, empirically-validated ACT training package that can be seamlessly integrated into school-based mental health services, special education curricula, and clinical rehabilitation programs. Ultimately, this research endeavors to enhance academic persistence, psychological well-being, and long-term vocational outcomes for students with stuttering disorder. Accordingly, the primary research question guiding the present investigation is: Does the acceptance and commitment training program significantly reduce social anxiety and enhance academic resilience in students with stuttering disorder?

Method

Research Design and Participants

The present study employed a single-subject A-B design with multiple participants, in which participants sequentially took part in baseline, intervention, and follow-up phases. The statistical population comprised all senior high school students with stuttering disorder in Khoy City, Iran. From this population, three participants were selected using convenience sampling. To accomplish this, the researcher visited the Department of Education in Khoy City and obtained the names of students with stuttering disorder from the social harms division during the academic year 2025–2026. Subsequently, an orientation session was held with the officials, and participants were selected based on established inclusion and exclusion criteria. Participants were senior high school students diagnosed with stuttering disorder who had not received any other psychological interventions since the commencement of the study and expressed willingness to participate in the research. Exclusion criteria included the presence of other physical or sensory problems and absence from more than two intervention sessions.

Instruments

Academic Resilience Questionnaire (ARQ): This questionnaire was developed by Samuels (2017), and its appropriateness was confirmed through two validation studies, with further expansion and publication in 2019. The Academic Resilience Questionnaire consists of 29 items rated on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*), with items 4, 5, 6, 7, 10, 14, 15, 23, 27, 28, and 29 being reverse-scored. This questionnaire measures academic resilience across three dimensions: communication skills (items 5, 7, 10, 11, 13, 14, 15, 23, 25, 26, 27, 28, and 29), future orientation (items 4, 6, 8, 12, 16, 17, 18, 19, 20, and 24), and problem-solving and positive thinking (items 1, 2, 3, 9, 21, and 22). The Academic Resilience Questionnaire was normed in Iran by Soltaninejad et al. (2013). In this norming study, the reliability coefficients for the communication skills component among students and university students were 0.77 and 0.76, respectively; for the future orientation

component, 0.68 and 0.65, respectively; and for the problem-solving and positive thinking component, 0.63 and 0.62, respectively, indicating acceptable reliability. The questionnaire demonstrated adequate validity in the Iranian sample (Rashidzadeh et al., 2019). In the present study, the Cronbach's alpha coefficient for the total questionnaire was calculated as 0.78, indicating satisfactory internal consistency.

Social Anxiety Questionnaire (SAQ): This questionnaire assesses the problems of individuals who, in comparison with others, become established in social situations and may be concerned about others' evaluation of them (Connor et al., 2013). The Social Anxiety Questionnaire was developed to examine and evaluate the problems and issues of individuals with disorders related to unbalanced family relationships and non-conformity to social norms. This instrument consists of 17 items on a 5-point Likert scale, scored from 0 (*not at all*) to 4 (*extremely*). The total score indicates the severity of social anxiety symptoms, with three subscales assessed: fear (6 items), avoidance (7 items), and physiological symptoms (4 items). Regarding its psychometric properties in the Iranian context, the validity of this questionnaire was confirmed in the study by Abdi et al. (2006), and test-retest reliability coefficients ranging from 0.78 to 0.89 have been reported, demonstrating strong temporal stability. In the present study, the overall Cronbach's alpha coefficient was calculated as 0.87, reflecting excellent internal consistency.

Intervention Program

Following an explanation of the necessity and objectives of the study, participants' consent to participate was obtained. Students with stuttering disorder were selected through convenience sampling. Subsequently, the Academic Emotions Questionnaire (positive and negative emotions) was administered, with results calculated and recorded both as total scores and separately for each subscale. The acceptance and commitment training program were then implemented based on the protocol developed by Bardel et al. (2024), consisting of eight 90-minute sessions (two sessions per week). This protocol was published in the Journal of Knowledge and Research in Applied Psychology. Content validity of the protocol was established through evaluation by six experts in clinical psychology and psychometrics, yielding a Content Validity Index (CVI) of 0.85 and a Content Validity Ratio (CVR) of 0.80, indicating the program's adequate validity for application within the Iranian population. The follow-up assessment was conducted two weeks after the completion of the intervention sessions.

Table1. Sessions and Activities of the Acceptance and Commitment Training Program

Session Title	Goals	Content	Homework
Introduction and Therapeutic Alliance	Introduction and establishing structure and rules; initiating creative hopelessness	Familiarizing members with each other and establishing group rules; clarifying the therapeutic relationship; providing a description of the therapeutic approach; initiating creative hopelessness	Practicing the hungry tiger metaphor; observing and recording situations in which the individual seeks control
Continuing Creative Hopelessness	Continuing creative hopelessness	Reviewing homework; receiving feedback from the previous session; continuing creative hopelessness (using the hungry tiger metaphor and the pit metaphor)	Practicing the pit metaphor; recording attempts to control unwanted thoughts and their outcomes
Control as the Problem	Introducing control as the problem	Reviewing homework and receiving feedback; introducing control as the problem; discussing the inner world and its distinction from the outer world (using the polygraph metaphor)	Practicing the polygraph metaphor; identifying and recording situations where control strategies fail
Acceptance and Willingness	Introducing acceptance	Reviewing homework and receiving feedback; introducing acceptance and willingness (using the guest and beggar metaphor); explaining clean and dirty emotions	Practicing the guest and beggar metaphor; observing and recording clean vs. dirty emotions in daily situations
Cognitive Defusion	Introducing cognitive defusion	Reviewing homework and receiving feedback; familiarizing participants with the hidden features of language that cause fusion;	Practicing the bus metaphor; daily defusion exercises (e.g., repeating a word until it loses

Session Title	Goals	Content	Homework
		explaining cognitive defusion (using the bus metaphor)	meaning, labeling thoughts as "just thoughts")
Self-as-Context and Present Moment	Introducing self-as-context	Reviewing homework and receiving feedback; introducing different aspects of self; conceptualization of the dominance of past and future (using the driving metaphor for being in the present moment)	Practicing the driving metaphor; daily mindfulness exercises focusing on present-moment awareness; observing the observing self
Values Identification	Identifying values	Reviewing homework and receiving feedback; moving toward a values-based life with an accepting and observing self; identifying participants' values; assessing values	Identifying and writing down personal values in different life domains (education, relationships, etc.) ; rating current alignment with values
Committed Action and Termination	Committed action; review, summary, and concluding sessions	Reviewing homework and receiving feedback; guiding participants toward committed action; evaluating commitment to action; review, summary, and concluding sessions	Developing specific, measurable, and time-bound committed action plans; maintaining a weekly action log; ongoing practice of all learned skills

Results

Three students participated in the therapeutic process. The first participant was a 16-year-old boy in the 11th grade, the eldest child in a family of five, with two younger sisters aged 10 and 13 who had no speech difficulties. Psychological evaluation indicated normal visual, behavioral, and motor functioning. This student had begun speaking with a delay at 2.5 years of age, and his parents had failed to follow up on this issue due to cultural and educational limitations. The second participant was a 17.5-year-old girl in the 12th grade, an only child living with both parents. Psychological evaluation revealed normal visual, speech, behavioral, and motor functioning. Her primary complaints, in addition to speech accuracy and fluency issues, included severe stress, self-blame, impatience, lack of peer relationships, and reluctance to speak in public settings. The third participant was a 15-year-old girl in the 10th grade, the second child in a family of four. Psychological evaluation indicated normal visual, auditory, behavioral, and motor functioning. Her main complaints, alongside speech difficulties, included academic and learning problems, low self-confidence, difficulties in establishing interpersonal relationships and making friends, stress, and severe learned helplessness. Table 2 displays the participants' scores across the pre-test, post-test, and follow-up phases, as well as the end-change index scores and percentage of improvement during both the treatment and follow-up stages.

Table2. Scores of Dependent Variables Across Different Stages of the Single-Subject Study

Variable	Components	Baseline 1	Baseline 2	Baseline 3	Baseline 4	Intervention 1	Intervention 2	Intervention 3	Follow-up 1	Follow-up 2
Social Anxiety	Fear	18	20.66	20.33	19.33	17.33	14.33	12.33	11.33	11.33
	Avoidance	21.33	24.33	24.42	24.66	20.33	17.33	14	13.33	14.33
	Physiological Symptoms	12.33	14.66	14.33	15.33	12.33	10.33	8.33	8.66	8.33
Academic Resilience	Communication Skills	55.66	55.66	54.33	56	59	61.66	61.33	61	61.33
	Future Orientation	33.66	32.66	33.66	33.66	37.33	41.33	45.33	46.33	47.33
	Problem-Solving	19	20	21	20.33	22.33	23.66	26	26.67	26.67

As shown in Table 2, the effectiveness of the acceptance and commitment training program on all components of the dependent variables is evident, with these improvements maintained during the follow-up phase. The following section presents visual analyses of the data through graphical representations.

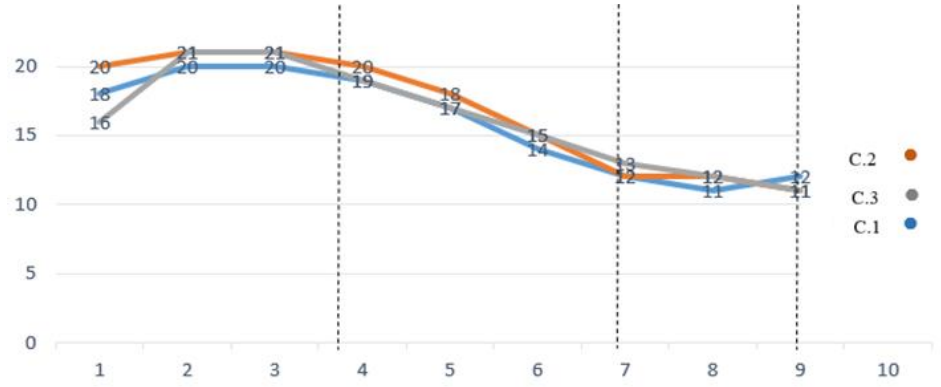

Figure1. Visual Representation of Changes in Fear (Social Anxiety) Across Different Stages of the Single-Subject Design

Visual analysis of Figure 1 indicates that the level of fear stemming from social anxiety exhibited a declining trend throughout the intervention phase, and these changes remained stable during the follow-up phase. Therefore, the comparison of fear levels across baseline, intervention, and follow-up conditions demonstrates that the designed "acceptance and commitment training" package was effective in reducing fear associated with social anxiety among participants.

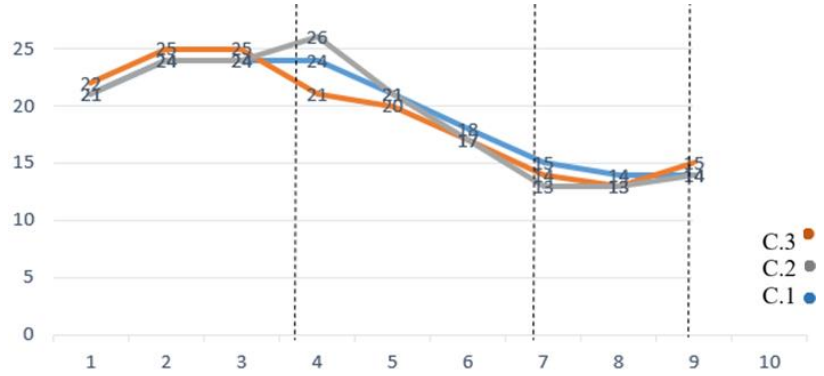

Figure2. Visual Representation of Changes in Avoidance (Social Anxiety) Across Different Stages of the Single-Subject Design

Visual analysis of Figure 2 demonstrates that avoidance behavior associated with social anxiety followed a declining trend throughout the intervention phase, with this trend continuing into the follow-up phase. Accordingly, the comparison of avoidance levels across baseline, intervention, and follow-up conditions confirms that the "acceptance and commitment training" package was effective in reducing avoidance related to social anxiety among participants.

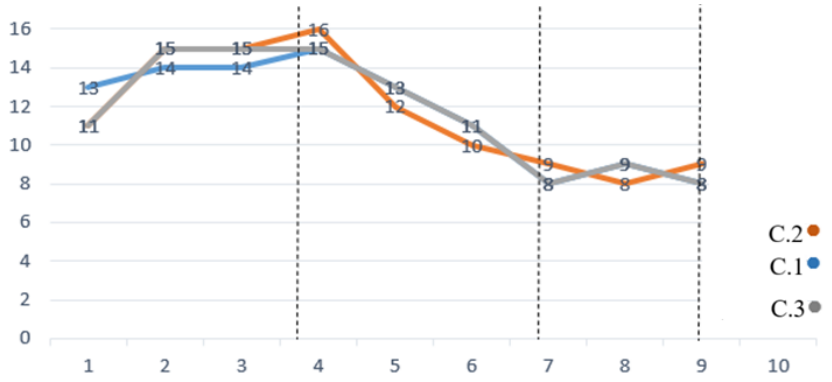

Figure3. Visual Representation of Changes in Physiological Symptoms (Social Anxiety) Across Different Stages of the Single-Subject Design

Visual analysis of Figure 3 indicates that physiological symptoms associated with social anxiety decreased throughout the intervention phase, with the intervention effects maintained during the follow-up phase. Thus, the comparison of physiological symptom levels across baseline, intervention, and follow-up conditions demonstrates that the designed "acceptance and commitment training" package was effective in reducing physiological symptoms related to social anxiety among participants.

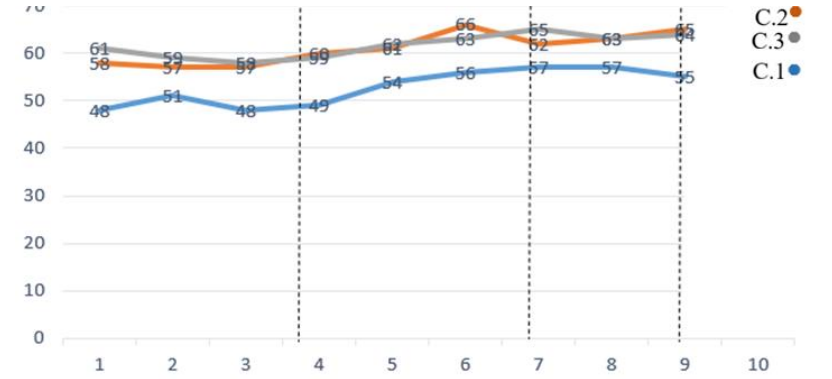

Figure 4. Visual Representation of Changes in Communication Skills Across Different Stages of the Single-Subject Design

Visual analysis of Figure 4 indicates that participants' communication skills exhibited an upward trend throughout the intervention phase. The program's effectiveness on this component was sustained during the follow-up phase. Therefore, the comparison of communication skills across baseline, intervention, and follow-up conditions demonstrates that the "acceptance and commitment training" package was effective in enhancing communication skills among participants.

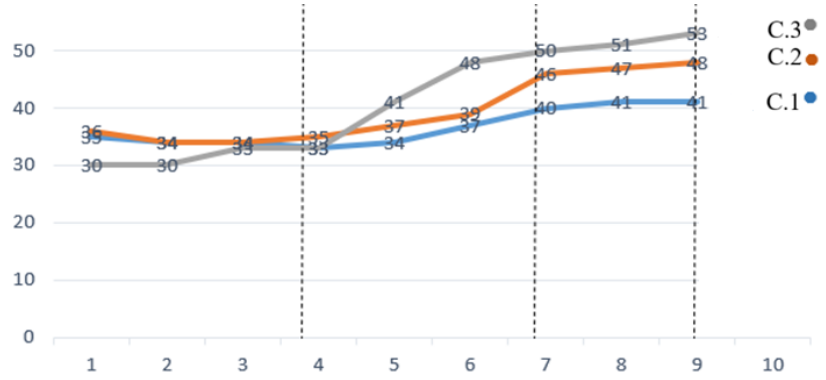

Figure5. Visual Representation of Changes in Future Orientation Across Different Stages of the Single-Subject Design

Visual analysis of Figure 5 indicates that participants' future orientation exhibited an upward trajectory throughout the intervention phase, with the program's effectiveness sustained during the follow-up phase. Accordingly, the comparison of future orientation across baseline, intervention, and follow-up conditions confirms that the "acceptance and commitment training" package was effective in enhancing future orientation among participants.

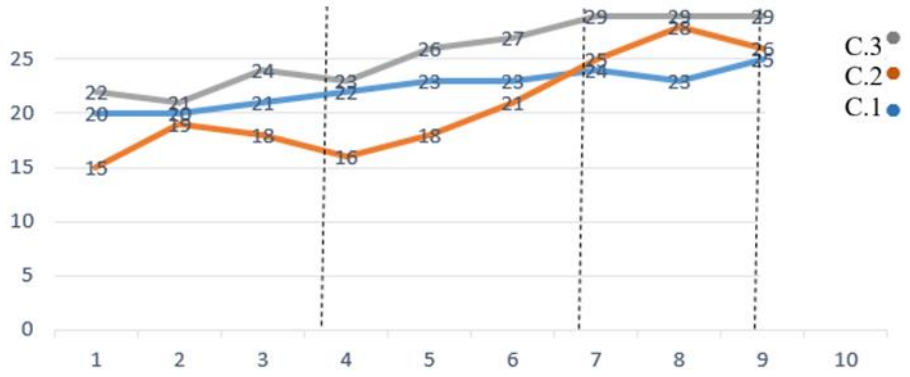

Figure6. Visual Representation of Changes in Problem-Solving Across Different Stages of the Single-Subject Design

Visual analysis of Figure 6 indicates that participants' problem-solving ability exhibited an upward trend throughout the intervention phase, with these changes maintained during the follow-up phase. Therefore, the comparison of problem-solving levels across baseline, intervention, and follow-up conditions demonstrates that the "acceptance and commitment training" package was effective in enhancing problem-solving abilities among participants.

Conclusion

The present study was conducted with the aim of investigating the effectiveness of a lived-experience-based acceptance and commitment training program on social anxiety and academic resilience among senior high school students with stuttering disorder. The results of the visual analysis demonstrated that the acceptance and commitment training program had a significant positive effect on reducing social anxiety and its components (fear, avoidance, and physiological symptoms) as well as enhancing academic resilience and its components (communication skills, future orientation, and problem-solving and positive thinking). These improvements were maintained during the two-week follow-up phase, indicating the sustainability of the intervention effects. In what follows, each finding is discussed sequentially, accompanied by congruent studies, followed by theoretical explanations.

The first finding of the present study indicated that the acceptance and commitment training program significantly reduced the fear component of social anxiety in students with stuttering disorder. As shown

in Figure 1, the level of fear stemming from social anxiety exhibited a declining trend throughout the intervention phase, and these changes remained stable during the follow-up phase. This finding is consistent with the results of various studies on the effectiveness of acceptance and commitment therapy for social anxiety, including research by Beilby et al. (2012), Saeedmanesh and Babaei (2019), Ansari (2019), Bahreini and Sanagouye (2021), Omidvar et al. (2021), and Bardel et al. (2023), all of which reported the effectiveness of acceptance and commitment training on reducing social anxiety and its components. In explaining the effectiveness of the acceptance and commitment training program on reducing fear associated with social anxiety in students with stuttering disorder, it can be stated that this therapeutic approach, with the aim of increasing psychological flexibility, helps individuals to establish a different relationship with their anxious thoughts and feelings. Through acceptance, students learn to, instead of fighting with anxiety symptoms such as palpitations, sweating, and voice tremors, accept them as transient and natural experiences and create space for their presence without attempting to control or suppress them (Harris, 2006; Hayes et al., 2013). This shift in approach leads to a reduction in physical tension and somatic symptoms of anxiety, liberating students from the vicious anxiety-avoidance cycle. In other words, an individual who learns to experience their bodily sensations without judgment becomes less engaged in physiological anxiety responses and can participate in social situations with greater calmness (Bardel et al., 2023; Khorramnia et al., 2021).

The second finding demonstrated that the acceptance and commitment training program significantly reduced avoidance behavior associated with social anxiety in students with stuttering disorder. As shown in Figure 2, avoidance behavior followed a declining trend throughout the intervention phase, with this trend continuing into the follow-up phase. This finding is consistent with the results of studies by Beilby et al. (2012), Omidvar et al. (2021), Bardel et al. (2023), Bahreini and Sanagouye (2021), and Ansari (2019), all of which confirmed that ACT reduces avoidance behaviors by decreasing experiential avoidance and increasing psychological flexibility. The cognitive defusion component has been particularly effective in reducing avoidance behavior. Defusion helps students to view their negative thoughts about their communication abilities merely as thoughts, rather than as absolute and inevitable realities. They learn that beliefs such as "I can't speak properly" or "Everyone mocks me" are merely mental constructions that do not necessarily have to guide their behavior. This process, by weakening the power of negative thoughts, reduces the motivation to avoid social situations. Exercises such as repeating words in strange ways and the bus passenger's metaphor demonstrate to students that they can be present and participate in social situations despite the presence of intrusive thoughts (Harris, 2006; Polk et al., 2018). This has been particularly practical for students who avoided responding in class or participating in group activities, gradually leading them toward confronting feared situations—a key principle of anxiety reduction (Cannon et al., 2022; Milic et al., 2022).

The third finding demonstrated that the acceptance and commitment training program significantly reduced physiological symptoms associated with social anxiety in students with stuttering disorder. As shown in Figure 3, physiological symptoms decreased throughout the intervention phase, with the intervention effects maintained during the follow-up phase. This finding is consistent with the results of studies by Bardel et al. (2023), Cannon et al. (2022), Milic et al. (2022), Beilby et al. (2012), and Khorramnia et al. (2021), all of which reported that ACT effectively reduces physiological symptoms of anxiety through mindfulness and acceptance-based strategies. In addition to acceptance and defusion, the component of contact with the present moment has also played a significant role in reducing physiological symptoms of anxiety. Through mindfulness practice, students learned to redirect their attention from future-oriented worries (such as "what if I can't speak properly?") to the present experience. This shift in attentional focus freed them from rumination and catastrophic predictions, enabling full presence in social interactions. Furthermore, the component of self-as-context or the

observing self helped students to distinguish between their true self and anxiety-provoking thoughts. They realized that anxiety is part of their experience but does not constitute their core identity. This awareness, by weakening the identity-conferring power of anxiety, prepared the ground for reducing the intensity of physiological symptoms (Hayes et al., 2013; Polk et al., 2018). In other words, the student learns that the "I" is the observer of anxious thoughts, not the thoughts themselves, and this cognitive distancing is itself one of the most effective strategies for reducing physiological anxiety responses. Finally, values and committed action, by directing students' behavior toward meaningful goals, increased their motivation to confront anxiety-provoking situations, thereby achieving a reduction in physiological symptoms in this group of students (Momeni & Mahmoudi, 2020; Tanha Doost et al., 2021).

The fourth finding demonstrated that the acceptance and commitment training program significantly enhanced communication skills, which represent one of the main dimensions of academic resilience, encompassing the ability to communicate effectively, express needs and feelings, and interact positively with teachers and peers (Samuels, 2017; Seçer & Ulaş, 2022). As shown in Figure 4, participants' communication skills exhibited an upward trend throughout the intervention phase, with the program's effectiveness sustained during the follow-up phase. This finding is consistent with the results of studies by Bardel et al. (2023), Frisby et al. (2025), Beilby et al. (2012), Seçer and Ulaş (2022), and Samuels (2017), all of which reported that increased psychological flexibility through acceptance and committed action is directly associated with enhanced communication skills in students with stuttering disorder. Acceptance and commitment therapy, through training mindfulness and present-moment awareness, helps students participate in social interactions without judgment and with greater acceptance. The practice of contact with the present moment frees them from mental ruminations about the past and worries about the future, enabling full focus on the current communication. Moreover, committed action in alignment with values encourages them to be present in social and academic situations and to communicate despite fear and anxiety, which in turn leads to strengthened communication skills and increased self-confidence (Bardel et al., 2023; Frisby et al., 2025). In essence, students learn that values such as academic achievement and connecting with others are important enough to tolerate fear and anxiety and to act despite them.

The fifth finding demonstrated that the acceptance and commitment training program significantly enhanced future orientation, which refers to the ability to plan for the future, have clear goals, and maintain hope for success. As shown in Figure 5, participants' future orientation exhibited an upward trajectory throughout the intervention phase, with the program's effectiveness sustained during the follow-up phase. This finding is consistent with research by Kim and Lee (2025), Omidvar et al. (2021), Zimmer-Gembeck (2024), Reilly et al. (2021), and Polk et al. (2018), all of which emphasized the role of ACT in enhancing future-oriented thinking and goal-directed behavior. In this study, clarifying values and setting goals aligned with them presented students with a clear life perspective and motivated them to plan for their academic future. The process of identifying values in acceptance and commitment therapy helps students discover what truly matters to them and then establish short-term and long-term goals toward realizing those values (Polk et al., 2018; Reilly et al., 2021). For example, a student who identifies "academic success" as a value will strive with greater motivation to study and participate in class, and this effort, despite the presence of stuttering, provides them with hope and direction—precisely what academic resilience researchers emphasize (Kim & Lee, 2025; Omidvar et al., 2021). This directionality makes students more resistant to academic adversities and guides them toward a brighter future, which itself is a primary indicator of academic resilience (Zimmer-Gembeck, 2024; Berchiatti et al., 2022).

The sixth finding demonstrated that the acceptance and commitment training program significantly enhanced problem-solving and positive thinking abilities in students with stuttering disorder. As shown in Figure 6, participants' problem-solving ability exhibited an upward trend throughout the

intervention phase, with these changes maintained during the follow-up phase. This finding is consistent with the results of studies by Frisby et al. (2025), Seçer and Ulaş (2022), Bardel et al. (2023), Khorramnia et al. (2021), and Harris (2006), all of which reported that ACT enhances problem-solving abilities and positive thinking when confronting difficulties. Contrary to some perceptions that view acceptance and commitment therapy as solely focused on acceptance, this approach, by strengthening self-efficacy and belief in individual abilities, helps students adopt an active, problem-solving approach when facing academic difficulties. Values and committed action, by directing students' psychological energy toward meaningful goals, free them from passivity and helplessness and encourage them to seek effective strategies for overcoming academic obstacles (Hayes et al., 2013; Harris, 2006). In other words, students learn to focus on solutions and available possibilities rather than on obstacles and limitations, and this shift in attitude is itself a fundamental step toward increasing positive thinking and a problem-solving approach (Frisby et al., 2025; Seçer & Ulaş, 2022). Accepting problems as part of life and committing to move in the direction of values helps students to view academic challenges with a more positive and realistic perspective and to address them rather than avoid them (Bardel et al., 2023; Khorramnia et al., 2021).

In sum, the findings of this study can be explained by reference to the six core processes of acceptance and commitment therapy (acceptance, defusion, contact with the present moment, self-as-context, values, and committed action). Throughout the training process, students learned to accept their anxious thoughts and emotions, defuse from them, be present in the moment, and, through identifying their life values, undertake committed actions toward realizing those values. This process, by increasing psychological flexibility, has paved the way for reducing social anxiety and enhancing academic resilience. During adolescence, which is accompanied by the development of abstract thinking and identity formation, this approach, through using metaphors and experiential exercises, has been able to effectively connect with students and teach abstract concepts in a tangible manner. Furthermore, the group format of the intervention and the supportive, non-judgmental atmosphere prevailing in the sessions have themselves served as factors in reducing isolation and increasing students' social self-confidence, ultimately leading to the improvement of dependent variables. Despite its limitations, this study demonstrated that the lived-experience-based acceptance and commitment training program is an effective and practical intervention for improving the psychological status of students with stuttering disorder and can be utilized as a practical educational package in schools and counseling centers.

Given the uncontrollable nature of factors influencing social anxiety and academic resilience, such as personality traits, school environment, and individual and cultural beliefs, these factors are considered limitations of the present study. Personality factors such as extraversion, neuroticism, and students' religious and spiritual beliefs should be examined in future research, as these variables may play a moderating role in the effectiveness of psychological interventions. Furthermore, given that the participants of the present study were students with stuttering disorder, future research should, if possible, conduct intervention sessions with other neurodevelopmental disorder groups such as specific learning disabilities, attention-deficit/hyperactivity disorder, and autism spectrum disorder in order to enhance the efficiency and generalizability of this program. It is also suggested that this program be implemented across different socioeconomic groups and that the potential impact of socioeconomic status on intervention effectiveness be assessed to determine whether this program has equal efficacy across all cultural and economic contexts. The program should also be implemented in future research as individual counseling with parents, and the results should be compared with the group training outcomes of this study to determine which intervention modality is more effective in reducing social anxiety and increasing academic resilience in students. Finally, through long-term investigation of the effects of this program on social anxiety, academic resilience, and academic performance, the sustainability of these intervention effects across

different time periods can be determined, ensuring the durability of therapeutic gains.

Ethical Considerations

Compliance with Ethical Guidelines: This study was conducted in full compliance with the ethical principles of the Declaration of Helsinki and received ethical approval from the Research Ethics Committee of the University of Tabriz (Ethics Code: IR.TABRIZU.REC.1400.047). Prior to data collection, all participants and their legal guardians were provided with comprehensive information about the study objectives, procedures, and their rights. Written informed consent was obtained from all individual participants and their parents/legal guardians. Participation was entirely voluntary, and participants were assured of their right to withdraw from the study at any time without any negative consequences. All personal information was anonymized and kept strictly confidential. Participants were assured that the results would be reported solely at the group level without any identifying details, and all data were stored securely with restricted access in accordance with data protection regulations.

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Authors' Contribution: Mohammad Bardel served as the principal investigator, conceptualized the study, developed the intervention protocol, collected all data, conducted the interventions, performed the formal analysis, and drafted the original manuscript. Professor Louise McHugh (University College Dublin, Ireland) contributed as a statistical consultant, providing expert guidance on data analysis procedures and interpretation of findings through international research collaboration. Both authors reviewed, critically revised, and approved the final version of the manuscript.

Conflict of Interest: The authors declare that they have no known competing financial interests, personal relationships, or affiliations that could have appeared to influence the work reported in this paper.

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References

Aghili, M., Poorbahman, Z., & Babaee, E. (2025). Comparing the effectiveness of acceptance and commitment-based therapy and compassion-focused therapy on basic psychological needs, maladaptive magnification, and stress coping strategies in patients with lupus. *Psychological Achievements*, 32(1), 215-240. https://doi.org/10.22055/psy.2023.44152.3069

American Psychiatric Association. (2023). *Understanding mental disorders: Your guide to DSM-5-TR®*. American Psychiatric Pub.https://www.google.com/books/edition/Understanding_Mental_Disorders/bR3dEAAAQBAJ

Ansari, H. (2019). The effectiveness of acceptance and commitment therapy on psychological flexibility, emotion regulation, and psychological adjustment in individuals with stuttering disorder. *Journal of New Advances in Behavioral Sciences*, *3*(26), 83–98. (No DOI assigned; available at https://www.magiran.com/paper/1915483)

Aghili, M., Poorbahman, Z., & Babaee, E. (2025). Comparing the effectiveness of acceptance and commitment-based therapy and compassion-focused therapy on basic psychological needs, maladaptive magnification, and stress coping strategies in patients with lupus. *Psychological Achievements*, *32*(1), 215–240. https://doi.org/10.22055/psy.2023.44152.3069

Bahreini, Z., & Sanagouye-Moharer, G. H. (2019). Effectiveness of acceptance and commitment therapy on psychological well-being and resiliency of abandoned adolescents. *Community Health (Salāmat-i ijtimāī)* , *6*(1), 70–79. https://doi.org/10.22037/ch.v6i1.20881

Balci, M. C., Karaca, M., Selamioglu, A., Korbeyli, H. K., Durmus, A., Ak, B., & Gokcay, G. F. (2024). A different perspective into clinical symptoms in CPT I deficiency. *Molecular Genetics and Metabolism Reports*, *38*, 101032. https://doi.org/10.1016/j.ymgmr.2023.101032

Bardel, M., Badri Gargarigargari, R., Nemati, Sh., & Vahedi, Sh. (2024). Acceptance and commitment

training program for students with stuttering disorders: A synthetic research approach. *Knowledge & Research in Applied Psychology*, *25*(95), 101–113. https://www.magiran.com/p2765960

Beilby, J. M., Byrnes, M. L., & Yaruss, J. S. (2012). Acceptance and commitment therapy for adults who stutter: Psychosocial adjustment and speech fluency. *Journal of Fluency Disorders*, *37*(4), 289–299. https://doi.org/10.1016/j.jfludis.2012.05.003

Berchiatti, M., Badenes-Ribera, L., Ferrer, A., Longobardi, C., & Gastaldi, F. G. M. (2020). School adjustment in children who stutter: The quality of the student-teacher relationship, peer relationships, and children's academic and behavioral competence. *Children and Youth Services Review*, *116*, 105226. https://doi.org/10.1016/j.childyouth.2020.105226

Bergman, M., & Keitel, M. A. (2020). At the heart of meaning-making: An acceptance and commitment approach to developing adaptive meaning following acute cardiac events. In *Navigating life transitions for meaning* (pp. 145–164). Academic Press. https://doi.org/10.1016/B978-0-12-818849-1.00009-6

Cannon, C. J., Makol, B. A., Keeley, L. M., Qasmieh, N., Okuno, H., Racz, S. J., & De Los Reyes, A. (2022). A paradigm for understanding adolescent social anxiety with unfamiliar peers: Conceptual foundations and directions for future research. *Clinical Child and Family Psychology Review*, *25*, 1–27. https://doi.org/10.1007/s10567-022-00391-7

Den Hoed, J., & Fisher, S. E. (2020). Genetic pathways involved in human speech disorders. *Current Opinion in Genetics & Development*, *65*, 103–111. https://doi.org/10.1016/j.gde.2020.05.012

Eising, E., Carrion-Castillo, A., Vino, A., Strand, E. A., Jakielski, K. J., Scerri, T. S.,... & Francks, C. (2019). A set of regulatory genes co-expressed in embryonic human brain is implicated in disrupted speech development. *Molecular Psychiatry*, *24*(7), 1065–1078. https://doi.org/10.1038/s41380-018-0020-x

Frisby, B. N., Hosek, A. M., & Beck, A. C. (2020). The role of classroom relationships as sources of academic resilience and hope. *Communication Quarterly*, *68*(3), 289–305. https://doi.org/10.1080/01463373.2020.1775099

Gillard, D., Flaxman, P., & Hooper, N. (2018). Acceptance and commitment therapy: Applications for educational psychologists within school. *Educational Psychology in Practice*, *34*(3), 272–281. https://doi.org/10.1080/02667363.2018.1446911

Harris, R. (2006). Embracing your demons: An overview of acceptance and commitment therapy. *Psychotherapy in Australia*, *12*(4), 2–8. https://actmindfully.com.au/upimages/Dr_Russ_Harris_-_A_Non-technical_Overview_of_ACT

Hayes, S. C., Levin, M. E., Plumb-Vilardaga, J., Villatte, J. L., & Pistorello, J. (2013). Acceptance and commitment therapy and contextual behavioral science: Examining the progress of a distinctive model of behavioral and cognitive therapy. *Behavior Therapy*, *44*(2), 180–198. https://doi.org/10.1016/j.beth.2009.08.002

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, *44*(1), 1–25. https://doi.org/10.1016/j.brat.2005.06.006

Hildebrand, M. S., Jackson, V. E., Scerri, T. S., & Webster, R. (2020). Severe childhood speech disorder: Gene discovery highlights transcriptional dysregulation. *Neurology*, *94*(20), e2148–e2167. https://doi.org/10.1212/WNL.0000000000009441

Johnson, D., & Bennett, R. (2023). *Acceptance and commitment therapy: Responses to frequently asked questions*. Routledge. https://doi.org/10.4324/9781003364993

Khorramnia, S., Taheri, A. A., Mohammadpour, M., Foroughi, A. A., & Karimzadeh, Y. (2021). The effectiveness of acceptance and commitment therapy on interpersonal sensitivity and psychological flexibility in students with social anxiety disorder: A clinical trial study. *Shenakht Journal of Psychology*

and Psychiatry, *8*(1), 15–27. https://doi.org/10.32598/shenakht.8.1.15

Kikuchi, Y., Kenjo, M., Yoshida, E., Takahashi, S., Murakami, D., Yamaguchi, Y.,... & Umezaki, T. (2023). Social anxiety disorder in adolescents who stutter: A risk for school refusal. *Pediatrics International*, *65*(1), e15622. https://doi.org/10.1111/ped.15622

Kim, H. J., & Lee, Y. M. (2020). The influence of optimism and academic resilience on the major satisfaction among undergraduate nursing students. *The Journal of the Korea Contents Association*, *20*(1), 692–700. https://doi.org/10.5392/JKCA.2020.20.01.692

Lahdelma, P., Tolonen, M., Kiuru, N., & Hirvonen, R. (2022). The role of adolescents' and their parents' temperament types in adolescents' academic emotions: A goodness-of-fit approach. *Child & Youth Care Forum*. https://doi.org/10.1007/s10566-020-09582-1

Mei, C., Fedorenko, E., Amor, D. J., Boys, A., & Morgan, A. T. (2018). Deep phenotyping of speech and language skills in individuals with 16p11.2 deletions. *European Journal of Human Genetics*, *26*(5), 676–686. https://doi.org/10.1038/s41431-018-0102-x

Milic, M. I., Carl, T., & Rapee, R. M. (2020). Similarities and differences between young children with selective mutism and social anxiety disorder. *Behaviour Research and Therapy*, *133*, 103696. https://doi.org/10.1016/j.brat.2020.103696

Murphy, T., van Tilburg, M. A., & Levy, R. L. (2024). Pain disorder interventions: Cognitive behavior therapy and acceptance and commitment therapy. In *Pediatric psychogastroenterology* (pp. 198–210). https://doi.org/10.4324/9781003308683-18

Momeni, K., & Mahmoudi, N. (2020). The effectiveness of emotion regulation strategies training on anxiety sensitivity symptoms in students with social anxiety disorder. *Journal of Knowledge and Research in Applied Psychology*, *21*(81), 51–61. https://doi.org/10.29252/NIRP.JPCP.5.4.263

Neumann, Y. (2024). A case study of bilingual neurogenic stuttering: Measures of fluency, emotion, and articulation rate. *Journal of Communication Disorders*, *107*, 106385. https://doi.org/10.1016/j.jcomdis.2023.106385

Omidvar, A., Gharibzadeh, R., & Azizinejad, B. (2021). Comparison of resilience, hardiness, academic achievement and academic procrastination in students with and without learning disabilities. *Journal of Exceptional Children*, *21*(1), 91–102. http://joec.ir/article-1-861-en.html

Pasyar, S., Baghooli, H., Barzegar, M., & Sohrabi, N. (2023). Comparing the effectiveness of acceptance and commitment therapy and mindfulness-based stress reduction program on negative feedback, health anxiety, psychological well-being, and body image in women undergoing mastectomy. *Psychological Achievements*, *30*(1), 285–314. https://doi.org/10.22055/psy.2023.43119.2969

Polk, K. L., Schoendorff, B., Webster, M., & Olaz, F. O. (2018). *The ACT matrix: A new approach to building psychological flexibility across settings and populations*. New Harbinger Publications. https://library.yazd.ac.ir/dl/search/default.aspx?Term=10349&Field=0&DTC=124

Reilly, E. D., Ritzert, T. R., Scoglio, A. A. J., Mote, J., & Kelly, M. M. (2019). A systematic review of values measures in acceptance and commitment therapy research. *Journal of Contextual Behavioral Science*, *12*, 290–304. https://doi.org/10.1016/j.jcbs.2019.02.001

Saeedmanesh, S., & Babaei, Z. (2019). The effectiveness of group therapy based on acceptance and commitment on anxiety and self-esteem in adolescents aged 14 to 18 years with stuttering. *Journal of Disability Studies*, *7*, 56–65. https://jrrs.mui.ac.ir/jufile?ar_sfile=1738

Samuels, W. E. (2017). *Development of a non-intellective measure of academic success: Towards the quantification of resilience* [Doctoral dissertation, The University of Texas at Arlington]. http://edcbmj.ir/article-1-1216-en.html

Seçer, İ., & Ulaş, S. (2020). The mediator role of academic resilience in the relationship of anxiety sensitivity, social and adaptive functioning, and school refusal with school attachment in high school students. *Frontiers in Psychology, 11*, 557. https://doi.org/10.3389/fpsyg.2020.00557

Sedighrad, G., Askary, P., Heydari, A., & Seraj Khorami, N. (2021). Effectiveness of acceptance-commitment therapy on behaviour impulsivity, alexithymia and disappointment in depression patients. *Psychological Achievements, 28*(2), 201–218. https://doi.org/10.22055/psy.2021.36514.2664

Shahmiri, N., Asadi, J., Azizi Ziabari, L. S., & Abdollahzadeh, H. (2024). Effectiveness of acceptance and commitment therapy (ACT) on social physique anxiety, impulsive behaviors, and emotional self-regulation of obese people. *Psychological Achievements*. https://doi.org/10.22055/psy.2024.46090.3216

Soulok, S. (2020). The comparison of effectiveness of therapy based on Glaser choice theory and acceptance and commitment therapy on life expectancy and resilience of women heading households in Tehran city. *Journal of New Advances in Behavioral Sciences, 5*(46), 12–27. http://www.magiran.com/p2170815

Tanha Doost, K., Bezi, M., Ghaffari Jam, M., Ansari Haghighi, F., & Amo Jovadi Langroudi, F. (2021). The effect of group psychotherapy based on acceptance and commitment on loneliness and social adjustment of girls with social anxiety disorder. *Journal of Psychiatric Nursing, 9*(1), 32–42. http://ijpn.ir/article-1-1617-en.html

Zimmer-Gembeck, M. J. (2020). Introduction to the special section: Mindfulness in me and in you—Measurement, development, and implications for adolescents' emotional and academic resilience. *International Journal of Behavioral Development, 44*(1), 1–4. https://doi.org/10.1177/0165025419888617