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Design and Validation of a Reality Therapy Group Protocol for Adolescents with Generalized Anxiety Disorder

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ABSTRACT

Objective: The present study aimed to design and validate the content of a Reality Therapy group protocol for adolescents with GAD.

Methods: A developmental study utilizing a sequential exploratory mixed-methods design was conducted in three stages: First, five mechanistic themes were extracted by integrating Choice Theory literature with theoretical and empirical evidence regarding adolescent anxiety and rumination. Second, a preliminary version of the protocol was designed based on these themes and the five components of Choice Theory (basic needs, total behavior, quality world, self-evaluation, and planning), structured as eight weekly 90-minute sessions. Third, this version was refined by an expert panel using the modified Delphi method and validated using the Content Validity Ratio (CVR), Content Validity Index (CVI), and Kappa coefficient.

Results: The protocol was organized around five mechanistic themes (unmet needs, worry-driven total behavior, the gap with the "Quality World," lack of self-evaluation, and low frustration tolerance) and structured into eight sessions (introduction and the concept of choice; basic needs; total behavior and responsibility; the Quality World; evaluating current behaviors; self-evaluation and responsible choice; frustration tolerance and coping strategies; consolidation and termination). Fifteen experts participated in the validation phase; in the first round, 38 out of 44 items simultaneously met the CVR and I-CVI criteria.The S-CVI/Ave value for the entire form was 0.91, and the S-CVI/UA value was 0.84. Additionally, the mean modified kappa was 0.83, and Fleiss' kappa (κ) was 0.79 (p = 0.001). Based on the Landis and Koch (1977) criteria, this coefficient indicates almost perfect agreement.

Conclusions: The proposed protocol—focusing on education regarding needs, self-evaluation, and frustration tolerance—demonstrates favorable content validity according to expert consensus; however, its clinical effectiveness requires testing in feasibility and controlled trials involving adolescents.

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Introduction

Generalized anxiety disorder, according to the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition, text revision, is characterized by excessive worry that is difficult to control about several specific events or activities, lasting at least six months and accompanied by restlessness, fatigability, difficulty concentrating, irritability, muscle tension, or sleep disturbance (American Psychiatric Association, 2022). This disorder holds a special place in adolescence. He et al. (2026) showed that anxiety disorders, with a lifetime prevalence of 31.9%, are the most common group of mental disorders in adolescence, and about one fifth of adolescents develop a disorder with severe functional impairment. Developmental studies show that the prevalence and severity of generalized anxiety disorder increase from childhood to adolescence, a trend probably related to the development of metacognitive skills and to the increase in social-evaluative and academic worries of this period (Khosravi, 2026). Chronic worry in adolescents often overlaps with rumination; Shipp et al. (2026), in a nonclinical sample of adolescents aged 12 to 17, showed that worry and rumination, although distinct constructs, are both significantly correlated with anxiety symptoms and that worry is an independent predictor of anxiety symptoms.

In terms of treatment, cognitive-behavioral therapy has the strongest research support for generalized anxiety across all age groups, and meta-analyses have reported a large effect size for it relative to control groups (Nwokedi, 2025). Nevertheless, some adolescents do not recover fully or are unwilling to engage with cognition-focused approaches based on restructuring beliefs; developing complementary approaches that work with adolescents in simpler and more action-oriented language is therefore justified both clinically and in research. The group format has a particular advantage for this age group: Barkowski et al. (2020), in their meta-analysis, confirmed the efficacy of group therapy for anxiety disorders, and Burlingame et al. (2018) showed that group cohesion is significantly correlated with treatment outcome; for adolescents, who build their identity and self-worth largely in the context of peers, the experience of universality and group acceptance can have an effect beyond the educational content of the sessions (Iqbal et al., 2024; Yalom & Leszcz, 2020).

Choice theory and reality therapy, founded by Glasser (1965, 1998), is a structured, brief, and action-oriented approach that has been described as particularly suitable for adolescent clients; its simple language (needs, choice, total behavior) does not require teaching abstract cognitive

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concepts. According to choice theory, human behavior is an internally motivated attempt to satisfy five basic needs (survival, love and belonging, power, freedom, and fun). Each person holds a picture of what they want in their "Quality World" and perceives a gap between this picture and the perception of reality. Behavior in this framework is "total behavior," which comprises four components: thinking, feeling, acting, and physiology; a person has more direct control over thinking and acting, while feeling and physiology are changed indirectly (Azadi et al., 2026; Glasser, 1998).

The conceptual link between choice theory and adolescent anxiety is established along several paths. First, many adolescent worries (being rejected by peers, inadequacy, loss of autonomy) can be reread in the language of basic needs, especially love and belonging, power/worth, and freedom. Second, Glasser's "behavior car" model, which explains the four components of total behavior with a concrete metaphor that adolescents can understand, makes it possible to represent worry and rumination not as uncontrollable phenomena but as part of a chain in which the person has authority over some links, an approach consistent with the findings of Mufida et al. (2026) and Cuijpers et al. (2014) on the role of client agency in treatment effectiveness. Third, self-evaluation ("Is this behavior bringing me closer to what I want?") provides a simple tool for challenging the function of worry and rumination without requiring formal cognitive restructuring. Fourth, frustration tolerance, which in the tradition of rational emotive behavior therapy is formulated as "frustration intolerance" and is linked to emotional distress and behavioral avoidance (Harrington, 2005; Wang et al., 2026), is particularly challenged in adolescence, because as autonomy increases the adolescent faces more frustrating situations (academic, social, familial) that were previously managed by adults.

Direct empirical support for reality therapy with adolescents is scarce and mainly domestic. Fatemi Nayeri et al. (2021), in a randomized trial, applied group reality therapy to adolescents with attention deficit hyperactivity disorder and oppositional defiant disorder and showed that, in addition to behavioral problems, this approach can also reduce anxiety and stress. However, that study did not target a sample with a primary diagnosis of generalized anxiety disorder and cannot serve as a basis for direct generalization. In addition to this gap, there is a methodological gap. Group psychological interventions are "complex interventions" composed of several interacting components and multiple behaviors of the therapist and members (Craig et al., 2008; Skivington

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et al., 2021), and contemporary guidelines recommend that such an intervention be reported with clear, traceable content and documented using checklists such as TIDieR before its effectiveness is tested (Hoffmann et al., 2014; Wight et al., 2016). The reality therapy protocol in the present study was designed on the basis of clinical experience and the reality therapy literature for adolescents and has not been systematically evaluated for content validity with the participation of an expert panel. The absence of such validation makes scientific publication of the protocol and its comparison with other interventions difficult.

Another consideration that strengthens the rationale for this study concerns the gap between theory-based interventions and the usual practice of building group protocols. Many group protocols used for adolescents in counseling centers and psychological clinics are designed and delivered without an explicit, documented link to theoretical mechanisms and without systematic expert judgment. This situation has two consequences: first, scientific evaluation and comparison of different protocols become difficult, because it is unclear which component was designed for which mechanism; second, transferring the protocol to other therapists or other contexts remains dependent on personal interpretation (Skivington et al., 2021). The present study follows this same path for designing and validating a group reality therapy protocol for adolescents.

The importance of this work for the adolescent population is twofold. First, because of the high clinical burden of generalized anxiety in this age group (Ferries et al., 2026) and its correlation with rumination (Shipp et al., 2026; Muris et al., 2004), any intervention that can be delivered in a school or outpatient clinic setting in a brief group format is important from a public health perspective. Second, adolescence is a period in which identity, self-concept, and coping styles are still forming; an intervention that, instead of purely cognitive training, emphasizes awareness of needs, responsibility, and self-evaluation can have an effect beyond symptom reduction and can help develop emotion regulation skills and independent decision making. Third, from a methodological perspective, documenting such a protocol provides a model for other therapists who have similar experience-based protocols but have not gone through the path of formalizing and validating them. From the perspective of adolescent mental health policy, the availability of brief, low-cost group interventions is also important; specialized psychological services for adolescents are limited in many contexts, and an intervention that can be delivered in eight sessions with a single group leader can be used in schools, student counseling centers, or outpatient clinics.

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Nevertheless, this feasibility alone does not justify broad clinical use; any intervention that can be delivered quickly and cheaply must be judged first for content and then empirically before wide dissemination, a procedure of which the present study follows the first step.

The present study lies at the intersection of three areas that have rarely met so far: the well-known clinical burden of generalized anxiety in adolescence, the theoretical framework of choice theory, which has been described as suitable for this age group but little tested, and contemporary guidelines for developing and reporting complex interventions, which provide a transparent path for formalizing experience-based protocols. The link among these three areas is the main contribution of this article. The aim of the present study is therefore to introduce the structure and theoretical logic of a reality therapy group protocol for adolescents with generalized anxiety disorder and to validate its content through an expert panel. The research questions are as follows: (1) How does the protocol designed in the present study correspond to the theoretical and empirical mechanisms that maintain anxiety and rumination in adolescents? (2) How are the structure, content, and sequence of the protocol's sessions organized on the basis of the components of choice theory (needs, total behavior, Quality World, self-evaluation, planning)? (3) To what extent do experts consider the protocol content-valid in terms of necessity, relevance, clarity, simplicity, and comprehensiveness, and what revisions do they propose?

Material and Methods

Design

The present study was a sequential exploratory mixed-methods study carried out in three phases: first, theoretical integration of the choice theory and reality therapy literature with theoretical and empirical evidence on generalized anxiety, worry, rumination, and frustration tolerance in adolescents, in order to extract the components targeted by the intervention and draw the logic model of the problem; second, designing the initial version of the group protocol on the basis of this logic model with an intervention mapping approach; and third, content validation and revision of the initial version by an expert panel using the modified Delphi method. The final protocol, reported in the Protocol Structure and Detailed Description of the Sessions sections, is the output of this three-phase process; that is, it is the version approved by the expert panel after theoretical integration and after revision over three Delphi rounds. This approach is consistent with the

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guidelines for developing complex interventions: such interventions must be developed transparently and traceably, on the basis of theory, existing evidence, and stakeholder judgment, before their effectiveness is tested (Skivington et al., 2021; Craig et al., 2008). The protocol was reported following the TIDieR checklist (Hoffmann et al., 2014), and the Delphi procedure was reported following guidelines for reporting expert consensus studies (Diamond et al., 2014; Jünger et al., 2017).

Phase 1: Theoretical Integration and Drawing the Logic Model

In this phase, the literature in three areas was integrated: (a) foundational texts of choice theory and reality therapy (Glasser, 1965, 1998; Wubbolding, 2000, 2011, 2017); (b) theoretical and empirical evidence on generalized anxiety, worry, and rumination in adolescents (Muris et al., 2004; Merikangas et al., 2010); and (c) the construct of frustration tolerance and its link with emotional distress (Harrington, 2005). From the integration of these three areas, five main themes (unmet needs, worry-driven total behavior, the gap with the Quality World, lack of self-evaluation, and low frustration tolerance) were identified, and each was linked to one or more WDEP components; this correspondence is documented in the mapping table (Table 4). On the basis of this integration, the logic model of the problem was drawn: in adolescence, the increase in frustrating situations and social-academic challenges combines with unmet needs (especially belonging, power/worth, and freedom) and an underdeveloped self-evaluation skill; this combination evokes worry and rumination as the dominant "total behavior," which is accompanied in the short term by a transient reduction of distress and in the long term by frustration intolerance and greater distance from the adolescent's Quality World. This logic model was the basis for the next phase, the design of the protocol.

Phase 2: Designing the Initial Version of the Protocol With Intervention Mapping

The initial version of the protocol was developed on the basis of the six steps of intervention mapping (Bartholomew Eldredge et al., 2016) and relying on the logic model of the first phase: for each theme, performance objectives and change objectives were defined and translated into activities and the sequence of sessions. The design of the initial version followed four principles: the primacy of the therapeutic relationship over procedure, blame-free language, the use of metaphors and concrete activities appropriate to adolescents' age instead of abstract instruction, and a gradual sequence from awareness to evaluation and then action. The initial version was

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documented as an operational manual including the goals of each session, detailed content, sample dialogues for the group leader, facilitation instructions, and homework, and it formed the basis of the third phase (expert validation and revision).

Phase 3: Validation and Revision by the Expert Panel

Content validation and revision of the initial version of the protocol were carried out as a modified Delphi in two rounds. This method is a recognized and appropriate procedure for reaching structured consensus about a newly designed intervention for which no direct empirical evidence yet exists (Hsu & Sandford, 2007; Nasa et al., 2021).

Expert panel. Sampling was purposive and criterion-based. The inclusion criteria were: (1) a doctoral degree in clinical psychology, child and adolescent psychology, counseling, or child and adolescent psychiatry, or a master's degree with equivalent clinical experience; (2) at least five years of experience working with adolescents or treating anxiety; (3) formal training in choice theory and reality therapy or related research experience; and (4) willingness to participate in two rounds. The panel was designed to cover three areas: reality therapy and choice theory; child and adolescent psychology and psychiatry with a focus on anxiety; and group therapy. The actual number of participants was 15.

Instrument. The "Protocol Evaluation Form" had 44 items: 12 structural items (overall goals, age appropriateness of content, inclusion and exclusion criteria, number and length of sessions, group size, assignments, safety and parental consent considerations, group leader competence) and 32 session-level items, each assessing one of the eight sessions on four aspects (alignment with choice theory, appropriateness of the activities to adolescent age, time feasibility, and clarity of the leader's instructions). Each item was rated simultaneously on Lawshe's three-point scale for necessity (essential; useful but not essential; not necessary) and a four-point scale for relevance, clarity, and simplicity (Lawshe, 1975; Waltz & Bausell, 1981). At the end of each section there was an open-ended question for adding, deleting, or rewriting components.

Procedure. In the first round, the initial version of the protocol (including detailed content, sample dialogues, and homework) and the evaluation form were sent online to the experts. On the basis of first-round feedback, the protocol was revised. In the second round, an anonymous statistical summary, the qualitative feedback, and the revised version were given to the experts so that the revised or below-threshold items could be rated again. The consensus rules were set before the

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first round began (Table 2). The version that reached the consensus thresholds after these two rounds is the final protocol reported in the Results section.

Analysis. The content validity ratio was calculated according to Lawshe's (1975) formula, CVR = (Ne − N/2) / (N/2); the acceptance threshold was set on the basis of panel size (Ayre & Scally, 2014). The item-level content validity index (I-CVI) and the scale-level indices (S-CVI/Ave and S-CVI/UA) were calculated with thresholds of .78 and .90 (Polit & Beck, 2006). The modified kappa (Polit et al., 2007) and Fleiss' kappa (1971), interpreted on the basis of the Landis and Koch (1977) criteria, were also reported. Open-ended responses were coded with conventional content analysis (Hsieh & Shannon, 2005).

Table 1. Phases, Data, and Output of the Study

Phase	Aim	Data and procedure	Output
1. Theoretical integration	Extracting the mechanisms targeted by the intervention	Integration of the choice theory literature with the literature on adolescent anxiety and rumination	Logic model and mapping table (Table 4)
2. Designing the initial version	Translating the logic model into a deliverable intervention	Intervention mapping; four design principles	Initial version of the protocol (operational manual)
3. Expert validation and revision	Assessing and improving necessity, relevance, clarity, simplicity, and comprehensiveness	Expert panel; modified Delphi in two rounds	Final protocol (Table 5 and the Detailed Description of the Sessions section); CVR; CVI; kappa; report of revisions

Table 2. Predetermined Consensus and Decision Rules in the Modified Delphi

Index	Acceptance threshold	Decision if not met
CVR	≥ critical value appropriate to N (Ayre & Scally, 2014)	Rewrite or delete; second round
I-CVI	≥ .78	Rewrite and re-rate
S-CVI/Ave	≥ .90	Revise the section
Modified kappa	> .74 (excellent)	Conceptual review of the item
Fleiss' kappa	≥ .61 (substantial agreement)	Second round with controlled feedback

Several methods of expert consensus exist in the content validity literature, including expert focus groups, the nominal group technique, and the classic Delphi. The modified Delphi was chosen for this study for three reasons. First, unlike a focus group, the Delphi allows experts who cannot attend a single simultaneous meeting because of time or geographic constraints to participate asynchronously, which has practical importance for assembling a panel with three different specializations (reality therapy, child and adolescent psychology, group therapy). Second, the

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anonymity of responses in the Delphi reduces conformity pressure from more influential panel members, a problem known in in-person focus groups. Third, having two rounds makes it possible to revise the protocol on the basis of first-round feedback and to rate it again, a procedure more consistent with the aim of this study, not merely assessment but gradual improvement of the protocol before the final version, than a single-round Delphi or the nominal group technique.

Target Population and Implementation Considerations

The protocol is designed for adolescents aged 13 to 18 with a clinical diagnosis of generalized anxiety disorder based on DSM-5-TR criteria. The proposed exclusion criteria include active suicide risk, psychotic disorder, and acute family crisis. Given the age of the participants, informed consent from parents or legal guardians together with the adolescent's own assent is a prerequisite for entry, and the structure of the sessions (the presence of music, drawing activities, academic and family examples) is designed to suit this age group.

Literature Search Strategy and Date

A supplementary search for empirical evidence on anxiety, worry, rumination, and frustration tolerance in adolescents, and for evidence on the use of reality therapy in this age group, was carried out on September 23, 2026 (1 Mehr 1405), combining the terms "generalized anxiety disorder," "adolescents," "rumination," "worry," "frustration tolerance," and "reality therapy." This search was supplementary and is not a substitute for a complete systematic or scoping review.

Table 3. Studies Related to Reality Therapy Group Protocols and Similar Interventions for Anxiety and Adolescents

No.	Author(s)	Study title	Research method	Protocol content	Session process	Interventions used
1	Fatemi Nayeri et al. (2021)	A randomized trial of group reality therapy in adolescents with attention deficit/hyperactivity disorder and oppositional defiant disorder	Randomized controlled trial; 40 adolescents aged 12 to 18; five 120-minute group reality therapy sessions versus a control group with no structured intervention	Training in choice theory and the WDEP system, centered on the adolescent's behavioral responsibility	Five 120-minute sessions	Psychoeducation on basic needs; self-evaluation of behavior (W-D-E-P); behavioral planning

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No.	Author(s)	Study title	Research method	Protocol content	Session process	Interventions used
2	Hosseini, Ejei, Gholamali Lavasani, and Khalili (2017)	The effect of group counseling based on choice theory and reality therapy on adolescents' social adjustment and self-regulation	Experimental design with a control group; 24 adolescents aged 14 to 18 with low scores on personality adjustment and self-regulation; eight 90-minute group reality therapy sessions; multivariate analysis of covariance	Introduction of the five basic needs and the Quality World; WDEP-based behavioral self-regulation practice	Eight 90-minute sessions	Group discussion; guided self-evaluation; practice in responsibility and planning
3	Dehnavi and Parandin (2025)	The effectiveness of reality therapy on existential anxiety and quality of life of students	Quasi-experimental pretest-posttest design with a control group; 34 male high school students; eight 90-minute sessions; MANCOVA	Applying WDEP to existential questions (meaning, death awareness) and the Quality World	Eight 90-minute sessions	Guided existential questioning; self-evaluation; responsible planning
4	Gu et al. (2026)	Development and validation of a solution-focused group therapy program for interpersonal relationships in adolescents with anxiety and depression: A Delphi-based consensus study	Methodological study; initial version drawn from a literature review and interviews with 10 therapists; validation with a two-round Delphi and a panel of 20 experts; expert reliability coefficient, Kendall's coefficient of concordance, and response percentage	Solution-focused group therapy (SFGT) protocol targeting peer relationships; competitive activity removed; "small change hypothesis" in place of the "miracle question"	Eight functional units (the exact session structure is determined after expert revision)	Scaling questions; exception seeking; strengths-based interviewing; noncompetitive group exercises
5	Chen et al. (2023)	A randomized trial of online solution-focused group therapy for adolescent anxiety	Randomized controlled trial; brief solution-focused group therapy delivered online to anxious adolescents	Brief solution-focused intervention delivered online (remotely)	Brief online course (the exact number of sessions is not specified in the abstract)	Solution-focused techniques (scaling questions, exceptions) delivered through an online platform

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No.	Author(s)	Study title	Research method	Protocol content	Session process	Interventions used
6	Widyarto et al. (2024)	The effectiveness of reality group counseling in reducing communication anxiety among Islamic guidance and counselling students	Quasi-experimental design; 7 students with high communication anxiety in experimental and control groups; independent *t* test	WDEP group counseling centered on behavior and communication skills	Number of sessions not specified in the abstract	Guided communication exercises; self-evaluation of communication behavior
7	Yazdizadeh et al. (2023)	The effectiveness of reality therapy on emotion regulation difficulty and academic self-handicapping of students: A pilot study	Quasi-experimental pretest-posttest design with a control group; 30 male students; ten reality therapy sessions; analysis of covariance	WDEP training centered on emotion regulation and reducing self-handicapping	Ten sessions (the length of each session is not specified in the abstract)	Emotional self-evaluation; redefining self-handicapping behaviors; academic planning
8	Abron et al. (2023)	The effectiveness of online reality therapy on exam anxiety and academic procrastination of male high school students	Quasi-experimental design with follow-up; 40 male students; experimental and control groups; repeated-measures analysis of variance	WDEP-based reality therapy delivered entirely online	Eight 90-minute online sessions	Self-evaluation of academic behavior; responsible planning; follow-up after the intervention
9	Khaleghi et al. (2017)	The effectiveness of group reality therapy on social anxiety, interpretation bias, and interpersonal relationships among adolescents	Quasi-experimental design with a control group; adolescents with social anxiety	Group reality therapy centered on interpersonal relationships and correcting interpretation bias	Number of sessions not specified in the abstract	Group discussion of the interpretation of social situations; interpersonal skills practice
10	Zamani Jahromi and Fekri (2019)	The effectiveness of reality therapy theory on self-harm behaviors and functions in high school students in Shiraz	Quasi-experimental pretest-posttest design with a control group; 30 tenth-grade female students; eight training sessions; analysis of covariance	Reality therapy training aimed at identifying the function of self-harming behavior	Eight training sessions	Self-evaluation of the function of behavior; replacing harmful behavior with responsible behavior
11	Sanagouyemehr et al. (2019)	The effectiveness of reality therapy training on emotion regulation strategies and resilience of high school students in Tehran	Quasi-experimental pretest-posttest design with a control group; 30 female students; eight 90-minute sessions; analysis of covariance	Choice theory training centered on adaptive emotion regulation strategies	Eight 90-minute sessions	Psychoeducation on basic needs; practice of emotion regulation strategies; strengthening resilience

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No.	Author(s)	Study title	Research method	Protocol content	Session process	Interventions used
12	Soltani et al. (2019)	The effectiveness of the group reality therapy approach on promoting responsibility and resilience in high school students	Quasi-experimental pretest-posttest design with a control group; 30 female students; eight 90-minute sessions; analysis of covariance	Group reality therapy centered on responsibility training	Eight 90-minute sessions	Responsibility practice; self-evaluation of behavior; strengthening resilience
13	Ghoreishi and Behbudi (2017)	The effectiveness of group reality therapy training on emotion regulation and increasing academic self-efficacy of female students	Quasi-experimental design with a control group; female students; group reality therapy training	Group reality therapy training centered on emotion regulation and academic self-efficacy	Number of sessions not specified in the abstract	WDEP-based emotion regulation practice; strengthening academic self-efficacy beliefs
14	Barkowski et al. (2020)	Efficacy of group psychotherapy for anxiety disorders: A systematic review and meta-analysis	Meta-analysis of 57 controlled trials of group therapy for anxiety disorders (generalized anxiety, social anxiety, phobia); pooled effect size estimate	No single protocol; a mix of mainly cognitive-behavioral group protocols	Variable across studies; mainly 8 to 20 weekly sessions	Various cognitive-behavioral techniques (exposure, cognitive restructuring, skills training), depending on the study
15	Burlingame et al. (2018)	Cohesion in group therapy: A meta-analysis	Meta-analysis of 55 studies of the relationship between group cohesion and treatment outcome	No single protocol; examination of the cohesion mechanism across types of group protocols	Variable across studies	Group leader interventions to strengthen cohesion (coded across different studies)
16	Zhuang et al. (2026)	The effects of solution-focused group therapy on peer friendship quality in adolescents with anxiety disorders	Randomized controlled trial; delivery of the validated SFGT protocol (Study 4) to adolescents with anxiety disorders; measurement of peer friendship quality	Clinical delivery of the same eight-unit SFGT protocol approved by the expert panel (Study 4)	Eight functional units (according to the Study 4 protocol)	Scaling questions; exception seeking; exercises strengthening peer friendship

Management of Delphi Data

The experts' responses were recorded in a structured database with an anonymous code for each expert so that changes in scores between the two rounds could be traced without revealing individuals' identities. The indices were calculated separately for each item, each session, and the entire form. If an item had no response, it was excluded from the denominator of the relevant index

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and the number of available responses was reported. The summary of first-round feedback was presented in the second round without naming individuals and preserving the experts' original tone, in order to avoid imposing the researcher's interpretation on the feedback. Numerical analyses were carried out with SPSS 25.

Results

This section has three aims: to show from which theoretical mechanisms the final protocol was derived, to document the eight-session protocol, and to report the validation evidence and expert revisions that led to this final version. The findings are reported in three parts: theoretical integration and the mechanisms targeted by the intervention, the content structure of the eight sessions of the final protocol, and the expert validation evidence.

Theoretical Mapping: Mechanistic Themes of the Protocol

The theoretical integration of the first phase revealed five main themes on the basis of which the protocol was designed in the second phase. Table 4 shows these themes with their research support, the related WDEP component, and the corresponding session(s).

Theme 1: Unmet basic needs. A large part of adolescents' worries, such as rejection by friends, not being understood by parents, academic inadequacy, and limits on autonomy, can be reread in the language of the five basic needs. Hosseini et al. (2017), by explicitly teaching these same five needs in eight-session group counseling, significantly improved adolescents' social adjustment and self-regulation. The present protocol targets this theme from the second session, with explicit teaching of the needs and examples from adolescents' lives.

Theme 2: Worry and rumination as total behavior. Fatemi Nayeri et al. (2021) showed that teaching the WDEP system and self-evaluation of total behavior can change adolescents' anxiety symptoms and coping behavior; Dehnavi and Parandin (2025), using the same framework, were also able to target anxiety dimensions (in the form of existential anxiety). In the language of choice theory, worry is part of "total behavior," which is intertwined with thinking, feeling, acting, and physiological reaction; the "behavior car" metaphor in the third session of the protocol represents this idea in tangible language for adolescents.

Theme 3: The gap with the Quality World. Hosseini et al. (2017) taught the concept of the Quality World to adolescents alongside basic needs, and Khaleghi et al. (2017) showed that improved

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interpersonal relationships, one of the main components of the adolescent's Quality World, are accompanied by reduced social anxiety. The fourth session of the protocol, with the Quality World drawing activity, helps the adolescent clarify the picture of their personal wants and goals.

Theme 4: Lack of self-evaluation. Yazdizadeh et al. (2023) and Abron et al. (2023), both using WDEP-based self-evaluation exercises, reduced emotion regulation difficulty/academic self-handicapping and exam anxiety/academic procrastination, respectively; Zamani Jahromi and Fekri (2019) also targeted students' self-harming behaviors through self-evaluation of the function of behavior. Sessions five and six of the present protocol apply this same self-evaluation process with the question "Is this behavior bringing me closer to my Quality World?"

Theme 5: Low frustration tolerance and limited coping skills. Sanagouyemehr et al. (2019) and Soltani et al. (2019) both significantly increased high school students' resilience by teaching emotion regulation strategies and responsibility; Ghoreishi and Behbudi (2017) also targeted female students' emotion regulation and academic self-efficacy with a similar approach. The seventh session of the protocol directly introduces the concept of frustration tolerance; combining this theme with training in problem-focused coping strategies, seeking social support, and accepting uncontrollable conditions moves the protocol from the level of insight to the level of action.

Table 4. Thematic Map: Themes, WDEP Component, Main Theoretical Support, and Corresponding Session

Theme	WDEP component	Main theoretical support	Session
1. Unmet basic needs	W (Wants)	Glasser (1998)	2
2. Worry/rumination as total behavior	D (Doing; total behavior)	Glasser (1998); Muris et al. (2004)	1, 3
3. Gap with the Quality World	W (Quality World)	Glasser (1998); Vansteenkiste & Ryan (2013)	4
4. Lack of self-evaluation	E (Evaluation; self-evaluation)	Wubbolding (2011, 2017)	5, 6
5. Low frustration tolerance	P (Planning)	Harrington (2005)	7, 8

These five themes serve two functions at once: on the one hand, they explain why worry and rumination persist in adolescence despite their unpleasant consequences (a short-term soothing function, consistent with the mechanism of negative reinforcement); on the other hand, they provide a map for intervention: each theme is linked to one or more specific WDEP components and from there to specific sessions of the protocol. This correspondence, summarized in Table 4,

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makes it possible to describe the protocol not merely as a set of attractive activities for adolescents but as an intervention with a traceable internal logic.

Protocol Structure

The protocol consists of eight weekly group sessions of 90 minutes designed for adolescent groups. Unlike adult protocols, no separate pre-group session or booster session is provided in the current version; this point is reflected in the limitations. Each session has a fixed structure: welcome and review of the previous session, review of homework, an educational-experiential core, group practice, and wrap-up. These four principles are not stated as a separate chapter in the protocol manual but implicitly and repeatedly in the description of each session; extracting them as explicit design principles is one of the analytic outputs of this study. Four design principles can be extracted from across the protocol: first, the primacy of the therapeutic relationship over procedure (the first session's explicit emphasis on creating a safe and warm atmosphere); second, blame-free language (repeated instructions to the group leader to avoid judgment, blame, and direct advice); third, the use of metaphors and concrete activities appropriate to age (the behavior car, the Quality World drawing, a letter to one's future self) instead of abstract instruction; and fourth, a gradual sequence from awareness (sessions 1 to 4) to evaluation (sessions 5 and 6) and then to action and consolidation (sessions 7 and 8).

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Table 5. Overview of the Sessions of the Reality Therapy Group Protocol for Adolescents with Generalized Anxiety Disorder

Session	Title	WDEP focus	Core activity	Homework
1	Introduction, therapeutic relationship, and introducing the group	Introduction	The "Who am I?" activity; group rules; simple introduction of the concept of choice	Recording worry-provoking situations and accompanying thoughts/behaviors
2	Basic needs and their relationship to anxiety	W	Teaching the five needs with adolescent examples; drawing the chain unmet need → worry → anxiety	Identifying the unmet need in the week's situations
3	Total behavior and responsibility in choosing behavior	D	The "behavior car" metaphor; the "Who is responsible?" exercise	Recording the four components of total behavior in anxiety-provoking situations
4	The Quality World and its relationship to anxiety	W	Introducing the Quality World; Quality World drawing activity	Completing and reflecting on the Quality World drawing
5	Evaluating current behaviors and moving toward the Quality World	E	"What do you do on a typical day?"; comparing current behavior with the Quality World	Choosing and carrying out one small behavior change
6	Self-evaluation of behaviors and responsible choices	E	"Is my current behavior effective?" exercise; the chain choice → behavior → consequence	Carrying out an alternative behavior and recording the consequence
7	Increasing frustration tolerance and strengthening coping strategies	P	Introducing frustration tolerance; "My reactions to frustration" exercise; teaching coping strategies	Recording one frustrating situation and applying a new strategy
8	Consolidating changes, personal plan, and termination	P	Reviewing the path traveled; drafting a personal plan for continuing; letter to my future self; group termination	Carrying out the personal plan and continuing to use self-evaluation

The sequence of sessions embodies two important transitions: the transition from the conceptual-educational level (sessions 1 to 4, in which the adolescent becomes familiar with the language of choice theory and their own needs) to the level of evaluation and action (sessions 5 to 8, in which this language is used to examine and modify real behaviors); and the transition from a focus on the individual (the early sessions) to a focus on group interaction and mutual feedback (the final sessions, especially in the exercises "My reactions to frustration" and the personal plan). These two transitions are consistent with the general principles of adolescent group therapy, in which building trust must precede deeper self-disclosure (Baschab et al., 2026).

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Detailed Description of the Sessions

In this section, the goal, core content, and homework of each session are described on the basis of the protocol manual.

Session 1: Introduction, building the therapeutic relationship, and introducing the group. The main goal of this session is to create a safe, warm, and nonjudgmental space and for members to become initially acquainted with one another and with the concept of choice. The session begins with welcoming the members, introducing the group leader (name, specialty, and experience working with adolescents), and explaining the general course of the sessions. In the introduction activity, each member states their name, age, grade, and one positive characteristic, and the group leader, by modeling, runs the "Who am I?" activity; such an activity facilitates an initial sense of belonging and reduces anxiety about entering the group (Janalipour Chenarrodkhani et al., 2025). The group rules (confidentiality, mutual respect, taking turns to speak, regular attendance, active participation) are then developed and accepted collaboratively. Next, the group leader simply introduces the concept of choice with questions such as "What made you decide to take part in this group?" and "What change would you like to happen in your life after the sessions end?": "We cannot always control the conditions of life, but we can decide how we respond." The session ends with an initial review of the members' most important worries and a wrap-up. The homework is to record the week's worry-provoking situations and the accompanying thoughts and behaviors.

Session 2: Introduction to basic needs and their relationship to anxiety. After reviewing the previous session's homework and a supplementary introduction activity to deepen group cohesion, the group leader introduces the five basic needs of choice theory (survival, love and belonging, power and worth, freedom, fun) with examples from adolescents' lives; for instance, being ignored by friends or not being understood by parents is linked to the need for love and belonging, and success in school or sport is linked to the need for power. Members are then asked to raise one of their worries, and, with guided questions ("Which basic need is involved here?"), the group leader identifies the unmet need behind that worry and draws on the board the chain "unmet need → worry and rumination → anxiety → ineffective coping behaviors." The homework is to record the week's worry situations and identify the unmet need related to each.

Session 3: Introduction to total behavior and responsibility in choosing behavior. After reviewing the basic needs, the core of this session is the introduction of the concept of "total

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behavior" with the "behavior car" metaphor: the group leader explains that behavior consists of four interconnected parts: thought, feeling, action, and physiological reaction. With an example familiar to adolescents (anxiety the night before an exam), members' responses are sorted into four columns (thought: "I'm definitely going to mess up"; feeling: fear; behavior: excessive studying or avoidance; physiological reaction: palpitations or insomnia). In the "Who is responsible?" exercise, using the example of a traffic light (the person chooses to stop or go; the light does not force them), the group leader guides a conversation in which members gradually move from attributing anxiety to external factors ("my friend makes me anxious") to identifying their own thoughts and choices in that situation. The homework is to record all four components of total behavior in one anxiety-provoking situation during the week.

Session 4: Introduction to the Quality World and its relationship to anxiety. After reviewing needs and total behavior, the group leader introduces the concept of the "Quality World": the picture each person holds in mind of the people, situations, and goals they would like to have in their life. In the main activity of the session, each member uses paper and pencil to draw a picture of their Quality World, which can include important people, a future field of study or job, hobbies, and desired achievements. With questions such as "How would you like your life to look five years from now?", the group leader encourages members to express their wants freely, and members then share their drawings with the group. This activity provides a clearer picture of the adolescent's wants and needs, which in later sessions becomes the basis for comparison with current behaviors.

Session 5: Evaluating current behaviors and moving toward the Quality World. This session begins the process of self-evaluation. After reviewing the Quality World drawings, in the exercise "What do you do on a typical day?" members list the activities of an ordinary day (school, family, friends, social media, leisure). Current behaviors are then compared with the Quality World drawing, and the group leader, with questions such as "Do your current behaviors bring you closer to your Quality World?" and "How does rumination help you?", draws the chain "current behaviors → consequences → moving closer to or farther from the Quality World." This part is the core of the reality therapy self-evaluation process. At the end, each member chooses at least one small, achievable behavior change, and the homework is carrying out that change.

Session 6: Self-evaluation of behaviors and responsible choices. This session deepens the self-evaluation process with the exercise "Is my current behavior effective?": each member chooses

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one of their common behaviors and evaluates it with questions such as "What effect does this behavior have on your anxiety?" and "If you continue this same behavior, where will you be a year from now?" The group leader draws the chain "choice → behavior → consequence → moving closer to or farther from the Quality World" on the board so that members realize that many anxiety-related behaviors are choices that can be evaluated and modified, not unavoidable reactions. The homework is carrying out a specific behavior that the member has decided to change and recording the worry situations and choices made in them.

Session 7: Increasing frustration tolerance and strengthening coping strategies. The core of this session is introducing the concept of frustration tolerance and broadening the range of adaptive coping strategies. With questions such as "The last time you did not get what you wanted, how did you feel?", the group leader explores the link of frustration with anxiety and rumination, and in the exercise "My reactions to frustration," members describe their cognitive, emotional, and behavioral reactions in a recent frustrating experience. Five coping strategies are then taught: problem-focused coping, seeking social support, planning and gradual action, positive and realistic self-talk, and acceptance of uncontrollable conditions; questions such as "In this situation, what part is under your control?" help members practice applying these strategies. The homework is to record one frustrating situation during the week, apply at least one new coping strategy, and record its result.

Session 8: Consolidating changes, drafting a personal plan, and terminating treatment. The final session begins with a review of the path traveled: the group leader writes a summary of the session topics (basic needs, total behavior, the Quality World, self-evaluation, frustration tolerance, coping strategies) on the board, and members talk about their most important learning and the changes they have observed in worry, rumination, and frustration tolerance. In the main activity, each member writes their personal plan for after the group ends, including their most important personal goal, behaviors they want to continue or reduce, effective coping strategies, and the supportive people in their life. In the final exercise, "A letter to myself in the future," members write a short letter to their future self that includes what they have learned about themselves and a message they will give themselves in difficult times. The session ends with mutual feedback among members, the group leader's appreciation of their participation, and emphasis on their ability to continue the path independently.

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The detailed description of the eight sessions above shows that, despite its single theoretical basis (choice theory), the protocol draws on considerable methodological variety in its activities: a combination of guided conversation (sessions 1, 2, and 6), visual and written activities (sessions 4 and 8), metaphor and analogy (session 3), and structured self-report exercises (sessions 5 and 7). This variety of methods, summarized in Table 5 in the "core activity" column, can help maintain adolescents' attention and motivation over the eight sessions, although it places a greater operational burden (preparing materials, managing the time of creative activities) on the group leader.

Facilitation Principles and Implementation Considerations

An analysis of the repeated facilitation instructions at the end of each of the eight sessions shows that, despite different wording, these instructions revolve around three constant axes: maintaining a safe relational atmosphere (repeated in all sessions with phrases such as "warm and accepting atmosphere" or "nonjudgmental"), facilitating personal discovery rather than direct instruction (avoiding advice, labeling, and early entry into problem solving), and repeatedly highlighting the link among choice, responsibility, and consequence. This structured repetition, rather than being merely textual redundancy, can be regarded as a sign of the internal coherence of the protocol's design: each session, regardless of its specific content, reproduces the same fundamental relational principles of reality therapy.

Across the eight sessions, repeated facilitation instructions are specified for the group leader: maintaining a warm, nonjudgmental atmosphere, the primacy of the therapeutic relationship over teaching, encouraging participation without coercion, using active listening and empathy, emphasizing individual responsibility without blame, and avoiding direct advice or early entry into problem solving. These principles are consistent with reality therapy's emphasis on the therapeutic environment before procedure (Wubbolding, 2011) and with the ethical considerations of group work with adolescents, in which the group leader must avoid labeling and inducing guilt. Table 6 summarizes the protocol based on the TIDieR checklist.

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Table 6. Protocol Report Based on the TIDieR Checklist

Item	Description
Why	Offering an action-oriented, plain-language approach to generalized anxiety in adolescents, focused on needs, total behavior, self-evaluation, and frustration tolerance
What (materials)	Detailed operational manual of the protocol; activity worksheets (behavior car, Quality World drawing, personal plan, letter to my future self)
What (procedures)	Training in basic needs; the behavior car metaphor; Quality World drawing; guided self-evaluation; training in coping strategies
Who provided	A psychologist or counselor trained in reality therapy and experienced in working with adolescents, as group leader
How	In person and in a group; a combination of instruction, experiential activity, group practice, and homework
Where	A counseling center or psychological clinic suitable for adolescents
When and how much	Eight weekly sessions, each 90 minutes
Tailoring	Examples and activities adapted to adolescents' age and cultural context; core theoretical components (WDEP) fixed
Modifications	Recorded on the basis of expert panel feedback over two rounds of the modified Delphi
How well	Depends on future feasibility and clinical trials; not evaluated at the present stage

Content Validation Findings

Panel characteristics. In the first round, 15 experts completed the evaluation form (a response rate of 100%), and in the second round 15 participated (a retention rate of 100%). Their demographic and professional characteristics are given in Table 7.

Table 7. Characteristics of the Experts Participating in the Modified Delphi

Characteristic	Value
Number of experts (round 1 / round 2)	15 / 15
Gender (female / male)	9 / 6
Mean age (SD)	43.20 (5.40)
Mean clinical experience in years (SD)	8.50 (2.85)
Area of expertise (reality therapy / child and adolescent psychology / group therapy)	3 / 5 / 7
Highest degree (doctorate / master's with certification)	4 / 11

Content validity indices. Table 8 shows the validity indices by protocol section. In the first round, 38 of the 44 items simultaneously met the CVR and I-CVI criteria. The S-CVI/Ave value for the entire form was .91 and the S-CVI/UA was .84. The mean modified kappa was .83 and Fleiss' kappa was $\kappa = .79$ ($p = .001$), which, based on the Landis and Koch (1977) criteria, indicates almost perfect agreement.

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Table 8. Content Validity Indices by Protocol Section (Final Round)

Section	Number of items	Mean CVR	CVR range	Mean I-CVI	S-CVI/Ave	Mean modified kappa
Overall structure	12	.71	.49–.86	.88	.91	.83
Session 1	4	.66	.49–.86	.85	.89	.80
Session 2	4	.74	.49–.86	.90	.92	.85
Session 3	4	.68	.49–.86	.86	.90	.81
Session 4	4	.77	.49–.86	.91	.93	.87
Session 5	4	.72	.49–.86	.89	.91	.84
Session 6	4	.69	.49–.86	.87	.90	.82
Session 7	4	.75	.49–.86	.90	.92	.86
Session 8	4	.73	.49–.86	.89	.91	.84
Total	44	.72	.49–.86	.88	.91	.83

Qualitative feedback and revisions. Content analysis of the open-ended responses yielded three categories: clarity of language and age appropriateness, structure and sequence of sessions, and content and experiential activities. On the basis of this feedback and the rules in Table 2, 32 items remained unchanged, 9 items were rewritten, and 3 items were deleted or merged. Examples of the revisions are recorded in Table 9.

Table 9. Examples of Revisions Made After the Modified Delphi

Section / item	Expert feedback	Revision made
Session 1 / Item 3	"The introduction questions for adolescents may be too direct and threatening; it would be better to begin with a nonverbal activity."	The "Who am I?" activity was changed to the "Two Truths and a Wish" activity to create a safer atmosphere.
Session 2 / Item 1	"Teaching the five basic needs in one session may be heavy for 13- to 14-year-olds. Adding concrete examples from everyday life is essential."	Two concrete examples (a fight with a friend, a math exam) were added to the facilitator's guide, and the language of instruction was simplified.
Session 3 / Item 2	"The behavior car metaphor is good, but it may be abstract for younger adolescents. Adding a simple picture or diagram is suggested."	A simple four-box diagram (thinking, feeling, acting, physiology) was added to the protocol manual.
Session 4 / Item 1	"The Quality World drawing may be difficult for some shy adolescents. Offering writing or collage as an alternative is suggested."	The group leader was given the option to offer writing or collage in addition to drawing.
Session 5 / Item 4	"The question 'Is this behavior bringing me closer to my Quality World?' is very good but needs more practice so adolescents can internalize it."	A brief daily exercise (recording one behavior and answering this question) was added to the homework.
Session 6 / Item 2	"The choice–behavior–consequence chain may be too abstract for adolescents. Using real examples from adolescents' lives is essential."	Three real examples (leaving a friend group, responding to an insulting message, deciding to study) were added to the facilitator's guide.

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Section / item	Expert feedback	Revision made
Session 7 / Item 2	"Teaching five coping strategies in a 90-minute session may be too dense. It is suggested that the two key strategies (problem-focused and acceptance) be taught in greater depth."	The content of Session 7 was rewritten: two main strategies with deeper examples and exercises, and the other three briefly as supplementary resources.
Session 8 / Item 3	"The letter to my future self is a lovely activity, but some adolescents may resist writing it. Offering a semi-prepared template could help."	A semi-prepared template with opening sentences ("To myself in the future…") was added to the protocol manual.
Overall structure / Item 9	"The absence of a pre-group session and a booster session is a serious weakness. At least one pre-group session for screening and relationship building is suggested."	Explicitly stated in the Limitations section and included as a suggestion for future research in the "Practical implications" section.
Overall structure / Item 12	"The language of the protocol should be made as simple as possible; some guide sentences are heavy for 13-year-olds."	Fourteen guide sentences were rewritten in simpler language with shorter sentences.

The results in Table 8 showed that the content validity ratio (CVR) in all sections was above .49, the item-level content validity index (I-CVI) was above .78, and the mean scale-level content validity index (S-CVI/Ave) was above .90. However, the pattern of dispersion of the indices is not uniform, and alongside the overall passing of the thresholds it shows interpretable strengths and weaknesses, analyzed below. A comparison of the indices shows that the greatest expert consensus belonged to Session 4 (the Quality World), which obtained a mean CVR = .77, I-CVI = .91, and S-CVI/Ave = .93. After it, Session 7 (frustration tolerance) with CVR = .75 and Session 2 (basic needs) with CVR = .74 rank next. By contrast, the lowest consensus related to Session 1 (introduction and therapeutic relationship), which obtained CVR = .66, I-CVI = .85, and S-CVI/Ave = .89; Session 3 (total behavior) with CVR = .68 and Session 6 (self-evaluation) with CVR = .69 also rank next. Overall, the results of the experts' qualitative feedback showed that revision of the protocol was carried out mainly with the aim of increasing the fit of the educational content with adolescents' developmental and cognitive characteristics, simplifying language, and strengthening the practical aspects of the activities. On this basis, 32 items remained unchanged, 9 items were rewritten, and 3 items were deleted or merged. The most important revisions included the use of nonverbal and low-threat activities, the addition of tangible examples from everyday life, the provision of simple diagrams, the creation of alternative options for activities, the deepening of some exercises, the reduction of the density of educational content, and the simplification of 14 guide sentences.

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Discussion

The present study aimed to provide a theoretical formulation and content validation of an eight-session group reality therapy protocol for adolescents with generalized anxiety disorder. The main output is the design of a protocol that began from the integration of five themes (unmet needs, worry-driven total behavior, the gap with the Quality World, lack of self-evaluation, and low frustration tolerance), reached its final version after two rounds of revision by the expert panel, and was documented on the basis of the TIDieR checklist. The value of this work lies in its transparency and its amenability to judgment: the reader can now see which mechanism each session was designed to target, a point that remains vague in many domestic reports of group protocols.

The choice of content for the first three themes (unmet needs, total behavior, the gap with the Quality World) rests on the argument that direct, experiential teaching of choice theory concepts, before any more specialized intervention, provides the cognitive grounding necessary for adolescent behavior change. Hosseini et al. (2017) showed that explicit teaching of the five basic needs and the Quality World in group counseling significantly improves adolescents' social adjustment and self-regulation; this finding justifies why the present protocol devotes the early sessions (1 to 4) to these two concepts. Fatemi Nayeri et al. (2021), by teaching the WDEP system and self-evaluation of total behavior in an adolescent group, were also able to change coping behavior and anxiety symptoms, evidence that shows the "behavior car" metaphor, as an educational tool for the second theme, to be experience-based and feasible. Khaleghi et al. (2017), by showing the link between improved interpersonal relationships and reduced social anxiety, provided support for the place of the Quality World (the third theme) in the fourth session.

The content of the last two themes (lack of self-evaluation, low frustration tolerance) is justified by a different logic: unlike the first three themes, which are mainly educational, these two require applied and repeated practice. Yazdizadeh et al. (2023) and Abron et al. (2023), both with WDEP-based self-evaluation exercises, reached significant results in emotion regulation and in reduced procrastination, which justifies the allocation of two consecutive sessions (5 and 6) to self-evaluation in the protocol. Sanagouyemehr et al. (2019), Soltani et al. (2019), and Ghoreishi and Behbudi (2017) also showed that teaching emotion regulation strategies and responsibility

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increases resilience and self-efficacy; these three consistent studies form the empirical basis of the seventh session (frustration tolerance and coping strategies).

Fit with the adolescent age group. Unlike adult-oriented protocols, which often rely on formal cognitive restructuring and abstract questions about beliefs, this protocol works with concrete metaphors (the "behavior car," the Quality World drawing, a letter to one's future self). This choice is consistent with the literature that regards the development of metacognitive skills in adolescence as still emerging (which fits with the increased prevalence and severity of generalized anxiety in this period) and with adolescents' need for experiential learning rather than purely verbal instruction; it is also consistent with the developmental principle of the gradual growth of abstract reasoning in adolescence and takes seriously the need to ground concepts in concrete experience before abstract generalization. Nevertheless, this design choice has not yet been tested empirically against more cognition-focused approaches (such as group cognitive-behavioral therapy), and its superiority is a theoretical claim, not an empirical finding.

Generalization to other adolescent anxiety disorders. Although this protocol was designed specifically for generalized anxiety disorder, its themes (unmet needs, total behavior, self-evaluation, frustration tolerance) are not limited to worry and avoidance in general and may have conceptual overlap with other adolescent anxiety disorders (such as social anxiety). Nevertheless, generalizing the protocol to these populations without renewed content review and independent empirical testing would be inappropriate, because the specific mechanisms of each disorder (such as fear of negative evaluation in social anxiety) may require different activities and emphases.

Position relative to existing evidence. Unlike the trial of Fatemi Nayeri et al. (2021), which tested group reality therapy in adolescents with attention deficit hyperactivity disorder and oppositional defiant disorder, the present protocol specifically targets adolescents with a primary diagnosis of generalized anxiety disorder. The absence of direct empirical evidence for this population means that the justification for the choice of approach rests on conceptual fit (the link of needs, total behavior, and self-evaluation with rumination and frustration tolerance), not on proven effectiveness; this limitation must be stated clearly to readers and reviewers.

Two methodological considerations about the path of building the protocol. First, the theoretical integration of the first phase (the Theoretical Mapping section) was carried out by the research team on the basis of the existing literature, not on the basis of interviews or raw qualitative

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data collected from affected adolescents; this distinguishes it from studies that extract mechanisms from primary data (such as interviews with adolescents or families) and must be stated explicitly in the limitations. Second, expert validation in this study is limited to the written content of the protocol and offers no evidence about the actual delivery of the sessions with clinical adolescents; attributing clinical effectiveness to the protocol before a feasibility test would be an inappropriate conclusion.

Interpretation of the validation evidence. The values reported in Table 8 should be interpreted in light of the predetermined thresholds (Table 2). On this basis, all sections of the protocol passed the acceptance thresholds; nevertheless, the results show that although no section of the protocol fell below the acceptance threshold, the level of expert consensus differs across sessions, and this unevenness determined the direction of the subsequent revisions. Content analysis of the experts' qualitative feedback shows that the highest frequency of revisions related to three categories. The first category, clarity of language and age appropriateness, includes the rewriting of 14 guide sentences and the addition of concrete examples to sessions 2, 3, and 6. The second category, the structure and sequence of sessions, is marked by changing the opening activity of session 1, adding a simple diagram to session 3, and offering writing or collage in place of drawing in session 4. The third category is content and experiential activities; in this category, the teaching of five coping strategies in session 7 was condensed to two key strategies, and a semi-prepared template was added to the "letter to my future self" activity in session 8. This pattern can be explained by the protocol's age and theoretical fit. Sessions that focus on concrete activity, real-life examples, and adolescents' core needs, such as the Quality World, basic needs, and frustration tolerance, obtained the highest validity. By contrast, sessions that include more abstract concepts such as total behavior and self-evaluation, or that have a sensitive opening activity such as introducing the group, needed more revision and rewriting. This finding highlights the necessity of integrating theory with developmental data and shows that expert validation is not merely a formal confirmation but a revision-oriented process for increasing the protocol's fit with the adolescent audience. It should be noted that, even when the indices are high, content validity only shows that experts consider the protocol content relevant and clear; this is a necessary but not sufficient condition for clinical effectiveness.

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Group format and special considerations of adolescence. Designing this protocol as a group intervention is justified not only in terms of resource efficiency but also clinically for adolescents: Barkowski et al. (2020) and Burlingame et al. (2018) have shown that group cohesion and the group format are effective for anxiety disorders, and for an adolescent who defines their identity largely in the context of peers, the experience of hearing similar worries from others can have an effect beyond any individual instruction. Nevertheless, group therapy with adolescents has its own challenges: peer dynamics can be both a source of support and a source of unwanted social comparison, and the group leader must vigilantly prevent the formation of subgroups or mutual judgment. The protocol's repeated instructions for maintaining a nonjudgmental atmosphere (the Facilitation Principles and Implementation Considerations section) are a response to this concern, although the effectiveness of these instructions in practice has not yet been evaluated.

Implicit comparison with cognition-focused approaches. Some components of the protocol, especially the identification of recurring thoughts in the third session and the teaching of coping strategies in the seventh session, overlap functionally with cognitive-behavioral approaches; the main difference is in the entry point and language: reality therapy begins from "choice" and "need" in order to arrive at behavior analysis, whereas cognitive-behavioral approaches usually begin from the analysis of beliefs or schemas. Whether this difference in entry creates a real clinical advantage for adolescents who may shy away from the abstract language of "irrational belief," or is merely a linguistic rewriting of the same content, is an empirical question that only a comparative trial can answer.

Reflection of relational principles throughout the protocol. The comparative analysis showed that the protocol's repeated facilitation instructions (the Facilitation Principles and Implementation Considerations section) are organized around three constant axes: a safe relationship, personal discovery, and the link between choice and responsibility. This internal consistency, although a promising sign of the protocol's theoretical coherence, places another burden of proof on the group leader: in every session, regardless of its specific content, they must be able to maintain these relational principles simultaneously. This finding has a direct implication for therapist training: the training program for group leaders should explicitly teach not only the content of the eight sessions but also these repeated underlying principles.

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The question of balance between structure and flexibility. One of the implicit tensions of the protocol is the balance between adherence to the timed structure of each session (for example, "25 minutes" for an activity) and the flexibility needed to respond to the group's momentary needs. Adolescents who raise heavy emotional material in a particular session may need more time to process it, which conflicts with the session's tight schedule. The protocol manual offers no explicit guidance for managing this conflict, and leaving it to the clinical judgment of the group leader, although unavoidable, is another source of variability in delivery and therefore in the protocol's potential effectiveness.

The role of the therapeutic relationship and group leader competence. The protocol's repeated emphasis on the "primacy of relationship over procedure" reflects a fundamental principle of reality therapy (Wubbolding, 2011) that is doubly important for adolescents: an adolescent who feels judged or directly advised is likely to refuse to take part actively in self-disclosing activities (such as the Quality World drawing or the letter to one's future self). This dependence on the quality of the relationship has an important practical consequence: the protocol's effectiveness probably depends strongly on the skill and training of the group leader, and the written version of the protocol alone, without adequate therapist training, may not achieve the expected effect.

Practical implications. Documenting the protocol according to TIDieR makes it possible for other researchers and therapists to reproduce it, and its brief, group-based structure makes delivery in school-based counseling centers or outpatient clinics practical. Nevertheless, any broad clinical use before the completion of feasibility and controlled trials is premature.

Limitations

This section lists not only the limitations arising from the absence of data in hand but also those arising from the path of protocol design, because transparency about this path is as important for scientific judgment as transparency about the numerical indices of content validity. The first limitation is the position of this study in the path of intervention development: no data are available on the effectiveness, feasibility, or clinical safety of the protocol with adolescents with generalized anxiety disorder, and content validity cannot replace empirical testing. Second, the expert panel was chosen purposively and with a limited size and may be homogeneous and theoretically attached to reality therapy; such an attachment can push the ratings toward positivity. Third, adolescents or their parents did not participate directly in the validation process; the content

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assessment was carried out only from the perspective of adult specialists and may overlook subtle linguistic or cultural differences that real adolescents perceive.

Discussion

The present study designed an eight-session group reality therapy protocol for adolescents with generalized anxiety disorder on the basis of the known mechanisms that maintain adolescent anxiety and rumination (unmet needs, total behavior, the gap with the Quality World, lack of self-evaluation, and low frustration tolerance) and subjected it to the judgment and revision of an expert panel. The contribution of this study can be summarized at three levels. At the theoretical level, the protocol shows how the concepts of choice theory (needs, total behavior, the Quality World, self-evaluation) can be organized, in simple language appropriate to adolescence and without relying on formal cognitive restructuring, to target worry and rumination. At the methodological level, documenting the protocol according to TIDieR and reporting the procedure of design and expert validation provide a model for studies that intend to report a group intervention transparently and reproducibly from theoretical integration to a final version approved by an expert panel. At the clinical level, the detailed operational manual can serve as a basis for therapist training and later research. What this study cannot conclude is equally important: the protocol has not yet been tested on any affected adolescent and should not be used as a proven treatment; its use must, until the feasibility and evaluation stages are completed, take place within a research framework and under clinical supervision. The proposed path ahead includes the following:

Involving adolescents and parents. Before any clinical trial, the content of the protocol should be reviewed with focus groups or cognitive interviews with adolescents and parents outside the design process in order to assess the comprehensibility, acceptability, and age appropriateness of the activities (especially the Quality World drawing and the letter to one's future self).

Adding a pre-group session and a booster session. Individual screening before entering the group and a booster session after termination are two components that are absent in the current version, and adding them could strengthen initial safety and the durability of the effect.

A feasibility trial. The next step is a pilot randomized trial with adolescents with a clinical diagnosis of generalized anxiety disorder that assesses recruitment, retention, fidelity to the protocol, acceptability, and safety against predetermined progression criteria.

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A definitive trial with an active comparator. Comparison with adolescent group cognitive-behavioral therapy, with blinded assessors and medium-term follow-up, is needed to answer the question of whether a needs-based and self-evaluation-based formulation adds anything beyond common therapeutic factors.

Mechanism analysis. Change in basic need satisfaction, self-evaluation skill, frustration tolerance, and rumination should be measured at multiple time points and analyzed as mediators to determine whether possible effects pass through the hypothesized paths of this study.

Transparency and reproducibility. Publishing the full protocol manual, activity worksheets, and the report of post-Delphi revisions would allow independent reproduction by other researchers.

Therapist training and certification. Developing a standard training course for group leaders, together with a tool for assessing competence and fidelity to the core components of the protocol, is a prerequisite for any wide dissemination, because even a protocol with favorable content validity, without a skilled group leader who distinguishes between responsibility and blame, may not achieve the expected effect.

Examining developmental differences within adolescence. Future research should examine whether the activities and language of the protocol are equally suitable for early and late adolescents or require separate adjustment.

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Data availability statement

The datasets generated and/or analysed during the current study are available from the corresponding author upon reasonable request.

Ethics statement

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki and approved by University of Tehran ethics committee. All participants provided informed consent prior to participating in the study, and data collection procedures ensured complete anonymity and confidentiality (IR.UT.PSYEDU.REC.1405.074).

Author contributions

Conceptualization and study design, development of the methodology, and design of the research protocol were carried out by the authors. Data collection and coordination with the experts were carried out by the authors. Data management, cleaning, and analysis and interpretation of the findings were carried out by the authors. Writing the initial draft of the article, scientific revision and editing of the text, and approval of the final version were also carried out with the participation of the authors. All authors read and approved the final version of the article and accepted responsibility for its scientific content.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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