

Development of a Mentalization-Based Communication Skills Training Package for Adolescent Girls with Self-Injurious Behaviors

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Article type:
Original Research

Article history:
Received 5 February 2025
Revised 17 June 2025
Accepted 23 June 2025
Published online 1 July 2025

ABSTRACT

The present study aimed to develop a mentalization-based communication skills training package for adolescent girls exhibiting self-injurious behaviors. Therefore, the study employed a mixed-methods research design. The methodology was based on the content analysis approach of Hsieh and Shannon (2005), and the research environment included all texts related to communication skills and mentalization. According to the inclusion and exclusion criteria, ten texts were selected from each category. The criterion for the number of texts was the saturation of qualitative data. Data analysis followed Hsieh and Shannon's (2005) method for each set of texts. The results of this phase led to the extraction of dimensions, concepts, and sub-concepts for both categories of texts. To design the package, the six-step model proposed by Yousefi and Golparvar (2023) was utilized, leading to the formulation of the structure and content of the training package. The goal of the package was to enhance self-disclosure and empathy as key relationship-sustaining skills through mentalization strategies and techniques. After the development of the package, its content validity was assessed by expert psychotherapists and counselors using the evaluator agreement coefficient. Accordingly, a CVR (Content Validity Ratio) of 0.96 was obtained, indicating strong content validity. Based on these findings, it can be concluded that the mentalization-based communication skills training package possesses content validity as affirmed by experts and is suitable for preliminary implementation to evaluate its practical validity.

Keywords: communication skills, mentalization, adolescent girls, self-injurious behavior

How to cite this article:

Alaeinejad, N., Torkan, H., & Yousefi, Z. (2025). Development of a Mentalization-Based Communication Skills Training Package for Adolescent Girls with Self-Injurious Behaviors. *Mental Health and Lifestyle Medicine Journal*, 3(3), 1-14. <https://doi.org/10.61838/mhfmj.3.3.1>

Introduction

Adolescence is a developmental stage marked by rapid psychological, emotional, and social transformations that shape self-identity, interpersonal relationships, and emotional regulation. Within this sensitive period, the emergence of self-injurious behaviors—particularly among adolescent girls—has drawn considerable clinical and research attention. These behaviors often reflect underlying emotional

dysregulation, interpersonal conflict, and deficient reflective capacity, especially in the context of compromised social communication skills and an impaired sense of self and others. Increasingly, scholars emphasize the role of interpersonal communication and mentalization in fostering adaptive functioning, emotional resilience, and relational competence, particularly for at-risk populations such as self-injuring adolescents (1-3).

Interpersonal communication skills serve as the foundation for effective social interaction, emotional exchange, and the development of meaningful connections. Research shows that individuals with strong interpersonal skills exhibit greater psychological well-being, enhanced empathy, and more adaptive coping mechanisms during interpersonal stressors (4-6). These skills are not merely tools for verbal expression but encompass nonverbal communication, active listening, empathy, and emotional expressiveness (7, 8). In adolescents, particularly girls, deficiencies in communication skills have been closely linked to social withdrawal, peer rejection, and maladaptive behaviors such as non-suicidal self-injury (NSSI) (9, 10).

Mentalization—the capacity to understand one’s own and others’ behavior in terms of underlying mental states—has gained traction as a core psychological function associated with emotion regulation, self-organization, and interpersonal functioning (1, 11, 12). Empirical studies demonstrate that deficits in mentalization contribute to poor emotional insight, impulsivity, and interpersonal misattunement, all of which are implicated in the etiology and maintenance of self-injurious behaviors (3, 13, 14). As such, enhancing mentalization capacities through targeted interventions has been proposed as a promising therapeutic approach for adolescents at risk of or engaged in self-harming behaviors (2, 15).

Mentalization-Based Treatment (MBT), originally developed for borderline personality disorder, emphasizes the restoration of reflective functioning through structured psychotherapeutic interventions aimed at improving emotion regulation, understanding social signals, and developing a coherent self-concept (11, 15). MBT’s core principles have since been adapted for a range of clinical populations, including adolescents with emotion regulation difficulties and self-injurious behavior (13, 14). A critical component of MBT involves teaching individuals to hold mental states in mind—both their own and those of others—which facilitates more adaptive and flexible interpersonal responses. Given its growing empirical support and alignment with developmental needs, mentalization-based interventions are now being explored as feasible and effective training packages in educational and clinical settings (16, 17).

Despite the theoretical appeal and clinical promise of mentalization-based interventions, their integration into structured communication skills training packages for adolescents—especially those with self-injurious tendencies—remains limited. Communication deficits and mentalization impairments often co-occur, making it essential to develop holistic interventions that concurrently target both domains (7, 8). Adolescents who engage in NSSI often exhibit difficulties in articulating emotional needs, interpreting others' intentions accurately, and sustaining reciprocal relationships. These challenges can exacerbate emotional dysregulation and perpetuate maladaptive coping strategies such as self-harm (2, 3).

Integrating mentalization principles into communication skills training offers a developmentally sensitive and theoretically grounded approach for enhancing adolescents’ relational competence. For instance, empathy—a core facet of both communication and mentalization—requires not only understanding another's emotional state but also interpreting it through a mental state lens (6, 18). Similarly, self-disclosure, a key communication behavior, becomes more adaptive and meaningful when guided by reflective awareness of

self and audience (4, 5). Training adolescents to recognize their own intentions, mental states, and those of others enables them to make more informed communicative decisions, manage interpersonal boundaries, and reduce emotional misattunement—all of which are protective against maladaptive behaviors like NSSI.

Empirical support for the effectiveness of communication training in children and adolescents is robust. Studies have shown that social skills education improves interpersonal functioning, emotional self-respect, and problem-solving abilities (4, 10, 19). Additionally, specific training programs in emotional intelligence and interpersonal awareness have been linked to increased empathy, better social integration, and reduced conflict in youth populations (18, 20). In educational and healthcare settings, the incorporation of interpersonal communication training has improved not only relational competencies but also professional functioning and organizational outcomes (7, 8).

Neuroscientific findings further validate the importance of integrating mentalization into communication skills training. Research indicates that mentalization processes are mediated by specific brain regions—including the medial prefrontal cortex, temporoparietal junction, and posterior superior temporal sulcus—which are involved in perspective-taking, empathy, and theory of mind (17). These neural underpinnings highlight the potential for cognitive and emotional retraining, particularly in adolescence, when the brain is undergoing extensive developmental changes. Supporting reflective functioning during this period could not only prevent maladaptive coping mechanisms but also enhance adaptive communication strategies that support long-term relational and emotional resilience (1, 12).

From a developmental psychopathology perspective, adolescent self-injury can be understood as a maladaptive strategy to manage overwhelming emotional experiences and unmet relational needs. These behaviors often arise in the context of attachment disruptions, identity confusion, and difficulties in interpreting social signals (2, 9). Consequently, fostering reflective self-awareness and improving the ability to understand the minds of others are not only therapeutic goals but also critical developmental milestones for healthy socio-emotional functioning (1, 16). Interventions that promote reflective dialogue, build empathy, and support the development of secure and coherent relational schemas have the potential to mitigate self-harming behaviors and foster resilience (11, 14).

Given these converging lines of evidence, the current study aimed to develop a structured communication skills training package grounded in the principles of mentalization for adolescent girls exhibiting self-injurious behavior. By synthesizing empirical findings from communication science, clinical psychology, and developmental neuroscience, the training package seeks to address both relational skill deficits and reflective impairments that characterize this vulnerable group. The goal is not merely to teach communication strategies but to cultivate deeper psychological insight, interpersonal sensitivity, and emotional adaptability—core capacities that form the bedrock of adolescent mental health and relational development (7, 13).

In sum, this study responds to a critical gap in the intervention literature by integrating two theoretically and empirically validated constructs—communication skills and mentalization—into a comprehensive educational framework.

Methods and Materials

Given that the qualitative phase of this study focused on developing a communication skills training package based on mentalization, relevant texts in the field were analyzed. Therefore, the study followed a qualitative approach, and the data were analyzed using the conventional content analysis method proposed by Hsieh and Shannon (2005). This design is suitable when theories and existing research texts on the topic under investigation are available. In this study, such texts were indeed accessible, and all codes and categories were directly extracted from the texts.

Texts in the domains of communication skills and mentalization were analyzed. Accordingly, the research was qualitative, and content analysis was conducted using the conventional approach of Hsieh and Shannon (2005), which is applicable when theoretical frameworks and relevant literature are available. In this research, texts existed for both domains, and codes and categories were directly derived from them. The research environment consisted of literature concerning communication skills and mentalization. The selection of texts continued until data saturation occurred. Data saturation was achieved after analyzing five sources; however, the number of texts in both categories was increased to ten. These texts, dated between 2000 and 2025, included books, articles, and dissertations—both national and international—that best aligned with the study variables. The inclusion criteria were:

1. Texts must be from the past 20 years.
2. Communication skills or mentalization must be a primary concept in the text.

The exclusion criteria were:

1. The text must not be from an unrecognized publisher.
2. The text must not be an undergraduate or master's thesis.

It is noteworthy that based on a review of the existing databases, no published article in Persian was found on the study topic at the time of writing.

Selected Texts Related to Communication Skills:

- Pocock, D. (2011). *When anger endangers relationships: Self-harm as a systemic solution*. *Context*, 115, 63–66.
- Puscas, L., Kogan, J. R., & Holmboe, E. S. (2021). *Assessing interpersonal and communication skills*. *Journal of Graduate Medical Education*, 13(2s), 91–95.
- Bambacas, M., & Patrickson, M. (2008). *Interpersonal communication skills that enhance organisational commitment*. *Journal of Communication Management*, 12(1), 51–72.
- Petrovici, A., & Dobrescu, T. (2014). *The role of emotional intelligence in building interpersonal communication skills*. *Procedia-Social and Behavioral Sciences*, 116, 1405–1410.
- Hargie, O. (2021). *Skilled interpersonal communication: Research, theory and practice*. Routledge.
- Solomon, D., & Theiss, J. (2022). *Interpersonal communication: Putting theory into practice*. Routledge.
- Kelly, A. (2018). *Social skills: Developing effective interpersonal communication*. Routledge.
- Özbey, S., & Köyceğiz, M. (2020). *A study on the effect of the social skill education on the academic self-respect and problem-solving skills of the pre-school children*. *International e-Journal of Educational Studies*, 4(8), 176–189.

- Dowswell, E., & Chessor, D. (2014). *Socially skilled successful students: Improving children's social intelligence through social education programs*. *E-Journal of Social Behavioural Research in Business*, 5(2), 23–60.
- Knight, A., Palermo, C., Reedy, G., & Whelan, K. (2024). *Teaching and assessment of communication skills in dietetics: A scoping review*. *Journal of Human Nutrition and Dietetics*, 37(2), 524–537.

Selected Texts Related to Mentalization:

- Bateman, A. W. (2022). *Mentalization-based treatment*. In S. K. Huprich (Ed.), *Personality disorders and pathology: Integrating clinical assessment and practice in the DSM-5 and ICD-11 era* (pp. 237–258). American Psychological Association. <https://doi.org/10.1037/0000310-011>
- Malda-Castillo, J., Browne, C., & Perez-Algorta, G. (2019). *Mentalization-based treatment and its evidence-base status: A systematic literature review*. *Psychology and Psychotherapy: Theory, Research and Practice*, 92(4), 465–498.
- Fonagy, P., Gergely, G., & Jurist, E. L. (2018). *Affect regulation, mentalization and the development of the self*. Routledge.
- Monticelli, M., Zeppa, P., Mammi, M., Penner, F., Melcarne, A., Zenga, F., & Garbossa, D. (2021). *Where we mentalize: Main cortical areas involved in mentalization*. *Frontiers in Neurology*, 12, 712532.
- Dimitrijević, A., Hanak, N., Altaras Dimitrijević, A., & Jolić Marjanović, Z. (2018). *The Mentalization Scale (Ments): A self-report measure for the assessment of mentalizing capacity*. *Journal of Personality Assessment*, 100(3), 268–280.
- Gagliardini, G., & Colli, A. (2019). *Assessing mentalization: Development and preliminary validation of the Modes of Mentalization Scale*. *Psychoanalytic Psychology*, 36(3), 249.
- Lüdemann, J., Rabung, S., & Andreas, S. (2021). *Systematic review on mentalization as key factor in psychotherapy*. *International Journal of Environmental Research and Public Health*, 18(17), 9161.
- Daubney, M., & Bateman, A. (2015). *Mentalization-based therapy (MBT): An overview*. *Australasian Psychiatry*, 23(2), 132–135.
- Freeman, C. (2016). *What is mentalizing? An overview*. *British Journal of Psychotherapy*, 32(2), 189–201.
- Belvederi Murri, M., Ferrigno, G., Penati, S., Muzio, C., Piccinini, G., Innamorati, M., ... & Amore, M. (2017). *Mentalization and depressive symptoms in a clinical sample of adolescents and young adults*. *Child and Adolescent Mental Health*, 22(2), 69–76.

To collect data, a detailed text review guide was used. The guide consisted of questions that directed the researcher to focus on the dimensions of communication skills and mentalization within the texts and to take notes on key and significant expressions. Once the texts for analysis were identified, they were studied line by line, and their content was examined and coded. The coding was reviewed by the research supervisor and advisor. In this phase, coherence and consistency of the data in terms of meaning and concept were evaluated, while also ensuring clear distinctions between different content themes.

In the subsequent step, the texts were thoroughly reviewed with the help of the supervisor and advisor, and the derived themes were revised. It is important to note that data were analyzed simultaneously during

their collection. This iterative interaction between what is known and what should be known, and the continuous back-and-forth movement between data and analysis, is at the heart of achieving validity and reliability. In this study, concurrent data collection and analysis and repeated transitions between data and codes were implemented.

To ensure the validity and reliability of the results, the following criteria were observed (Ayubi & Salehi, 2025):

Usefulness: Usefulness indicates that the findings of the qualitative study are beneficial and clarifying for the research subject. Since the purpose of this research was to identify components of communication skills training based on mentalization, it can serve to inform counselors and clients in improving conditions and interpersonal relationships among individuals with self-injurious behaviors.

Contextual Integrity: This criterion implies that the studied phenomenon is examined within its contextual framework. In the present study, all relevant variables were considered to provide a more comprehensive description of the context.

Researcher Positioning: This criterion requires the researcher to be aware of their own positionality to avoid unconscious bias in the interpretation of the texts. In this study, the researcher aimed to maintain awareness of their role and to avoid bias in sample selection, analysis, and interpretation of the texts. Additionally, the researcher collaborated with another expert to avoid unconscious influence on interpretations.

Reporting Style: This refers to the reporting method that allows other experts and users to comprehend the findings. In this study, qualitative findings were reported in tabular and graphical formats to facilitate understanding.

Researcher Triangulation: This entails multiple individuals being involved in coding and data analysis. In this study, texts were coded by the researcher, and data analysis was conducted collaboratively by the researcher, the supervisor, and a qualitative research coding expert.

Package Development and Validation Process: After extracting the main concepts and based on those and their sub-concepts within the domain of mentalization-based communication skills, an eight-session training program was developed following the strategies of the American Psychological Association and using the six-step model of Yousefi and Golparvar (2023).

Findings and Results

Overall, to analyze the data extracted from texts related to communication skills and mentalization, and given that the research method was content analysis, the five-step method of Hsieh and Shannon (2005) was used as follows:

1. Identifying units of analysis as core conceptual units and extracting them.
2. Extracting all sub-concepts related to the core concepts.
3. Associating sub-concepts with foundational concepts.
4. Providing examples and instances for the foundational concepts.
5. Evaluating the consistency of coding and conceptualization with the existing texts, which was pre-reviewed by the academic supervisor and a qualitative research specialist; the conclusions were drawn based on coding and categorization.

The following table presents a summary of the completed stages for communication skills, followed by mentalization.

Table 1. Results of Content Analysis of Interpersonal Skills

Example of Foundational Concept	Foundational Concept	Sub-Concept	Core Concept
Making eye contact	Paying attention	Verbal skills	Relationship initiation skills
Not interrupting speech		Open-ended questioning	
Avoiding excessive and closed questions			
Reflecting on words and conversations	Redirecting attention		
Reflecting content			
Reflecting emotions			
Avoiding judgment			
Giving feedback			
Being considerate			
Recognizing the other's sensitivities	Conveying willingness to maintain the relationship	Non-verbal skills	
Considering the other's sensitivities			
Adhering to time commitments			
Asking about interests			
Discovering interests			
Respecting interests			
Attending to age-related conditions	Considering the other's demographics (age, education, culture)	Facial expressions	
Considering cultural background			
Considering educational level			
Considering physical presence and posture			
Attending to facial expressions			
Being cheerful			
Ability to exchange information	Information exchange	Self-disclosure	
Sharing appropriate and relevant information			
Demonstrating trust			
Revealing authentic self			
Openness to others' information			
Maintaining confidentiality in other relationships			
Demonstrating values	Creating healthy boundaries		
Expressing expectations			
Indicating limits			
Defining emotional boundaries			
Defining physical boundaries			
Defining virtual boundaries			
Avoiding unnecessary curiosity			
Attending to the other person	Creating a sense of being understood	Empathy	
Respecting the other person			
Attending to others' needs			
Non-face-to-face communication based on regular rhythm	Maintaining communicative routine		
Remote contact on a regular basis			
Managing overt and covert anger	Anger control and emotional regulation		
Regulating negative emotions			
Attending to relational responsibilities based on relationship depth	Responsibility in interaction	Relationship maintenance skills	
Offering services based on relationship depth			
Having a cooperative spirit			
Problem-solving	Conflict resolution		
Dialoguing			
Being open to compromise			

Ability to reach win-win outcomes	
Shifting from insecure to secure attachment	Relationship anxiety management
Managing insecure attachment	

As shown in Table 3, the analysis of texts related to communication skills identified two core concepts: *relationship initiation skills* and *relationship maintenance skills*. Relationship initiation skills included two sub-concepts: *paying attention* and *redirecting attention*. Non-verbal skills included two additional sub-concepts: *conveying willingness to maintain the relationship* and *considering the demographic characteristics of the other person based on contextual factors*.

Relationship maintenance skills encompassed two sub-concepts: *self-disclosure*, with sub-components including *appropriate information exchange* and *creating healthy boundaries*, and *empathy*, which included sub-components such as *creating a sense of being understood*, *maintaining routine communication*, and *managing emotions*.

Table 4 presents a summary of the results related to the content analysis of mentalization texts.

Table 2. Summary of Content Analysis Results on Mentalization

Example of Foundational Concept	Foundational Concepts	Sub-Concepts	Core Concepts
Understanding one's own emotions	Self-understanding ability	Understanding one's own psychological states Understanding one's own needs Understanding one's own desires Understanding the reasons behind one's behaviors Understanding one's goals Understanding one's own emotions	Reflective functioning
Ability to realize others perceive life differently Seeing oneself through others' eyes Inferring others' emotions Inferring others' needs	Ability to understand individual differences Attending to others' minds rather than behavior	Ability to understand others' states Inferring reasons behind others' behaviors Inferring others' goals	Understanding others' states
Inferring others' motivations Gaining others' trust	Predictability	Identity formation support	Outcomes of mentalization
Ability to learn from others Taking responsibility for oneself Conflict resolution ability Reduced blame Reduced self-blame	Increased responsibility Improved communication Goal setting and pursuit	Responsibility toward others Reduced relational rumination Self-regulation support	
Readiness to handle new situations Managing desires conflicting with goals Adaptive regulation of negative emotions	Facing new situations Impulse control Emotion regulation ability	Managing situations non-judgmentally Managing thoughts and emotions Acting based on goals, not emotions	
Suspicion about others' intentions Closed mind Dogmatic understanding of others	Inability to learn	Absence or weakness in mentalization foundations Epistemic mistrust Inability to understand others	Psychopathology
Projective mentalization (attributing unwanted thoughts to others) Pretend mode of mentalization (exaggerating situations)	Misperception of others	Impaired mentalization Cognitive equivalence ("my thought is correct")	

Pseudo-mentalization (understanding others in only one way)		Inability to accept new information	
Cognitive inflexibility		Adequate self-representation	Goal of therapy
Understanding self and others	Self-coherence	Achieving goals	
Personal development			
Sense of self-worth			
Increased attachment security	Better and more stable relationships	Managing avoidant and anxious relational behaviors	
Gaining social support		Improved empathy	
Openness to experience without blame or judgment	Open-mindedness	Creating security through support and empathy	
Balance (harmonizing the various dimensions of mentalization)		Empathy (putting oneself in another's shoes)	
Learning from others	Developing epistemic trust	Realizing others don't intend harm	
Establishing healthy boundaries			
Flexibility in emotional reactivity	Improved reflective functioning	Understanding what goes on in others' minds	
Self-regulated	Balancing the eight functions of mentalization	Balanced brain training	Therapeutic principles and strategies
Self and others (understanding one's own and others' intentions)	Cognitive-emotional	Internal vs. external focus (reconciling internal state with observed reality)	
Awareness of brain levels	Understanding brain function from bottom-up	Functions of brain levels	
Recognizing emotions	Emotional compass skill	Recognizing frequent emotions	Skills
Responding to frequent emotions			
Recognizing situations that trigger risky behavior	Crisis management skills	How to avoid such situations	
What would you do in a similar situation?			
Describing a distressing event	Reflection and compensation skills	Explaining related thoughts and feelings	
Others' experiences in similar situations		Making reparations for oneself and others	
Goal setting	Behavior regulation strategies	Self-motivation	
Planning		Impulse control	
Evaluation			
Recalling past sad event	Sadness control button	How to reduce sadness in past situations	
Discovering others' role in sadness		Discovering one's role in sadness and joy	
Decision to switch from sadness to joy			
Identifying anxiety pyramid	Anxiety management-related skills	Creating a safe environment	
Facing anxieties			

As shown in Table 2, five main concepts were extracted from the deductive content analysis of the mentalization texts:

1. **Reflective functioning**, with sub-concepts including understanding psychological states of self and others.
2. **Mentalization outcomes**, with sub-concepts including support for identity formation and assistance with self-regulation.
3. **Psychopathology**, with sub-concepts including impaired mentalization and absence or weakness of mentalization foundations.
4. **Goals of mentalization**, with sub-concepts such as adequate self-representation and creating security through gaining support and empathy.

5. **Therapeutic strategies and techniques**, with sub-concepts including balanced brain training and skills training.

To develop the training package, the six-step model by Yousefi and Golparvar (2023), as cited in Mirzaei et al. (2025), was used.

Step One: In this phase, the research team repeatedly reviewed all concepts, sub-concepts, and initial codings related to each category of texts. Based on the content of these concepts, the team decided to integrate both awareness-building and skill-building strategies in order to fundamentally enhance communication skills through mentalization. Given the specific conditions of self-injuring adolescents, the research team decided to focus on *relationship maintenance* as the central theme of training. Two key sub-concepts—*self-disclosure* and *empathy*—were identified as core elements. From the mentalization domain, the focus was placed on *identity development* and *self-coherence* through *responsibility-taking* and *self-regulation*, and on improving *reflective functioning* via *balanced brain training*, *attachment security*, and *mentalization techniques*. As a result, the two communication skills of empathy and self-disclosure were set to be enhanced.

Step Two: At this stage, the research team decided to teach the aforementioned communication skills using corrective strategies framed within mentalization-based mechanisms.

Step Three: The research team then extracted strategies aligned with each identified theme based on the concept of mentalization and adapted them to the life context of self-injuring adolescent girls.

Step Four: The team determined the number of sessions, the time required for each session, and the prioritization of topics. Techniques related to each session were specified. It was decided that each session would last 90 minutes.

Step Five: The fifth step involved drafting and preparing the content of the training package according to the American Psychological Association (APA) guidelines (i.e., defining behavioral objectives, setting session goals, and determining strategies and techniques), under the supervision of academic advisors.

Step Six: In the final step, the process and content of the training package were validated by consultants and psychologists specialized in mentalization-based therapy and interpersonal communication. Table 3 presents a summary of the content and process of the mentalization-based communication skills training package.

Table 3. Summary of the Content and Process of the Mentalization-Based Communication Skills Training Package

Session	Goal, Content, and Assignment
1	Goal & Content: Self-awareness regarding responsibility and motivation for mentalization-based change. Assignment: Complete Worksheet 1 – Self-awareness in Responsibility.
2	Goal & Content: Understanding the importance of others in achieving personal goals. Assignment: Worksheet 2 – Monitoring Relationships with Others.
3	Goal & Content: Understanding the significance of boundaries and the role of the mind in interpersonal relationships. Assignment: Complete Worksheet 3 – Monitoring Communication Problems and Reactions.
4	Goal & Content: Understanding how the mind contributes to both creating and solving problems. Assignment: Complete Worksheet 4 – Monitoring Communication Problems and Resolving Them Using Open-Mind Techniques.
5	Goal & Content: Regulating emotions in daily life to achieve personal and relational goals through open-mind techniques. Assignment: Complete Worksheet – Monitoring Emotions and Managing Them with Open-Mind Skills.
6	Goal & Content: Understanding the role of security, skills, and reflection in relationship improvement. Assignment: Complete Worksheet – Monitoring the Creation of Security and Reflection in Interpersonal Relationships.

7	Goal & Content: Learning multiple skills to control emotional reactivity in various life situations. Assignment: Monitoring Emotional Reactivity Using Reflective Skills.
8	Goal & Content: Problem-solving and self-regulation skills. Assignment: Complete Worksheet – Monitoring Self-Regulation and Problem Solving.

To validate the package, seven specialists in the fields of therapy and communication evaluated the training package on two main criteria: (1) the process of the package—session duration, goals, and topics; and (2) the content of each session. The training package, along with the evaluation form for content and process, was provided to the experts, who were asked to assess the sessions in terms of objectives, techniques, and time allocation. The Content Validity Ratio (CVR) was calculated, resulting in a value of CVR = 0.96, indicating a high level of agreement among evaluators.

Discussion and Conclusion

The present study aimed to develop a mentalization-based communication skills training package tailored for adolescent girls who exhibit self-injurious behaviors. Through systematic content analysis using Hsieh and Shannon’s (2005) method and a six-step instructional design model by Yousefi and Golparvar (as cited in Mirzaei et al., 2025), the research identified core communication and mentalization competencies and translated them into an eight-session intervention program. The results revealed two overarching communication skill domains—*relationship initiation* and *relationship maintenance*—and five central mentalization domains: *reflective functioning*, *mentalization outcomes*, *mentalization pathologies*, *mentalization goals*, and *therapeutic strategies*. These dimensions were operationalized into skills such as self-disclosure, empathy, emotion regulation, boundary-setting, and reflective awareness of self and others.

The findings emphasized *self-disclosure* and *empathy* as pivotal subcomponents of relationship maintenance in adolescent girls with self-harming tendencies. This aligns with existing literature, which positions these two constructs at the heart of effective interpersonal functioning and psychological adjustment. For instance, self-disclosure facilitates emotional clarity and interpersonal intimacy, both of which are linked to lower rates of internalizing behaviors and maladaptive coping (5, 6). Similarly, empathy, understood as the capacity to recognize and respond appropriately to others’ mental states, is both a relational and regulatory mechanism that underpins social bonding and mitigates interpersonal conflict (7, 18). By emphasizing these dimensions within a mentalization framework, the training package aligns with contemporary models of communication development in youth that recognize the interplay between reflective insight and relational skill.

The domain of *reflective functioning*—encompassing the adolescent’s capacity to understand both their own and others’ emotions, desires, and motivations—emerged as a foundational competency in this study. This aligns closely with the theoretical and clinical foundations of mentalization-based treatment (MBT), which asserts that reflective functioning is essential for managing emotion, understanding interpersonal intentions, and constructing a coherent self-narrative (1, 11). Moreover, the link between reflective deficits and maladaptive behaviors such as non-suicidal self-injury (NSSI) is well-documented in adolescents (2, 3). The inclusion of modules on identifying mental states, regulating interpersonal impulses, and distinguishing between internal affect and external behavior reflects a research-grounded understanding of the cognitive-affective mechanisms that underlie mentalizing capacity.

One of the salient findings of this study was the centrality of *mentalization outcomes*, such as identity development, emotional self-regulation, and relationship repair. These themes mirror findings from prior research indicating that improved mentalizing leads to increased emotional stability, reduced reactive aggression, and greater relational sensitivity in adolescents (12, 13). The package's emphasis on facilitating self-other differentiation, reducing relational rumination, and enhancing perspective-taking is supported by empirical evidence linking mentalization to secure attachment and psychosocial resilience (14, 15). In this context, fostering reflective awareness and regulating impulsive behaviors serves as a buffer against emotion-driven interpersonal dysfunction, particularly in self-injuring populations.

Equally significant was the identification of *mentalization pathologies*, including impaired mentalization styles such as projective, pretend, and pseudo-mentalization. These findings are consistent with Fonagy and colleagues' conceptualization of pathological mentalization modes, which are associated with interpersonal misinterpretations, defensive behaviors, and emotional dysregulation (1, 16). For adolescents with insecure attachments or developmental trauma, such distortions in understanding self and others can exacerbate relational stress and internalizing symptomatology. By helping participants recognize these distortions and replace them with more adaptive interpretations, the training package seeks to re-establish epistemic trust and facilitate relational safety.

The study also addressed the *therapeutic strategies* necessary for improving reflective functioning. These included exercises in brain awareness, emotional mapping, boundary recognition, and perspective-taking—strategies that are both developmentally appropriate and neuropsychologically grounded. Monticelli et al. (2021) provided neuroimaging evidence that mentalizing is mediated by cortical regions involved in affective regulation and social cognition, supporting the rationale for engaging adolescents in integrative, metacognitive exercises. Furthermore, these strategies are consistent with the APA's behavioral training guidelines, as well as with evidence-based social skills interventions that have demonstrated efficacy in enhancing adolescent communication, emotion regulation, and social integration (10, 19).

Importantly, the communication dimensions embedded in the training package reflect findings from studies that emphasize the development of social competencies as a preventive measure against academic, behavioral, and emotional difficulties. Communication interventions have been shown to improve relational clarity, reduce social anxiety, and foster adaptive peer and family relationships (4, 8, 20). By incorporating these practices within a reflective, mentalization-based structure, this study advances a dual-pronged intervention strategy that addresses both behavioral and cognitive-affective deficits. The program not only enhances expressive and receptive communication but also deepens the adolescent's awareness of the mental states guiding those expressions.

Another point of significance is the sequential structure of the package, designed to mirror the developmental trajectory of reflective functioning in adolescence. Sessions moved from basic emotional awareness and responsibility-taking to more complex skills like empathic understanding and conflict resolution. This scaffolding approach is supported by Solomon and Theiss (2022), who argue that communication training is most effective when sequenced from foundational to higher-order relational skills. The design also resonates with developmental findings indicating that adolescence is a critical period for the maturation of executive functions and social cognition (5, 7).

Finally, the exceptionally high content validity ratio (CVR = 0.96) obtained from expert evaluations underscores the package's methodological rigor and practical relevance. This quantitative confirmation supports the reliability of the training modules and their alignment with therapeutic standards in adolescent mental health and communication education.

Despite the strengths of this study, several limitations should be acknowledged. First, the training package was developed and validated based solely on content analysis and expert review, without empirical implementation or outcome evaluation. The absence of a randomized controlled trial limits the ability to assess the intervention's effectiveness in real-world settings. Second, the research focused exclusively on female adolescents with self-injurious behavior, which may reduce the generalizability of the findings to other populations, such as males, non-binary adolescents, or those with different psychological concerns. Third, the texts analyzed in the content analysis spanned a broad time range and theoretical orientations, which may have introduced inconsistencies in terminological usage and conceptual alignment. Lastly, cultural considerations were not systematically addressed, which may affect the applicability of the package in diverse sociocultural contexts.

Future research should include pilot implementation and longitudinal evaluation of the training package in clinical and educational settings. Randomized controlled trials are needed to assess the effectiveness of the package in reducing self-injurious behaviors, enhancing empathy and self-disclosure, and improving overall interpersonal functioning. It is also recommended that future studies incorporate a diverse adolescent population, including different gender identities, cultural backgrounds, and comorbid psychological conditions. Neurocognitive measures and psychophysiological assessments could be employed to explore the neural and regulatory mechanisms underlying improvements in mentalization and communication. Furthermore, qualitative feedback from adolescent participants should be systematically gathered to refine the content and delivery of the training sessions.

Practitioners working with adolescents—particularly those exhibiting relational instability or self-harming behaviors—may find this training package a useful, evidence-informed tool. It can be integrated into school-based mental health programs, outpatient psychotherapy sessions, or group counseling modules. The modular design allows for flexibility in delivery, adapting to both individual and group needs. Mental health professionals are encouraged to combine this package with broader relational interventions, including family therapy and social skills training. Educators and counselors should consider embedding reflective communication skills into everyday curricula to build relational competence early in development. The structured progression of sessions makes the program particularly suitable for tiered interventions in both preventative and remedial contexts.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

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