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Effectiveness of Emotional Intelligence Therapy on Suicide Risk among Adolescents in Residential Care

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Abstract

This study aimed to apply Emotional Intelligence Therapy (EIT) in a sample of adolescents in residential care and to examine its impact on three outcomes: suicide risk, perceived emotional intelligence (PEI), and basic psychological needs (BPN). Treatment consisted of 16 group sessions held on a weekly basis to develop the emotional skills of perception, facilitation of thinking, understanding and management. A clinical trial of repeated measures was conducted in which the study variables were evaluated at three time points: between three and four months prior to treatment, pre-treatment and post-treatment. Of the initial 65 participants, only 19 (73.68% were boys; M_{age}= 13.74) completed the three evaluations. The results showed a significant decrease in suicide risk after EIT, especially regarding levels of hopelessness and suicidal ideation. Participants also improved their perception of emotional clarity and of competence. No significant changes were noted in any of the variables when on the waiting list. EIT could be a good tool to prevent the emergence of factors that entail suicide risk among adolescents in residential care.
Key words: suicide risk, emotional intelligence therapy, adolescents, residential care.

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Novelty and Significance

What is already known about the topic?

- Adolescents in residential care tend to have emotional management difficulties.
- Those placed in care are at significatively higher risk of attempting suicide compared to non-care populations.
- Treatments that have displayed some degree of efficacy at addressing suicide risk in adolescents seek to train in certain skills such as emotional regulation, problem solving and interpersonal relationships.

What this paper adds?

- A therapy aimed at improving emotional intelligence skills that offers the results of their impact on several outcomes of adolescents in residential care.
- A therapy that has been proved to address suicidal risk in this population.

Childhood maltreatment is considered a major public health problem (Fegert & Stötzel, 2016). For decades, the literature has shown the impact of child maltreatment in all areas of development (see Barbosa, Quarti, Werlang, Tiellet, & De Lima, 2013; Herzog & Schmahl, 2018; Holt, Buckley, & Whelan, 2008). In Spain, the number of child maltreatment cases have steadily increased since the Spanish register of child maltreatment (Registro Unificado de Maltrato Infantil, RUMI) came into existence. The latest available data show that in 2017 more than sixteen thousand reports of some kind of maltreatment were made, exceeding all previous figures and almost doubling those collected five years prior (Ministerio de Sanidad, Consumo y Bienestar Social, 2018).

Individuals with a history of maltreatment or poor caregiving often have difficulty regulating their emotional states, which is a key skill for human development (McMillen,

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Katz, & Claypool, 2014). The quality of bonding, parenting styles, family expressiveness and the quality of the parents' marital relationship are crucial aspects for the development of emotional strategies in childhood (Morris, Silk, Steinberg, & Robinson, 2009), whose role remains decisive during adolescence (Ackard, Neumark-Sztainer, Story, & Perry, 2006). Previous research offer consistent results regarding difficulties in managing emotions of children in out-of-home care (McMillen *et alia*, 2014). Specifically, different samples of Spanish adolescents in residential care revealed that they have difficulties related to the abilities involved in perceived emotional intelligence (PEI): emotional attention, clarity and repair (Moreno Manso, García Baamonde, Guerrero Barona, Godoy Merino, Blázquez Alonso, & González Rico, 2016; Bonet, Palma, & Gimeno Santos, 2019).

Emotional regulation difficulties contribute to the subsequent development of internalizing and externalizing symptoms among these subjects (Kim & Cicchetti, 2010). About half of adolescents in care have clinically significant symptoms and risk behaviours that require addressing (Camps Pons, Castillo Garayoa, & Cifre, 2018; Leslie *et alia*, 2010; Tarren-Sweeney, 2018). One of the most alarming facts concerning children and adolescents in public childcare refers to the high risk of experiencing suicidal ideations and suicide attempts. Population studies show higher rates of suicidal ideation and attempted suicide in these individuals than for the general population (Hjern, Vinnerljung, & Lindblad, 2004; Katz, Au, Singal, *et alia*, 2011; Vinnerljung, Hjern, & Lindblad, 2006). Difficulties in relationships and family context can lead to conditions that make children and adolescents more vulnerable to developing suicidal ideation or can foster other factors that entail suicide risk (hopelessness, irritabitability, worthlessness, for instance) (Anderson, Keyes, & Jobes, 2016). Most studies devoted to examining the relationship between child maltreatment and suicide among adolescents, both concerning the clinical and the general populations, maintain that physical and emotional maltreatment, sexual abuse and neglect are associated with suicidal ideation and attempts by this population, even after controlling for demographic, mental health and family variables and those related to their peers (Miller, Esposito Smythers, Weismoore, & Renshaw, 2013). This relationship is slightly reduced among those who perceive a trusting relationship with an adult family member (Pisani, Wyman, Petrova, Schmeelk-Cone, Goldston, Xia, & Gould, 2013; Preyde, Vanderkooy, Chevalier, Heintzman, Warne, & Barrick, 2014).

Difficulties in emotional management are a determining factor among adolescents and young persons at risk contemplating suicide (e.g., Anestis, Bagge, Tull, & Joiner, 2011; Pisani *et alia*, 2013; Preyde *et alia*, 2014; Valois, Zullig, & Hunter, 2015). Specifically, emotional intelligence has proved to be a protective factor for both suicidal ideations and attempts in a clinical sample of adolescents with a history of abuse, even moderating the effects of trauma in childhood (Cha & Nock, 2009). The protective measure to which they are subjected also constitutes a crucial factor. Institutionalized children and adolescents are three to seven times more likely to suffer emotional and behavioural problems than those taken into a family (Fawzy & Fouad, 2010; Simsek, Erol, Öztop, & Münir, 2007), and their prevalence of suicidal ideation and attempts is twice that of those taken into an extended family, who present the lowest rates (Taussig, Harpin, & Maguire, 2014). Bonet *et alia* (2019) found that 42.6% of adolescents in residential care had high suicide risk levels that are related to the reported emotional difficulties.

The study of psychological factors that protect against suicidal acts is an important line of research in the field of suicide as it deals with aspects that may be addressed (Brown, Beck, Steer, & Grisham, 2000; Cha & Nock, 2009; Troister & Holden, 2010). Psychological theories of suicide suggest tackling difficulties in tolerating or modulating

the experience of negative affect (Leenaars, 1996; Shneidman, 1996; Zlotnick, Donaldson, Spirito, & Pearlstein, 1997). At the same time, most suicide prevention programmes point to the need to mitigate risk factors, promote protective factors, and encourage the knowledge of those who may be at risk (e.g., York, Lamis, Pope, & Egede, 2013). In this regard, in recent years gatekeeper training programmes have begun to be implemented stressing the importance of an early detection by identifying risk factors (e.g., Sueki & Ito, 2015). Glenn, Franklin, and Nock (2015) concluded in their review that no interventions for suicidal and non-suicidal thoughts and behaviours in youth meet the standards to be considered well-established treatments. However, several interventions have displayed some degree of efficacy in children and adolescents: cognitive-behavioural therapy, family-based therapy, interpersonal therapy, and psychodynamic therapy (Glenn *et alia*, 2015). These treatments have certain commonalities: (1) they include the family in the process; (2) they train in certain skills such as emotional regulation, problem solving and interpersonal relationships; and (3) they address the risk factors of suicidal behaviour (Glenn, Franklin, & Nock, 2015). Since, there has been no major progress towards achieving well-established treatments for suicidal behaviour in adolescents (Glenn *et alia*, 2015). Given that working with the family is often not feasible among those in residential care, these considerations lead us to propose the development of personal and interpersonal skills as well as to address risk factors as major targets for working with these subjects. In this regard, Pisani *et alia* (2013) argue that adolescents' ability to identify, manage and recover from painful emotions using internal strategies is crucial to stop them from heading towards suicide and call for the need to promote community interventions in this direction in order to prevent such problems. Meanwhile, in their review of the literature Ford and Gómez (2015) concluded that although treatment models targeting individuals with self-harming and/or suicidal behaviours have not demonstrated consistent efficacy, there are promising results regarding interventions aimed at regulating emotions and working on post-traumatic stress triggered by certain events such as abuse, maltreatment or domestic violence.

Another aspect introduced by contemporary models as a trigger of dynamics towards suicide are unmet psychological needs (Shneidman, 1993; Van Orde, Witte, Cukrowicz, Braithwaite, Selby, & Joiner, 2010) which, together with the perception of parental rejection and mental pain, constitute the psychological variables directly related to suicidality (Campos & Holden, 2015). These, in turn, remain closely related to difficulties in regulating emotions (Anestis, Bagge, Tull, & Joiner, 2011; Heffer & Willoughby, 2018). Adolescents in care tend to have more psychological and emotional needs than those of the general population (Leslie, Gordon, Lambros, Premji, Peoples, & Gist, 2005). Among those most appreciated by these subjects are emotional support to deal with certain situations and autonomy in decision-making regarding certain aspects of their own life (Ellermann, 2007). The broadest theory of psychological health and welfare provides a universal model of motivation and well-being based on three basic primary, universal psychological needs (BPN): autonomy, competence and relatedness (Deci & Ryan, 2000). Adolescents in residential care showed that their needs of autonomy and relatedness are partially covered while they have difficulty satisfying their need to feel competent (Bonet *et alia*, 2019). In addition, BPN were associated with suicide risk in both these subjects and in the general population (Bonet *et alia*, 2019; Rowe, Walker, Britton, & Hirsch, 2013).

Lizeretti (2012) designed a group therapy model aimed at developing emotional processing skills in which the four levels of emotional intelligence based on the conceptual

model by Salovey and Mayer (1997) are worked on: emotional perception, use of emotions to facilitate thinking, emotional understanding and emotional management. Emotional Intelligence Therapy (EIT; Lizeretti, 2012) impinges precisely on the inherent relationship between need and emotion, upholding that an emotion originates from a particular state of need and that emotional management skills therefore allow identifying and satisfying them. This therapy model proved effective at promoting emotional intelligence and reducing clinical symptoms and pathological personality traits in patients with anxiety disorders (Lizeretti, 2009).

This study aims to assess the impact of EIT on PEI, suicide risk and the perceived satisfaction of BPN (autonomy, competence and relatedness) among adolescents in care in residential centres. The application of EIT is expected to improve PEI skills as well as reduce suicide risk and BPN among these subjects.

METHOD

Participants

A total of 65 adolescents who were in the care of the child welfare system of *Catalunya* (*Direcció General d'Atenció a la Infància i l'Adolescència* -DGAIA) under a residential measure were selected by quota sampling at residential centres (*Centros Residenciales de Acción Educativa* -CRAE) of Barcelona (*España*). Inclusion criteria required them to be aged between 12 and 17 years, live in a CRAE, and not present major difficulties in the ability to read and write or understand Spanish nor psychotic spectrum disorders, intellectual disability or other severe pathologies.

Four of the 65 adolescents enrolled on the programme were not able to start treatment due to timetable constraints. Of the 61 who started the study 45 (73.8%) finished it. However, due to the requirements of the project, 26 of the 45 who completed treatment were not able to complete the first evaluation as they had not been on the waiting list for the necessary length of time. Thus, the study was conducted in 19 participants who underwent three evaluations. However, in order not to lose this significant part of such a specific sample that completed the full treatment without undergoing the first evaluation, research was supplemented by a second analysis that included the 45 participants who did manage to complete EIT (see Figure 1).

Instruments

Inventory of Suicide Orientation (ISO-30; King & Kowalchuk, 1994; adapted to Spanish by Casullo & Liporace, 2006). Suicidal orientation is understood as a continuous progression towards suicide passing through several stages. Thus, the scale enables conducting an early assessment through five dimensions associated with suicide risk: Hopelessness, Low self-esteem, Inability to control emotions, Social isolation, and Suicidal ideation. It consists of 30 direct and inverse items with four response options on the Likert scale where 0 is "I am sure I disagree" and 3 "I am sure I agree". The total score is classified into three categories: low (less than 30), moderate (between 30 and 44), and high (more than 45). Six critical items correspond to the Suicidal Ideation scale, where a score equal to or greater than 2 in at least three items indicates a high risk, regardless of the total score. Reliability is adequate (α= .87) in adolescents in the general population (Casullo & Liporace, 2006).

Basic Needs Satisfaction in General Scale (BNSG-S; Gagné, 2003; Spanish adaptation by González Cutre, Sierra, Montero Carretero, Cervelló, Esteve Salar, & Alonso Álvarez, 2015). This scale measures the degree to which participants perceive the BPN

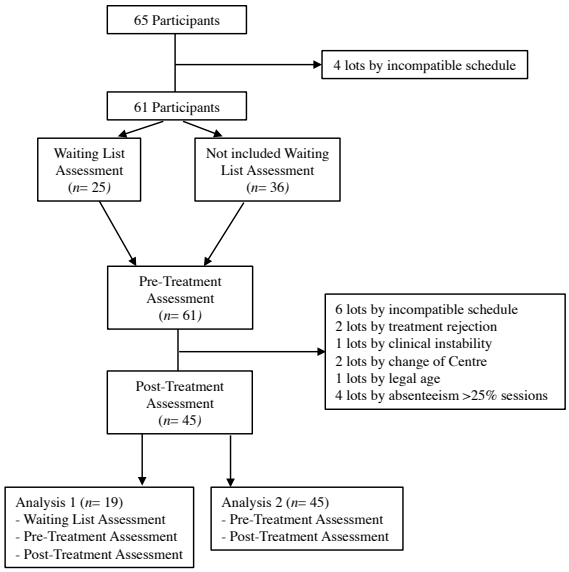

Figure 1. Procedure of participant flow through the study.

conceptualized by Deci and Ryan (2000), i.e., Autonomy, Competence, and Relatedness, as being satisfied. It consists of 16 items, in contrast to the 21 items of the original. Scores are arranged on a 7-point Likert scale, with 1 being "not at all true" and 7 "very true". The total score for each BPN varies between 0 and 7. Reliability values are acceptable (greater than .70) in the young and adult general population (González Cutre *et alia*, 2015).

Trait Meta-Mood Scale ((TMMS; Salovey & Mayer, 1995; shortened version adapted to Spanish by Fernández Berrocal, Extremera, & Ramos, 2004). Self-report scale on PEI consisting of 24 items designed to assess the extent to which one perceives attending to one's own emotions (Attention), distinguishing between them (Clarity), and having the capacity to manage them (Repair). It has five Likert scale response options with 1 being "strongly disagree", and 5 "strongly agree". This scale does not allow a total PEI score, but offers a separate score for each of the factors that comprise it. The original version of the validated scale (Fernández Berrocal *et alia*, 2004) has adequate internal consistency values (α= .84 for Attention; α= 0.82 for Clarity; and α= 0.81 for Repair).

Design and Variables

For ethical reasons a repeated measures design was applied in which participants who received treatment were assessed three to four months before starting it while they were on the waiting list in order to compare their progress with and without treatment.

This is a repeated sample clinical trial aimed at applying an intervention programme consisting of a shortened version of EIT manualized by Lizeretti (2012). Following the original version, the programme was divided into four distinct phases aimed at developing each of the skills involved in emotional intelligence according to the model of Salovey and Mayer (1997): (1) emotional perception, (2) use of emotions to facilitate thinking, (3) emotional understanding, and (4) emotional regulation. Each phase consisted of four sessions seeking to promote the relevant skill both intra- and interpersonally based on the four emotions considered, from this perspective, the bases of emotional experience: fear, sadness, anger and joy.

The emotional perception phase aims at performing the emotional diagnosis and identifying around which emotion the personal experience and the self-identity have been developed. It also seeks to identify whether the emotion attributed to conflictive experiences corresponds to the authentic emotion or, in other words, to the emotion that would be functional according to the nature of the situation. In this phase intervention strategies are used to highlighting the emotions that generate emotional conflicts, both personal and relational, as well as to promote the ability to recognize the emotional states of others. In the second phase, the use of emotions to facilitate thinking is developed by promoting awareness of the emotion implications, having identified the emotion that underlies the distress. The intervention strategies allow to observing in oneself and in others how this emotion is associated with needs -frequently not expressed-, how these needs generate motivations -not always accepted- and how these motivations guide our thoughts and behaviours. The third phase sought to develop the ability to understand emotions, which means making sense of the experience of authentic emotion by understanding where it comes from and how it arises but, above all, how it works in us or, in other words, how does it affects us. Intervention strategies are aim to find the meaning of the unpleasant emotional experience by integrating reason with emotion to understand the function of one's own and others' emotional experiences. Finally, the emotional regulation phase focuses on the consolidation of the knowledge and skills acquired in the previous levels, putting them into practice in situations of everyday life and looking for strategies to repair unpleasant emotional states.

The activities contained methods that would allow starting from the phenomenological perception of each member regarding their emotional states and life experiences (e.g., drawing, guided fantasy) and thus promote the particular skill (e.g., perception, understanding) through the different dimensions of the individual (physical, behavioural, cognitive, relational, etc.).

Treatment

This shortened version of EIT (Lizeretti, 2012) consisted of 16 sessions of 90 minutes held on a weekly basis and retained virtually all intra-session activities of the original version, and only inter-session activities and recapitulation sessions planned before moving to the next level were removed. At the same time, the longest-lasting activities were shortened in order to devote a maximum of two sessions to them. The content of each session is detailed below:

Session 1, *El rosal*. Participants, through a guided fantasy, identify themselves with a rose bush and depict it in a drawing. Through this activity the unconsciously represented content is identified, emphasizing the predominant emotion.

Session 2, *Auto-caracterización*. In this narrative technique, participants describe themselves and identify different aspects that constitute their self-perception, emphasizing the predominant emotion on which they build their own identity.

Session 3, *Pregunta del milagro*. Participants are placed in a hypothetical scenario in which they imagine their "ideal situation" and the changes it would represent in their lives. Through this activity it is possible to identify the nature of the conflict between one's own needs and the needs and wishes of others.

Sessions 4 and 5, *Escultura familiar*. A dramatization technique is performed in which participants, through peer collaboration, shape a sculpture that reflects their reality in relation to the most important figures in their life, not necessarily family. Participants must integrate themselves in the sculpture adopting their position. Aspects such as spatial arrangement, distance between members, direction of looks, gestures,

physical and visual contact or others that allow identifying affective messages received, alliances and coalitions that are established between them and the roles of each of its members vis-à-vis the system and subsystems are taken into account.

Sessions 6 and 7, *Rincón de las emociones*. This exercise consists of locating in each corner of the room one of the four basic emotions (fear, sadness, anger, and joy) and then participants must recall an event with a high emotional load, represent it in a drawing and place themselves in the corner of the emotion experienced. Participants, from the chosen corner, must remember it and identify the emotional energy in their body through the therapist's indications, as well as the thoughts that come to his mind while they are feeling such emotion.

Session 8, *Trabajo con la culpa*. Participants must identify situations that generate feelings of guilt and imagine that these situations have been carried out by someone else (a child). Strategies focus releasing these feelings and repairing the behaviours that generate them, identifying the authentic emotion that underlies their feelings.

Session 9, *Las dos sillas*. Participants must recall a painful experience from a chair that represents the emotion experienced and then repeat the procedure from another chair that represents adaptive and normally repressed emotion. It is a dramatization technique whose purpose is to integrate two conflicting poles of the same person.

Sessions 10 and 11, *Cuento del animal*. Participants must write a short story starring an animal using the instructions provided by the therapist. Through the story, a series of aspects related to the life script of each of the subjects and the basic vital emotion from which it is constructed are identified.

Sessions 12 and 13, *Diálogo con el síntoma*. Participants are asked to identify a problematic aspect that worries them and, through a guided fantasy, identify with it and represent it in a drawing. Through the indications of the therapist, it seeks to identify the dysfunctional emotion that is hidden behind the symptom and the understanding of the mechanisms whereby this emotion is expressed.

Sessions 14 and 15, *La estrella*. A star is previously drawn on the ground. Participants report a situation that creates discomfort and identify, with the help of their peers, identify several strategies to deal with it. Each identified strategy will be located at a point of the star, while participants will be physically position themselves on top of each one to try to experience the impact that each of them would generate in them.

Session 16, *El rosal* and farewell ritual. The first activity is repeated in the last session so that participants can graphically the changes they have experienced throughout the treatment. The learnings acquired during the treatment are pooled as a farewell ritual.

All activities are carried out through the feedback of the rest of the members whose contributions, guided by the therapist, encourage the introspection process of each subject.

Procedure

This clinical trial derived from a project within a cooperation agreement between the *Facultat de Psicologia, Ciències de l'Educació i l'Esport, Blanquerna (Universitat Ramon Llull)*, the *Col·legi Oficial de Psicologia de Catalunya* and, the DGAIA. EIT was applied to seven subgroups of seven to eleven participants that were already configured according to the CRAE where they resided and was generally conducted on the premises of the corresponding centre. Participants completed the tests in paper-and-pencil format. Prior to administering the tests, participants were provided with an informed consent form that set out the main aim and purpose of the research, as well as a form to collect

their sociodemographic variables. Data were submitted to the researchers anonymously to preserve confidentiality and participants' anonymity. The sessions were led by a therapist and a co-therapist who attended the corresponding centre once a week and whose main role was to guide the activities and to enable participants to connect with their own emotional experiences and acquire an active role in the course of the activities.

Data Analysis

Data analysis was performed using IMB SPSS statistical package version 24. For analysis 1 (n= 19) a general linear model (GLM) of repeated measures was used to explore the overall effect of intervention on the study variables by means of multivariate contrasts with Pillai's Trace statistic, as well as the particular effect in each of the scales through univariate contrasts. Mauchly's test was used to examine compliance with the assumption of sphericity and to explore the effect of intervention on each of the variables. When the sphericity hypothesis was ruled out, the univariate F-statistic was used applying Huynh-Feldt's correction formula to the degrees of freedom. Finally, in those variables in which a significant effect was obtained, Bonferroni correction was used to analyse the differences between measures by pairs. For analysis 2 (n= 45), the same GLM was performed but with two repeated measures (pre- and post-) for all participants who completed the intervention.

RESULTS

Table 1 shows the characteristics of participants relative to sex, age, reason for being in care, and years institutionalized. Consistent with previous literature, the reason for being in care was classified as either neglect, physical abuse, sexual abuse and psychological or emotional maltreatment (Barbosa, Quarti, Werlang, Tiellet, & De Lima II, 2013). Time institutionalized ranged uniformly between 4 months and 10 years, with all those who had spent less than one year comprising a single group. Regarding participants' provenance, 84.2% (n= 16) were of Spanish origin, while the remaining 15.8% (n= 3) were of a variety of origins.

Table 1. Demographic characteristics of the sample.

Variables		*n* (%)
Sex	Men	14 (73.68)
	Women	5 (26.32)
Age (M±SD)		13.74±1.66
Reason for care	Neglect	14 (73.68)
	Physical or sexual abuse*	2 (10.53)
	Other forms of maltreatment*	3 (15.79)
	Years institutionalized (M±SD)	5±3.16

Note: *= indicators of parental neglect may attend.

Table 2 shows the means and standard deviations of all variables at three time points. Multivariate contrasts indicated an overall effect of EIT on suicide risk variables (F= 2.01; p <.05; η^2= .23) but not on PEI variables (F= 1.36; p >.05; η^2= .10) nor on BPN variables (F= 1.64; p >.05; η^2= .12).

Table 2. Description and comparison of scores at three time points

Variables	Waiting list (*n*= 19) *M* (*SD*)	Pre-test (*n*= 19) *M* (*SD*)	Post-test (*n*= 19) *M* (*SD*)	*F*	*p*	η^2
ISO Low self-esteem	8.26 (2.60)	8.47 (3.41)	7.42 (2.87)	2.62	.11	.13
ISO Hopelessness	8.95 (2.27)	8.79 (2.51)	7.79 (2.50)	4.73	.02*	.21
ISO Inability to control emotions	.84 (2.06)	10.11 (2.36)	9.11 (2.03)	3.50	.06	.16
ISO Social isolation	7.74 (3.09)	8.26 (3.43)	7.32 (2.73)	2.81	.07	.14
ISO Suicidal ideations	5.68 (4.20)	6.11 (4.75)	4.84 (3.08)	6.39	.01*	.26
ISO Total	40.47 (11.36)	41.74 (13.62)	36.47 (10.47)	10.73	.00**	.37
PEI Attention	27.84 (5.81)	27.47 (5.41)	25.95 (5.28)	.68	.51	.04
PEI Clarity	25.47 (5.59)	25.00 (6.05)	27.21 (5.86)	4.01	.04*	.18
IEP Repair	25.32 (6.49)	25.00 (6.86)	26.47 (5.82)	2.14	.15	.11
BNSG Autonomy	3.95 (1.08)	4 (1.09)	4.39 (.81)	2.13	.13	.11
BNSG Competence	4.11 (1.02)	3.87 (.92)	4.34 (.82)	3.95	.04*	.18
BNSG Relatedness	4.87 (.98)	4.80 (1.16)	4.97 (.85)	4.19	.66	.02

Notes: *= p <.05; **= p <.01.

Contrasts between the three measures for each variable are also presented in Table 2. Regarding suicide risk, univariate analyses showed significant differences between the measures obtained for hopelessness, suicidal ideation and total risk. Concerning PEI, only clarity measures varied significantly. Finally, regarding BPN, significant differences were found between measures of competence. Bonferroni pairwise comparisons revealed that all of these significant differences occurred between pre-treatment and post-treatment measures: hopelessness (*DM*= 1.00; p <.01; *d*= .42), suicidal ideation (*DM*= 1.26; p <.05; *d*= .32), total risk (*DM*= 5.26; p <.01; *d*= .43), clarity (*DM*= -2.21; p <.05; *d*= .37) and competence (*DM*= -.47; p <.01; *d*= .54). Therefore, no significant differences were found between waiting list and pre-treatment scores.

The second analysis (*n*= 45), which compared pre-treatment and post-treatment measures of all participants who completed EIT, revealed significant differences between the same variables as in the above analysis: hopelessness (F= 10.84; p <.01; η^2= .20), suicidal ideation (F= 9.15; p <.01; η^2= .17), total risk (F= 15.86; p <.01; η^2= .27), clarity (F= 10.96; p <.01; η^2= .20) and competence (F= 4.98; p <.05; η^2= .10). However, in this analysis, significant differences were also seen between measures of inability to control emotions (F= 4.50; p <.05; η^2= .09).

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DISCUSSION

First of all, through the present review we can see the disparity of studies concerned on the Despite the evidence pointing to the many problems experienced by adolescents in care, to our knowledge, this study is the first attempt to apply therapy among these subjects reporting results on its impact on different outcomes, notably, those involving suicide risk. Broadly speaking, EIT obtained promising results for addressing suicide risk, whose overall scores decreased significantly after applying EIT. Specifically, hopelessness, inability to control emotions and suicidal ideation were the risk factors that improved significantly following intervention. Improvements in self-esteem and social isolation, however, were not significant in this sample. For these variables, it should be noted that social isolation was already the least present risk factor among participants prior to intervention and that self-esteem, meanwhile, is a more intrinsic, stable variable as it reflects the self-concept that each one has been building since the very early stages of development based on experiences that will have been especially traumatic for these individuals. Hopelessness, however, could be considered more likely to change in the

short term being less inherent in personality and may be more susceptible to certain EIT activities, especially those of emotional management seeking to identify strategies to promote more satisfactory states when facing future situations. In this regard, hopelessness has not only proved to play a crucial role in the development of suicidal ideations, but also has the capacity to mediate the relationship between lack of coping strategies and suicidal ideations (Miranda, Tsypes, Gallagher, & Rajappa, 2013). Difficulties in coping, however, were seen to improve significantly only in the second analysis. This lack of initial significance could be due to the small sample size. It could also be that, because it is a self-reported measure, the participants' own perception of such skills may be influenced by other variables related to self-concept, or that at the post-test evaluation stage, insufficient time had elapsed for participants to become aware of the skills acquired during EIT. Finally, suicidal ideations are the risk factor that decreased the most following EIT. This is particularly relevant to determine the effectiveness of EIT on suicide risk, taking into account that any preventive treatment should be able somehow to address this precursory suicidal behaviour (Kessler, Berglund, Borges, Nock, & Wang, 2005). In addition, the fact that the marked reduction in suicidal ideations essentially coincides with the decrease in degrees of hopelessness would be consistent with previous findings that support the close relationship between the two variables among adolescents at risk (Wolfe, Nakonezny, Owen, Rial, Moorehead, Kennard, & Emslie, 2019).

The effect of EIT on suicidal ideations is similar though slightly less than that demonstrated by skills-based treatment (Donaldson, Spirito, & Esposito Smythers, 2005). This finding is considered relevant given that skills-based treatment proved to be the most effective therapy in addressing suicidal behaviour in adolescents not including work with the family (Glenn *et alia*, 2015). In addition, it should be noted that the latter was not carried out as a preventive intervention in adolescents in care but in adolescents admitted to a psychiatric hospital after attempted suicide, whereby the conditions of the trial already required its impact on suicidal ideations to be greater.

The overall effect of EIT on PEI and BPN, however, was not significant, which would indicate, first, that these variables do not explain the participants' reduced suicide risk and that, therefore, their previously demonstrated relationship with suicide risk (Bonet *et alia*, 2019; Gómez Romero, Limonero, Toro Trallero, Montes Hidalgo, & Tomás Sábado, 2018) could be mediated by other variables that would further explain this improvement.

Specifically, results of PEI showed that participants perceive their emotional states more clearly following EIT. However, improvement in emotional repair was not significant in this sample. These results are in contrast to those provided by the complete version of EIT in adults with anxiety disorders in whom levels of both clarity and emotional repair significantly increased (Lizeretti, 2009). As for ability to cope, the variables that make up PEI indicate participants' subjective perception of these skills, and so these adolescents might not have become conscious of the strategies acquired at the time of the post-trial evaluation. However, it should be noted that the substantial improvement in variables such as hopelessness and suicidal ideation may reflect an improvement in certain emotional skills that could be seen by evaluating emotional intelligence using an ability test that, in its day, already demonstrated protecting this population from developing suicidal ideations (Cha & Nock, 2009). Regarding emotional attention, the absence of significant changes coincides with previous results of the complete version of EIT on which it was not seen to exert a significant impact on this variable either

(Lizeretti, 2009). However, a slight reduction is noted in scores after intervention, which could be considered positive given the direct association with suicide risk among this population (Bonet *et alia*, 2019) and which has sometimes proved to be little adaptive (Fernández Berrocal & Extremera, 2006).

Finally, participants significantly improved their perception of competence which, at the same time, coincides with the BPN that were less covered prior to EIT and most related to suicide previously (Bonet *et alia*, 2019). In this sense, perception of competence could be differentiated from other similar variables that did not improve significantly through intervention, such as self-esteem or repair in which, according to Deci and Ryan's (2000) conceptualization, this construct belongs to a rather social sphere as it reflects the inherent desire to feel effective when interacting with the environment.

The results revealed that all significant improvements occurred during EIT and that participants, therefore, reported no significant changes in any of the outcomes while they were on the waiting list. However, an increase in suicidal ideations and total rates of suicide risk was noted while on the waiting list, which could be due to some social desirability regarding this socially stigmatized phenomenon during the first contact between participants and therapists when no link had yet formed between them.

Several limitations of this study should be noted. Firstly, the repeated measures design was the most appropriate so that all participants could receive treatment and it offers significant advantages such as the opportunity to compare two evolutions (with and without EIT) avoiding the interference of factors external to the intervention (e.g., personal characteristics, psychopathological disorders). However, it also has some disadvantages such as the fatigue effect that can be caused by repeated evaluations. This would explain an important limitation that revolves around the lack of a fourth follow-up measure a few months after EIT. Although the initial idea was to conduct a follow-up assessment, participants' manifest fatigue and reluctance during this session led to it being excluded from the study to avoid excessively biased results. However, in most cases the session was held to perform a qualitative observation of participants, both directly and through their educators, as a valedictory session to prevent the end of the intervention from being perceived as further abandonment for these individuals. In addition, the nature of a study which required intervention in a specific, vulnerable population in small groups, did not allow for a large sample size. At the same time, this sample was reduced due to losses beyond the control of the participants and due to the inability to carry out the first evaluation of the first groups receiving treatment. To compensate for this limitation, the study was supplemented with a second analysis of two repeated measures allowing a larger sample size that revealed some significance that had not been detected previously, highlighting the possible lack of representativeness of the main sample. Finally, although the instruments used were considered the most suitable to assess the study variables in this population, none of them included control scales that would allow testing the formulated hypothesis when interpreting the results regarding a possible tendency towards social desirability in the initial evaluation.

For future research it would be useful to apply the trial extending the sample and broadening the first evaluation to all study participants. At the same time, it would be desirable to replicate the study evaluating emotional intelligence through an ability scale that might enable exploring the acquisition of these emotional skills during intervention regardless of the perception that participants have of them and their contribution to lowering suicide risk.

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