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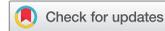
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# The Impact of a Board Game Program on Residential Care: Perspectives of Adolescents and Professionals

Coral Gallardo-Masa , Rosa Sitjes-Figueras , Carme Montserrat , Aitor Espinós, and Edgar Iglesias 

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## ABSTRACT

This research is aimed at adolescents in residential care. For eight months, adolescents from 23 residential centers in Spain, Germany and Poland participated in weekly board game sessions facilitated by educators specifically trained to study the impact of this program on their relationships, well-being, and cognitive, emotional, and social skills. Based on a pre-post design method, through ad hoc questionnaires in equivalent formats for adolescents and educators, a total of 504 questionnaires were collected: 269 participants (135 adolescents, 134 educators) for the pretest, and 235 (124 adolescents, 111 educators) for the posttest. The results indicate that the adolescents' self-assessment of their skills remained similar before and after the program, the educators assessed the skills of the youth as significantly improved in the posttest. The results therefore indicate a positive transformation in the educators' perspectives, thanks to the play sessions. Their evaluations of the adolescents' skills became more positive, which in turn generated a more favorable view of the adolescents themselves, something of great importance in professional practice. The high scores for the relationship between educators and adolescents also emphasize the need to give priority to play within the residential centers and provide training in play for educators.

## KEYWORDS

Residential care; board games; adolescence

## Residential Care

In many countries, residential care has for years been considered the most effective alternative for protecting children in a situation of helplessness (see the review by Ainsworth & Thoburn, 2014; Bravo & Fernández Del Valle, 2009). However, in recent decades there have been more and more voices in favor of promoting family foster care – both kinship and non-kinship – to the detriment of admissions to residential centers (Llosada-Gistau et al., 2017). Children need stable and secure relationships with caring adults to develop, and most of these relationships are first created in the family environment. Those children who grow up in foster care or residential care have often

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experienced significant trauma before being in the care system. Residential care, in particular, risks exposing children to more risks associated with social exclusion if the personalized support they need is not provided (Unicef & Eurochild, 2021). Nevertheless, residential care continues to be an option for child protection, fulfilling the functions of care and accommodation, as well as education and treatment (Ainsworth & Thoburn, 2014), especially for adolescents who cannot be offered family foster care (Holmes et al., 2018; López & Del Valle, 2015). Although those in residential care often display very diverse profiles, characteristics, and needs that change over time (Pinheiro et al., 2024), there is an overrepresentation of adolescents, sibling groups, children with disabilities, and emotional or mental health problems (Eurochild, 2021; Herczog, 2021; López & Del Valle, 2015) as well as unaccompanied young migrants (Iglesias et al., 2024; James et al., 2014).

However, there are large differences between countries in their use of residential care. There is a greater presence of residential care in Mediterranean countries and central and eastern Europe, while very low percentages are observed in English-speaking and Nordic countries. With regard to the three countries participating in the study, the population in residential care represents 52% in Spain, 35.5% in Poland, and 52.8% in Germany (Unicef & Eurochild, 2021). In these countries, the pedagogical potential of this type of care is often emphasized and conceptualized as a setting and environment where children live and learn (James et al., 2014). Most of them have open residential centers, where children use the community resources of the environment, such as school, health or leisure services, and specialized resources such as therapeutic residential centers (TRCs), as described by Whittaker et al. (2015), which are more widespread in the English-speaking context, are in the minority.

This study focuses on three key areas (domains) for the personal and social development of children and adolescents in residential care: well-being, their cognitive, emotional and social skills and, thirdly, interpersonal relationships among peers and with educators, both from the perception of the children themselves and the assessments of their educators. Too often, negative and stigmatized views of children in the protection system are identified (Llosada-Gistau et al., 2015), so it is important to know the perception of the protagonists through their own voice, with the ultimate aim of identifying improvements in their quality of life, especially considering that they are not living in a family environment.

### **Well-Being**

In recent years, there has been an increase in interest in the study of subjective well-being, as well as in the population of the protection system (Llosada-Gistau et al., 2015). There is a consensus to define subjective

well-being through three components that combine one cognitive process (satisfaction) and two affective processes (positive and negative) (Cummins & Cahill, 2000). In addition, it is perceived as a psychosocial component of quality of life (Casas, 2011). Studies focused on children in care within the protection system make it possible to identify factors and conditions that can improve their subjective well-being (Garcia-Molsosa et al., 2019), which is why it is important to focus on them. Research to date reveals that subjective well-being is significantly lower among children in residential care compared to those in kinship and non-kinship families and the general population (Llosada-Gistau et al., 2017). In addition, within the residential setting, those in therapeutic care show even lower levels of well-being (González-García et al., 2022), along with girls in residential care, who tend to report significantly lower levels of life satisfaction than boys (González-García et al., 2022; Llosada-Gistau et al., 2017).

It is also necessary to look at the well-being of these adolescents' educators and the importance of having specialized professionals who carry out socio-educational interventions based on meaningful affective relationships (Costa et al., 2022). Cantos-Egea et al. (2024) recently carried out a systematic review of job satisfaction in residential centers, indicating that it is a multidimensional and complex aspect. On the one hand, problems related to work stress, depersonalization, lack of institutional support, secondary traumatic stress or fatigue stand out. And on the other, resources emerge in the form of protection such as self-care, a sense of coherence, team supervision and promoting success, all aspects that enhance well-being at work. Job satisfaction is an important element in the study presented here, as it is necessary to promote activities within the daily dynamics of the center that promote well-being for both educators and children and young people when enjoying their free time together.

### **Skills**

Understanding these children's perceptions of life skills is crucial for both their own reflection and awareness and for their educators to get to know them better and adapt socio-educational programs to them. According to Choque-Larrauri and Chirinos-Cáceres (2009), life skills are key to human development and to effectively facing the challenges of daily life. These authors talk about three types of skills: cognitive, which include decision-making, critical thinking and self-evaluation; emotional management, comprising stress and self-control; and social or interpersonal skills, which include communication, rejection skills, assertiveness, aggressiveness and empathy. Van der Fels et al. (2015) defined cognitive skills as the processes of acquiring knowledge and understanding through thought, experience and the senses.

With regard to emotional skills, these refer to the set of skills, knowledge and attitudes that a person possesses for understanding, regulating and managing their own emotions. According to Denham (2005), they include several essential dimensions for emotional well-being and interpersonal relationships.

Finally, social skills refer to a set of social behaviors which are valued within a given culture and have a high probability of generating positive outcomes for an individual, subgroup or community, as well as having the potential to contribute to socially competent interactions (Del Prette & Del Prette, 2021). According to Denham (2005), these skills influence a person's ability to move successfully in diverse social settings.

### ***Interpersonal Relationships***

One of the most important aspects in terms of subjective well-being, and linked to the field of social skills, is that of interpersonal relationships. As Anglin (2002) pointed out, these relationships are expected to influence children's adaptive development. Many children in residential care have experienced limitations, at least temporarily, in the main provider of social relationships such as the family (Martín, 2011). For children in this situation, studies indicate that the presence of interests and emotional ties with significant people outside the family environment fosters resilient behaviors (Lázaro, 2009). Emphasis has also been placed on the quality of the interpersonal relationships that children and young people in foster care have (Legault et al., 2006; Martín & González, 2007), with educators being the relevant figures for the adaptive processes of children and adolescents in schools (Bravo & Fernández Del Valle, 2009; Calheiros & Patrício, 2014). In addition, Soldevila et al. (2013), highlighted social relationships as a determining element of quality of life in residential contexts, having observed the negative effects that a lack of affection on the part of educators has on children. In the same vein, Campos et al. (2020) studied the support network of young people in the care system and revealed that subjective well-being is significantly related to the quality of their relationships with people they live with. The environment of social relationships in residential contexts is therefore seen as critical, since it is believed that fostering positive relationships between professionals and children and young people contributes to their well-being (Steels & Harriet, Steels & Simpson, 2017). Costa et al. (2022) stated that adolescents in residential facilities often have difficulties with emotional regulation and need secure relationships with professionals to overcome adverse past experiences. Thus, a relationship marked by an attitude of support, attention and closeness on the part of professionals favors adolescents' emotional development. In short, educators are the people who exert the greatest influence on children and young people, as they interact with them on a daily basis (Knorth et al., 2010), and it is this context that the program presented aims to influence.

## Play

Bearing in mind this understanding that social relationships in the residential setting can contribute to well-being and emotional regulation, it is necessary to focus on the educational action carried out by professionals in this field. The educational function in this context is broad, as it involves accompanying children throughout their learning process. Although this accompaniment can take place through various methods, this study presents a board game program as a methodology for promoting the areas described and framed in Article 31 of the Convention on the Rights of the Child: the right to rest and recreation, to play and to engage in recreational activities appropriate to their age, and to participate freely in cultural life and the arts. The Convention points out that play and leisure time are essential to children's health and well-being and promote the development of creativity, imagination, self-confidence and self-belief. Despite this, however, play is often considered a non-essential element (Mallol, 2019), and the Committee on the Rights of the Child has expressed concern regarding the difficulties faced by certain groups of children in being able to enjoy this right to play, such as those living in poverty, those who have a disability and those interned in institutions, among others. Such groups are therefore deserving of special attention. For Mallol (2019), it is not that the right to play it is forgotten, but rather there is an ineffectiveness in the degree of its implementation and fulfillment. The study we present here focuses precisely on the implementation of this right.

There are many types of games; this study focuses on board games due to their usefulness and versatility. Numerous studies have highlighted the use of board games as a learning tool, as they provide an effective form of motivation (Martín & González, 2007) and can induce positive changes in behavior (Noda et al., 2019). The use of board games constitutes a pedagogical method that encourages the natural development of individuals' playfulness, and therefore of their personality in general (Aczel et al., 2015). In addition, they can foster the learning of various concepts and skills, including emotional ones, by means of various mechanisms: they provide opportunities for active and experience-based learning (Ruben, 1999), maintain attention in a more sustained way (Howard-Jones et al., 2016), facilitate understanding (Wohlwend & Pepler, 2015), offer immediate feedback, give children a sense of control (Lillard et al., 2013) and promote persistence in the face of challenges and creativity in problem-solving (Sprung et al., 2015).

These games also develop key competencies, inspiring learning but also encouraging communication, collaboration and facing up to challenges (Treher, 2011). In this regard, board games are preferable to other modes of play, such as digital games, in fostering communication, debate and questioning, as they provide a natural framework for resolving doubts in a face-to-face format (Eisenack, 2013).

We also know that board games are used extensively in school environments, and sometimes also in clinical and therapeutic settings (Noda et al., 2019). However, no specific previous literature has been found on the advantages of using board games in residential environments of the child protection system, a gap that justifies the approach of the research presented here.

## **Program Context and Research Objectives**

The proposal presented in this study focuses on the context of residential care, promoting learning spaces to enrich leisure time through dynamic board game sessions, which in turn, represent spaces for relationship and care. The project *Domus Ludens* (ERASMUS+ Ref. 2020-1-ES01-KA204 -082,783) focused on promoting the culture of play in residential care in three European countries: Spain, Poland and Germany. Five partners (Resilis Foundation, Spain; Für Soziales, Germany; Fundacja Samodzielni Robinsonowie, Poland; Cooperativa La Juganera, Spain) with complementary profiles participated, comprising: 1) three organizations providing residential care services for adolescents; 2) board game experts; and 3) university professors providing scientific advice for evaluation of the project.

The project consisted of adolescents from the residential centers managed by the three entities playing modern board games over a period of eight months. The selected games worked on cognitive, emotional and social skills and were played face-to-face once a week. In addition, the role of recreational agent was created, it is at each organization, a professional was designated to serve as the recreational lead to train educators (a minimum of 10 per organization), who will organize and lead the board game sessions with the adolescents. Thus, educational use was made of modern board games selected specifically for the pilot project to work on the areas of well-being, skills and relationships mentioned in the theoretical framework. An evaluation was designed to determine whether regular, structured and professionally guided play had a positive impact in these areas.

Evaluation of the project included a pretest and posttest design and counted on the participation of the adolescents housed in the centers and their educators. Thus, the overall aim of this research was to determine the impact of implementing the board game program on adolescents according to their own responses and the assessments made by their educators. More specifically, the aims were to:

- Obj. 1: Analyze the effects of the program by comparing the pre- and post-program measures in the adolescent group in terms of their skills, interpersonal relationships, and life satisfaction.
- Obj. 2: Analyze the effects of the program through the pre- and posttest comparison in the group of educators in terms of the assessments they

make of the adolescents' skills, interpersonal relationships and life satisfaction.

- Obj. 3: Compare and contrast the pre- and posttest results of the two groups – adolescents and educators.
- Obj. 4: Analyze the agreement between the adolescents' responses and those of their educators, given that each educator assessed the situation of each adolescent who participated in the program, making it possible to pair responses.

## **Method and Materials**

### ***Sample***

The participants in the study were adolescents in residential centers and their reference educators. A total of 23 residential centers participated in the project: seven from Catalonia, six from Poland and ten from Germany. The criteria for inclusion in the pilot project were as follows:

- Adolescents aged 13 to 17 housed in residential centers of the organizations in the countries where the study was carried out who wanted to voluntarily participate in the pilot project and were expected to remain in the center until the end of the pilot experience.
- The reference educators of each of the adolescents who participated.

Each of the three organizations had to select at least 40 adolescents (120 in total), and the reference educators for each of them. The pretest sample comprised 269 individuals (135 adolescents and 134 educators) and the posttest sample 235 individuals (124 adolescents and 111 educators) (see [Table 1](#)). There was a slight loss of participants between the beginning and end of the program, which is a frequent occurrence in pre-post methodological designs, but even more common in the residential context of protection, since the personal and family circumstances of these young people are often unstable and cannot always be predicted. By way of example, the young person leaving the center (returning to the family or transferring to another protection resource), the complexity of their personal and family circumstances, or the fact that they cannot continue to participate in the play sessions as they coincide with time with the family are a few reasons for attrition. Likewise, there were also some changes in the young people's reference educators. All that being said, it constitutes a representative sample of each organization, since participation was offered to all adolescents of these age groups who were in residential centers and most of them were able to participate.

**Table 1.** Number and percentage of adolescents and educators participating in the pilot project by country of residence.

	Catalonia	Poland	Germany	Total
<b>Adolescents</b>	<b>N (%)</b>	<b>N (%)</b>	<b>N (%)</b>	<b>N (%)</b>
Pre-test	51 (37.8%)	45 (33.3%)	39 (28.9%)	135 (100%)
Post-test	55 (44.4%)	43 (34.7%)	26 (21.0%)	124 (100%)
Total	106 (40.9%)	88 (34.0%)	65 (25.1%)	259 (100%)
<b>Educators</b>	<b>N (%)</b>	<b>N (%)</b>	<b>N (%)</b>	<b>N (%)</b>
Pre-test	50 (37.3%)	43 (32.1%)	41 (30.6%)	134 (100%)
Post-test	37 (33.3%)	47 (42.3%)	27 (24.3%)	111 (100%)
Total	87 (35.5%)	90 (36.7%)	68 (27.8%)	245 (100%)

The mean age of adolescents at the time of the pre-test was 15.28 years ( $SD = 1.611$ ), and that of educators was 31.31 years ( $SD = 8.928$ ). Regarding gender, taking into account the pre-test data, there was a majority of boys among the adolescents ( $N = 70$ , 51.9%), with 5.2% indicating a non-binary gender, and a majority of women among the educators ( $N = 105$ , 78.4%). Among the adolescents, 83% were born in the country where the pilot project was being carried out and 17% in a foreign country. As for the educators, 98.5% were born in the country where the study was conducted.

With regard to the characteristics of the residential centers, the majority of adolescents (85.2%) were in ordinary centers (they live at the center but attend schools elsewhere, like the rest of the population). Of the 23 centers where the project was carried out, three were specialized, that is, for adolescents with special needs and behavioral problems (one in Catalonia and two in Poland).

As for the time they had spent at the center when answering the pre-test questionnaires, it should be noted that 43.6% of the adolescents had been living in the center for between one and three years, while half of the professionals (51.9%) had been working there for more than three years.

In relation to the last aim of the study, for which the responses of the two groups were paired, it should be noted that from the pre-test questionnaires it was possible to pair the answers of 122 adolescents with those of their educators, while 95 of the posttest questionnaires were paired. The fact that they could not all be paired is due to changes in participation between the pre- and posttest, but also to errors made by the adolescents or educators when writing the code.

### **Data Collection Instruments and Procedure**

Ad hoc, self-administered, electronic and anonymous questionnaires were used, mainly comprising closed questions. The questionnaires were designed in English and later translated into the languages of each country (Catalan, Spanish, Polish and German). Four questionnaires were used for evaluation of the pilot project: two for the pretest phase (one for adolescents and the other for educators) and two for the posttest phase (also for adolescents and

**Table 2.** Examples of how questions were posed to the adolescents and how the educators were asked to evaluate the adolescents' skills, life satisfaction and relationships (one item shown for each question).

Questions for adolescents	Questions for youth workers
From 1 to 5, how do you define yourself with the following thinking (cognitive) skills? I like to learn new things	From 1 to 5, how do you define the following cognitive skills regarding this particular adolescent? He/she is very interested and likes to learn new things
From 1 to 5, how do you define yourself with the following emotional skills? I know how to lose, I don't get angry when other people win	From 1 to 5, how do you define the following emotional skills regarding this particular adolescent? He/she knows how to lose, he/she doesn't get angry when other people win
From 1 to 5, how do you define yourself with the following social skills? I am kind to other people and I often say thank you	From 1 to 5, how do you define the following social skills regarding this particular adolescent? He/she is kind to other people and he/she often says thank you
How satisfied are you with each of the following things in your life? Your friends	How satisfied is he/she with each of the following things in his/her life? His/her friends
How is the relationship with...? Your youth workers	How is the relationship between him/her with...? The youth workers in the residential center

educators). Links to the questionnaires were sent to the organizations in each country, with a detailed explanation of the process so that all participants could answer individually. Even so, instructions were also included to help adolescents who had reading comprehension difficulties to read the questions in an individual space.

The same questions were included on the adolescents' and educators' questionnaires, with the educators being asked to provide scores with respect to the skills, well-being and relationships exhibited by the adolescent (Table 2). A code was used to relate the answers of each adolescent to those of their reference educator, created by each organization, making it impossible to know the identity of the participants when analyzing the data.

Both the pretest and posttest questionnaires had four initial questions on socio-demographic characteristics, and then 44 closed questions on skills (cognitive, emotional and social), life satisfaction and relationships. The closed questions were mainly categorized (frequency and agreement – 5-point likert) and numerical (satisfaction with 11-point scales).

The skill items were inspired by the work of Choque-Larrauri and Chirinos-Cáceres (2009). The cognitive skills included 10 items related to the following aspects: oral expression; the ability to concentrate on a task, reflect on one's own actions, make decisions and react quickly when needed; long-term memory; strategic thinking; imagination and creativity; curiosity; and motivation to learn. The emotional skills included six items related to: patience; the perception of doing things well; emotional management; knowing how to lose; ease of relating to others; and recovering when they have a problem. The social skills comprised 11 items related to:

teamwork; negotiating and accepting rules; treating others well; listening to others; taking responsibility for their actions; empathy; trust in others; understanding nonverbal communication; competitiveness; kindness; and motivation to get to know other people.

Two scales were also used which are usually considered good indicators of Subjective Well-being, with a high correlation between the respective items (see Casas et al., 2013): Overall Life Satisfaction-OLS (Campbell, 1976), a single-item scale that measures overall life satisfaction, and the PWI-SC, designed by Cummins and Lau (2005), the index calculated from the life satisfaction variables by life areas used in the ISCWeb questionnaire ([www.isciweb.org](http://www.isciweb.org)) and with the population of the protection system (Llosada-Gistau et al., 2015).

Regarding the reliability index, a value of Cronbach's  $\alpha$  coefficient of 0.856 was observed for cognitive skills, 0.801 for emotional skills, 0.846 for social skills and 0.884 for life satisfaction.

### **Data Analysis**

The Kolmogorov-Smirnov test was used to analyze data normality, since the sample comprised more than 50 cases. The results of this test suggested that the null hypothesis could be rejected and that the data therefore did not follow a normal distribution. Thus, non-parametric tests were carried out to compare the observations of the different participants, adolescents and educators. Specifically, the Mann-Whitney-Wilcoxon test was used, which made it possible to analyze the existence of significant differences between samples distributed in a non-normal way, responding to Objectives 1, 2 and 3 of the study. Also for Objective 4, a Mann-Whitney-Wilcoxon test was used for paired data between the adolescents and educators. This test was interpreted in the same way as its unpaired specification, with the difference that it evaluated the difference between each pair of observations rather than the groups in general. The means, deviations, and number of observations of each sample were added to the above analyses to provide further information on the groups to be compared. The data were not disaggregated by country, as we did not have a sufficiently large sample for each country. The data are available on the Dataverse System (<https://doi.org/10.34810/data1721>).

### **Ethical Aspects**

All of the information was collected with the informed consent of the participants and the authorization of the competent administration in matters of child protection. The processing of the data obtained was carried out ensuring

the confidentiality and anonymity of the participants. Likewise, the research protocol was approved by the University's Research Ethics and Biosafety Committee (CEBRU0027).

## **Results**

The results are presented below according to the four specific objectives. Graphs are included to illustrate the results and the details of the data can be consulted in the tables in the supplementary material.

### ***Differences Between the Adolescents' Pre- and Post-Test Responses***

In general, the results suggested that the adolescents responded very similarly in the pre- and posttests, with practically no statistically significant differences being observed in the following areas.

#### ***Cognitive Skills According to the Adolescents***

With regard to the adolescents' assessment of their cognitive skills (Table S3), in the pretest they scored higher in the skills of learning new things, since they reported being curious and eager to learn. On the other hand, the skills with the lowest scores were having long-term memory; the ability to think of strategies and techniques to resolve a problem; and knowing what they want in their day to day. It is worth noting that all of the adolescents' scores were equal to or greater than 3.5 on a scale of 1 to 5.

As already mentioned, the posttest responses were very similar to those of the pretest, although they were slightly higher in most aspects. In other words, no statistically significant differences were observed in the responses before and after the program.

#### ***Emotional Skills According to the Adolescents***

With regard to their emotional skills (Table S4), the adolescents highlighted their strengths in the following elements: knowing how to lose without getting angry when other people win; easily relating to others; and considering themselves to be people who tend to do things well. On the other hand, the item with the lowest score was related to having patience, followed by knowing how to manage emotions and the ability to recover when they have a problem.

The pre- and posttest responses were also similar, with no statistically significant differences being observed. However, it should be noted that, despite not doing so significantly, the adolescents scored even higher in the posttest with regard to considering themselves to be people who do things well. All mean scores were between 3.11 and 3.84 points on the 5-point Likert scale.

### ***Social Skills According to the Adolescents***

Regarding social skills, the adolescents emphasized that they consider themselves to show kindness toward other people and tend to say thank you, that they treat others well despite being different from them, that they are responsible and that they know that what they do has consequences. On the other hand, the items with the lowest scores in this respect were: trusting other people; being very competitive; and skills when it comes to recognizing the expressions of others through their gestures (Table S5). Statistically significant differences were also observed between the pre- and posttest in this area, with the adolescents scoring very similarly on the two tests, with mean values between 2.94 and 4.18 points.

### ***Life Satisfaction According to the Adolescents***

In both the pretest and posttest results, the highest satisfaction on the part of adolescents was with their friends (a mean score above 8 points on an 11-point scale) and with the educators of the centers where they live. They also reported being satisfied with their health; the things they learn; and the things they have (mean scores of above 7). On the other hand, they showed low satisfaction with the freedom they have; their lives as students; and their lives in general, the mean for these scores being below 6 (Table S6). A significant difference over time was observed in the score that adolescents attributed to the freedom they have. Despite being low, scores for this were higher in the posttest. It should be noted that, although no statistically significant differences were observed, higher posttest scores were observed in 12 of the 15 items.

### ***Relationships According to the Adolescents***

The adolescents were generally more satisfied with their relationship with their educators and much less with the relationship they have with the rest of the adolescents in the residential center; however this showed no statistically significant differences (Table S7).

### ***Differences Between Educators' Pre- and Post-Test Responses***

An overall comparison of educators' pre- and posttest responses regarding the adolescents' skills revealed significantly higher posttest scores, meaning that the educators rated the adolescents' skills higher after they had participated in the pilot board games program.

### ***Cognitive Skills According to the Educators***

With regard to the scores they awarded the adolescents' cognitive skills, we see that all posttest responses (mean scores of between 3.1 and 3.5) were higher

than those of the pretest (between 3.5 and 4), with statistically significant differences observed in 7 of the 10 items assessed in this area (Table S3).

### ***Emotional Skills According to the Educators***

The educators' posttest assessments of how they perceived the adolescents' emotional skills were also all higher than those they had made in the pretest, statistically significant differences being observed in four of the six skills analyzed (Table S4). That being said, they were all low, with no assessment reaching a score as high as 4 (on a 5-point scale). The highest was that the adolescents tend to do things well (3.8 out of 5 in the posttest). It should be noted that the educators attributed quite a lot of difficulties to the adolescents when it came to managing emotions (means of 2.9 in the pretest and 3.3 in the posttest).

### ***Social Skills According to the Educators***

Once again, the educators' posttest assessments of the adolescents' social skills were all higher than those they made in the pretest (Table 5). In addition, statistically significant improvements were observed in six of the 11 items evaluated.

### ***Life Satisfaction According to the Educators***

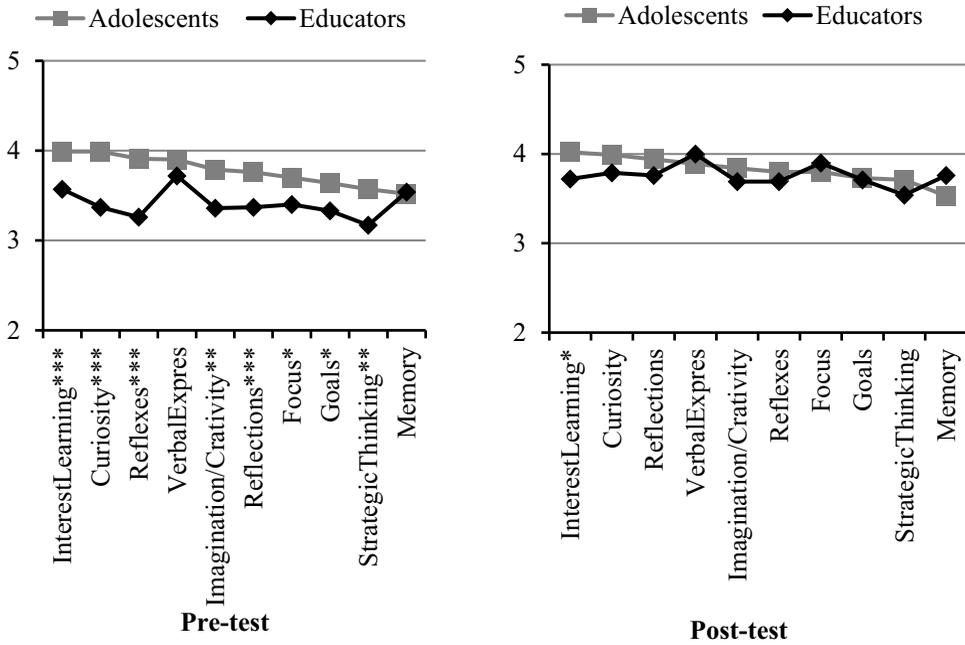
The educators attributed a higher level of life satisfaction to the adolescents after they had participated in the program, with statistically significant differences observed in all items analyzed (Table S6). In the posttest questionnaires, the highest means were for the adolescents' satisfaction with their friends and educators at the centers where they live. Other mean scores of above 7 points were satisfaction with their health, the things they have learned, the use they make of their time, the things they have, how adults listen to them and the other adolescents at the center. The remaining mean scores were all below 7 points, even though they were higher than in the pretest.

### ***Relationships According to the Educators***

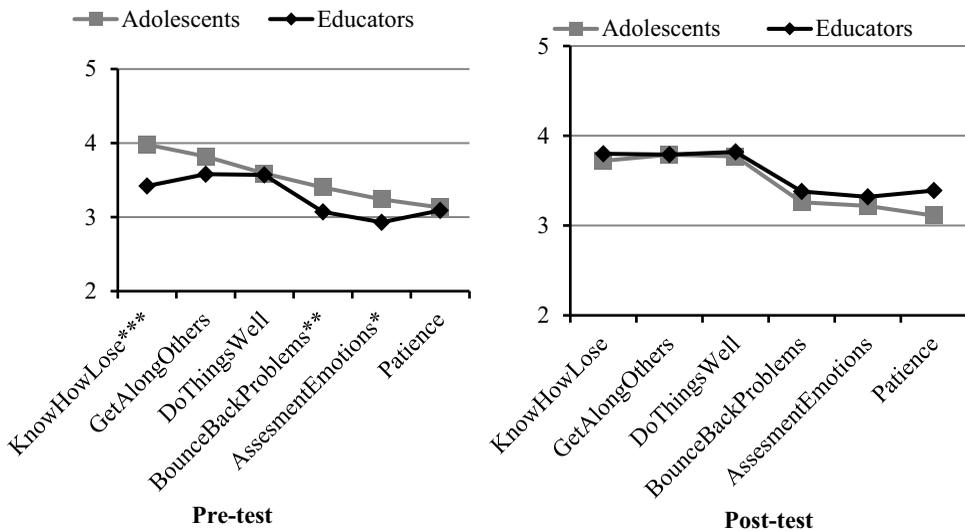
The posttest responses also had a higher mean score than those of the pretest in this aspect, with the relationship between the adolescents and educators displaying a higher mean score than relationships among the adolescents themselves (this increase was also statistically significant).

### ***Differences Between the Responses of the Adolescents and Educators (In the Pre-Test and in the Post-Test)***

The adolescents and educators returned different scores in the pretest, with the educators' assessments generally being significantly lower. However, the educators' scores were higher in the posttest, pairing those of the adolescents in the pretest, while there were no significant variations in the adolescents' posttest assessments.



**Figure 1.** The adolescents' cognitive skills according to them and their educators. 5-point scale from 1 = not at all to 5 = totally.



**Figure 2.** The adolescents' emotional skills according to them and their educators. 5-point scale from 1 = not at all to 5 = totally.

**Comparing The Adolescents' and Educators' Assessments with Regard to Cognitive Skills**

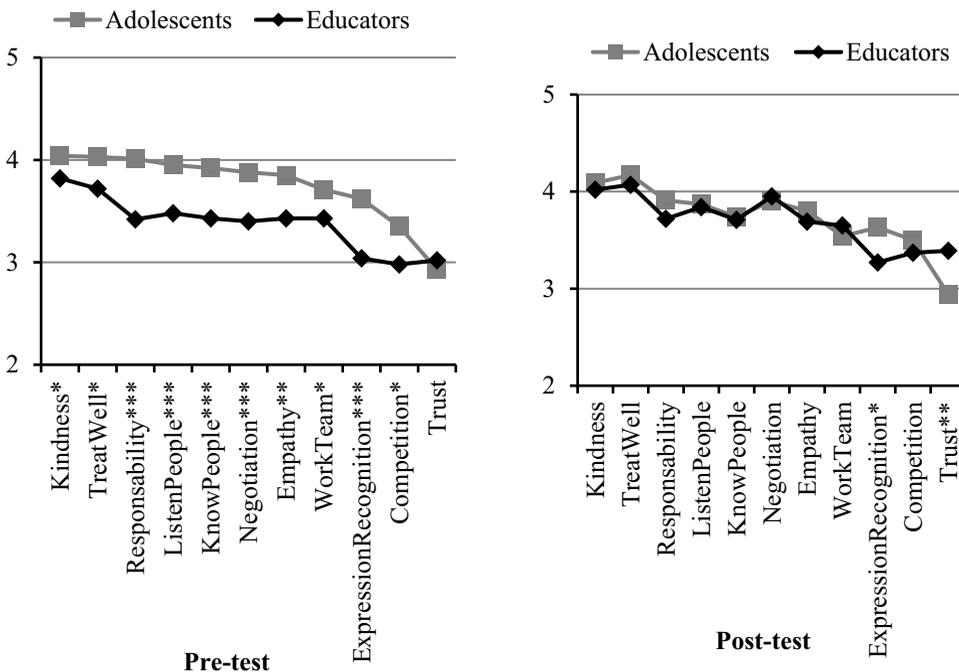
In the pretest, statistically significant differences were observed between the responses of the adolescents and the educators in eight of the ten skills analyzed,

with the adolescents' assessment of their cognitive skills being higher than that of the educators, who awarded them low scores (Table S8 and Figure 1). However, the posttest responses of the adolescents and educators were very similar due to the higher scores awarded by the educators to pair those of the adolescents, with practically all significant differences disappearing.

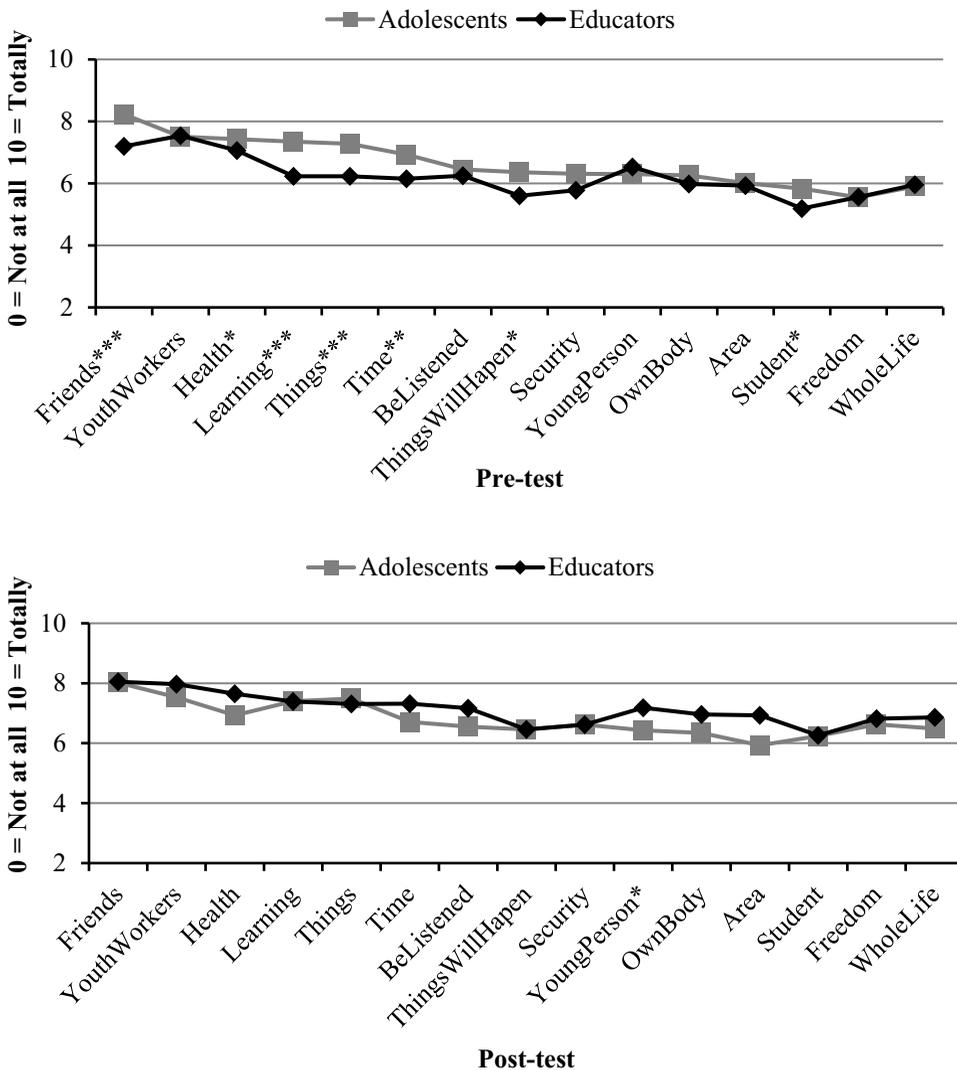
In relation to emotional skills, in the pretest, the educators also awarded lower scores than the adolescents, with statistically significant differences in three of the six skills analyzed (Table S9 and Figure 2). On the other hand, in the posttest, the educators awarded very similar mean scores for emotional skills to those awarded by the adolescents themselves, with no significant differences.

### *Comparing The Adolescents' and Educators' Assessments with Regard to Social Skills*

In the pretest, the adolescents also awarded themselves significantly higher scores than the educators for 10 of the 11 social skills (Table S10 and Figure 3). On the other hand, the perception of educators in the posttest improved, pairing the adolescents' scores and also coinciding on the two items they ranked highest, related to treating others well and kindness. It should be noted that the adolescents continued to score their ability to trust other people



**Figure 3.** The adolescents' social skills according to them and their educators. 5-point scale 1 = Not at all, 5 = Totally.

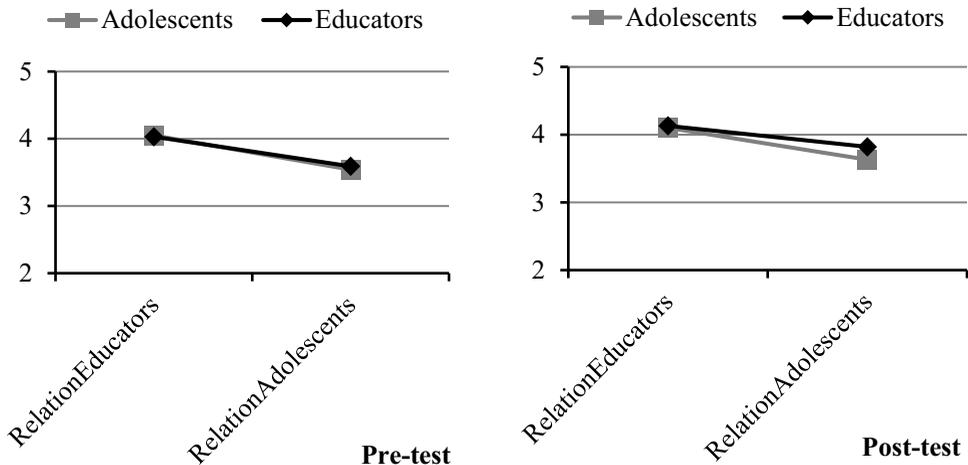


**Figure 4.** The adolescents' satisfaction with life according to them and their educators. 11-point scale from 0 = Not at all satisfied to 10 = Totally satisfied

poorly (with means of below 3), whereas in the posttest the educators awarded them significantly higher scores in this regard.

### **Comparing The Adolescents' and Educators' Assessments with Regard to Life Satisfaction**

In the pretest, statistically significant differences were observed between the adolescents' and educators' responses in seven of the 15 areas on satisfaction, with adolescents' scores generally being higher (Table S11 and Figure 4). On the other hand, in the posttest, the educators even awarded slightly higher scores than the adolescents, this only achieving significance



**Figure 5.** How is the adolescents' relationship with...? According to them and their educators. 5 point scale from 1 = very bad to 5 = very good.

for satisfaction with the relationships between adolescents in residential centers.

### *Comparing The Adolescents' and Educators' Assessments with Regard to Relationships*

With regard to social relationships (Table S12 and Figure 5), the adolescents and educators responded in a similar way in both the pre- and posttests. In all cases, the adolescents' satisfaction with their relationship with educators was higher than with their relationship with other adolescents.

### *Differences Between the Paired Responses of Adolescents and Educators (In the Pre- and Post-Tests)*

In this section, unlike the previous one, the observations of the two groups have been paired, allowing for a more precise analysis of the differences and similarities between the responses of each adolescent and those of their reference educator. The results of the paired samples repeat the same trend as seen in the previous section; however, the fact that they are paired samples means the results are more robust, corroborating the same result with both paired and unpaired data (see details in Tables S13-17).

Thus, in the different blocks of skills, life satisfaction and relationships analyzed, many statistically significant differences were observed between the two groups of participants in the pretest phase, while in the posttest phase there were practically none. The perceptions expressed by the reference educators at the end of the program therefore coincided with those of the adolescents themselves to a large extent, the latter being initially higher and

remaining so after the project had been completed. The observable change was only seen in the educators' assessments, which improved and were on a par with those that the adolescents made about themselves after having shared the play space.

## Discussion and Conclusions

Four main blocks of results are discussed below in relation to the aim of the study regarding the impact of implementing a board game program with adolescents in residential centers.

Firstly, it is necessary to note that the program has play as a core concept: although we know the benefits of play (Aczel et al., 2015; Noda et al., 2019; Sprung et al., 2015; Wohlwend & Peppler, 2015) and that it is recognized as a right by the CRC, its application is often underestimated, especially in contexts of vulnerability (Mallol, 2019). The implementation of this type of program in a context often unrelated to recreational aspects and too anchored in discipline, rigid regulations and low expectations – that of residential centers within the protection system – forces a change of perspective. In addition, the evaluation results contribute to filling a gap in the scientific literature.

Secondly, now considering evaluation of the program, we would highlight the fact that the adolescents' responses to the questionnaires remained stable before and after participating in the board game program. This can be interpreted in two complementary ways. The first is positive, in that it contradicts those voices claiming that children and adolescents are not reliable informants and that their answers may be the result of a certain randomness and inconsistency (Casas, 2011). On the contrary, after nine months, the assessments and perceptions of the participating adolescents remained almost the same, generally awarding themselves medium to high scores, especially for cognitive and social skills, although a little lower for emotional skills and life satisfaction. The second interpretation would be more critical, since their perceptions of their skills, relationships in the center and life satisfaction would be expected to have improved following completion of program. Although this is in fact the generally observed trend, no significant differences are noted. Possible explanations for this might include: not enough time had elapsed for them to notice the changes; they did not perceive the changes as being substantial; there were no actual changes in these areas; the instrument or sample size did not allow them to be captured; and they can actually be observed in the qualitative study (Gallardo-Masa et al., 2024). In any case, further research is needed in this regard.

Thirdly, the educators' assessments of the adolescents' skills and life satisfaction were, on the one hand, significantly lower than the adolescents' perceptions in the pretest (also observed in the study by Montserrat et al.,

2019). In other words, as a starting point, before commencing the program, some of the educators perceived the adolescents as having many cognitive, emotional and social difficulties and being dissatisfied with life; on the other hand, however, after playing board games with them on a regular basis, their perceptions changed significantly in a positive way, and they ended up making the same evaluations that the adolescents made of themselves. There are several explanations, and implications, of these findings. Firstly, staff may have been influenced by the fact that playing together not only allowed the educators to get to know the adolescents better, but also perceive aspects they were not aware of previously. Secondly, the educators observed improvements both in terms of skills and feeling happier, perhaps suggesting that changes can sometimes be observed more easily from an external perspective. In any case, several authors have studied the negative effect of children's role models having negative perceptions and low expectations of them, feeding back a negative self-image of themselves and self-fulfilling prophecies (Montserrat et al., 2019). The implications of this finding are therefore worthy of great note: proximity, accompaniment and personalization in the work of professionals can lead, at the very least, to a positive change of outlook on the educators part. Undoubtedly, this finding can be seen as a great step in itself in an area often impregnated with pessimism and a lack of future perspectives. In this regard, Serbati and Gioga (2017) underlined the importance of agreeing on work objectives with young people and sharing responsibilities for their well-being. On the other hand, it is good news that there is a positive assessment and high satisfaction with the relationship between social educators and adolescents, acknowledging the role of professionals working with adolescents in residential care and the importance of establishing bonds (Bravo & Fernández Del Valle, 2009; Campos et al., 2020; Calheiros & Patrício, 2014, Knorth et al., 2010; Soldevila et al., 2013).

Fourthly, we must pause for a moment to consider the overall life satisfaction expressed by the adolescents, which tends to be lower than that of their peers in the general population (Llosada-Gistau et al., 2015, 2017) and is considered low on the satisfaction scales in the child population (Casas, 2011). Although it should be noted that an improvement is observed in the posttest, a result that must be viewed positively, especially with regard to the effects of the program, attention must be paid to the subjective well-being of young people in residential centers. Observing the results, when it comes to professional intervention with young people, improvements are needed in areas such as the perception of security, insecurity with the future, their life as a student, the perception of a lack of freedom, and the fact of feeling heard. These are topics that concern young people and make them feel much less satisfied, although they have an origin or scope that goes far beyond a play program. There is still a long way to go in the areas of perceived safety in residential centers, education, or feeling listened to.

Finally, it is worth highlighting one methodological note related to the aim of studying the agreement of responses between adolescents and educators. In this regard, the analyses in this study were carried out using both unpaired and paired data, with similar results being observed in both cases, lending more consistency to the study. However, it is also worth noting some limitations of the pre-post method, in that other influencing variables (problems with the family of origin, staff instability, moving to another school, to name but a few) not related to the program may affect the results. These contextual variables are often especially present in protection system populations, who bring with them complex family and social circumstances.

## Recommendations

All in all, the results of this study provide us with further knowledge and give rise to recommendations for practice and policy in the following directions: i) guaranteeing the specific training of social educators and prioritizing the right to play in residential contexts; ii) facilitating understanding, trust, and mutual expectations among adolescents; iii) promoting spaces of well-being and satisfaction; and iv) strengthening the process of adolescents' and educators' agency in playing games. The results also have implications for research, namely, that there is a need to evaluate programs carried out in residential centers and move toward determining their impact in the medium and long term.

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## Data Availability Statement

The data that support the findings of this study are available on CSUC repository “CORA” <https://doi.org/10.34810/data1721>.

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