

# Impact of an intervention based on dialogical gatherings and interactive groups for the development of prosocial behavior in a learning community

## Impacto de una intervención basada en tertulias dialógicas y grupos interactivos para el desarrollo de la conducta prosocial en una comunidad de aprendizaje

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### Abstract

One of the aims of *Learning Communities* is the continuous search for the development of a better coexistence and solidarity attitudes by means of *Successful Educational Actions*. However, to date little is known about the impact of the interventions carried out in these types of schools for this purpose. That is why the objective of this study has been to find out if the main *Successful Educational Actions*, such as interactive groups and dialogic gatherings, contribute to improving the prosocial behavior of Primary and Secondary Education students. A longitudinal study was carried out in a *Learning Community*, in which 186 Primary and Secondary Education students participated, who filled out the *Spanish Scale to Evaluate Prosocial Behavior* with an intermediate intervention

of 9 months. The results revealed that after the intervention, both Primary Education students and Secondary Education students did not show significant statistical differences in any of the dimensions of the Prosocial Behavior instrument, except in the dimension of Helping, in which students reduced their values along the time. These findings are relevant for education professionals with the purpose of reflecting on the type of methodologies and dynamics that are being carried out to improve coexistence and prosocial attitudes in their lessons, as well as in their schools.

*Keywords:* prosocial behavior, successful educational actions, learning community, primary education, secondary education.

### Resumen

Uno de los objetivos de las *Comunidades de Aprendizaje* es la búsqueda continua del desarrollo de una mejor convivencia y actitudes solidarias a través de *Actuaciones Educativas de Éxito*. Sin embargo, hasta la fecha se conoce poco sobre el impacto de las intervenciones realizadas en este tipo de centros educativos con este fin. Por ello, el objetivo de este estudio ha sido averiguar si las principales *Actuaciones Educativas de Éxito*, como los grupos interactivos y las tertulias dialógicas, contribuyen a mejorar el comportamiento prosocial de los alumnos de Educación Primaria y Secundaria. Se realizó un estudio longitudinal en una *Comunidad de Aprendizaje*, en el que participaron 186 alumnos de Educación Primaria y Secundaria, que cumplieron la *Escala Española de Evaluación de la Conducta Prosocial* con una intervención intermedia de 9 meses. Los resultados revelaron que, tras la intervención, tanto los alumnos de Educación Primaria como los de Educación Secundaria no mostraron diferencias estadísticas significativas en ninguna de las dimensiones del instrumento de Conducta Prosocial, excepto en la dimensión de Ayudar, en la que los alumnos redujeron sus valores a lo largo del tiempo. Estos resultados son relevantes para los profesionales de la educación con el fin de reflexionar sobre el tipo de metodologías y dinámicas que se están llevando a cabo para mejorar la convivencia y las actitudes prosociales en sus clases, así como en sus centros educativos.

*Palabras clave:* conducta prosocial, actuaciones educativas de éxito, comunidades de aprendizaje, Educación Primaria, Educación Secundaria.

## Introduction

### Prosocial behavior in Compulsory Education Students

Prosocial behaviors refer to the actions that individuals voluntarily carry out to improve the well-being of others (Gross et al., 2017), hence,

contributing to developing healthy interpersonal relationships (Fehr & Fischbacher, 2003).

Currently, there are different theoretical models of understanding prosocial behavior, but one of the most commonly used models is the multidimensional model that comprises three large dimensions: Helping, Sharing and Comforting. This model has been supported by a large literature (e.g., Dunfield, 2014; Dunfield et al., 2011; Dunfield & Kuhlmeier, 2013; Padilla-Walker & Carlo, 2014; Paulus, 2014, 2018) and it is based on a variety of negative states children and adolescents should identify and overcome in order to foster their prosociality. A summary of the main dimensions is discussed on the following lines, as well as in Table I.

- **Helping:** It is understood as other's instrumental need that can be overcome by correcting unintended outcomes. As early as two years old, children "have developed some social cognitive skills required to support the recognition of instrumental need and produce helping behaviors" (Dunfield, 2014, p. 4).
- **Sharing:** it is understood as one's unmet material desire. This desire can effectively be overcome by recognizing an unequal distribution of resources as well as by overcoming an egocentric desire to monopolize resources (Dunfield, 2014). Despite the fact that children could identify unequal distribution of resources as early as two years of life, the tendency to spontaneously act fairer increases with age (Blake and McAuliffe, 2011).
- **Comforting:** it is understood as one's emotional distress that can be effectively overcome by alleviating others' negative emotional states. Dunfield (2014) highlights that although infants can identify emotional expressions within the first years of life, the skill to represent and respond adequately to other's emotions takes much longer to develop.

The differences in these behaviors arise very early in the first years of life and have important consequences in the child's social development, during childhood, adolescence and adult life (Eisenberg et al., 2006). Indeed, during childhood and early adolescence, prosocial behavior correlates with a series of benefits that should be commented on. First, with regard to personal variables, some studies highlight that prosocial behavior can be considered a protective factor against behavior problems (Carlo et al., 2014), helping to reduce aggressive behavior (Arbel et al., 2022), severe delinquency (Padilla-Walker et al., 2015), victimization from

TABLE I. Main dimensions of the prosocial behavior construct

	<b>HELPING</b>	<b>SHARING</b>	<b>COMFORTING</b>
Represent the problem	Instrumental need: Recognize goal directed behavior	Unmet material desire: Recognize unequal access to resources	Emotional distress: Recognize negative emotional states
Solution	Correct unintended outcomes	Distribute resources equally	Alleviate negative emotional states
Motivation	Motivation to see negative state alleviated	Motivation to see negative state alleviated	Motivation to see negative state alleviated

Source: Compiled by authors based on Dunfield (2014).

bullying (Wang et al., 2015) and developing high values of self-esteem (Van der Graaff et al., 2018). Second, prosocial behavior is positively associated with social competence, in a way that it contributes to developing children's and adolescents' social skills including peer attachment and acceptance (Dirks et al., 2018). As a consequence, prosocial behavior could be key when flourishing positive interpersonal relationships (Van der Graaff et al., 2018). Finally, other studies have stated the relevance of prosocial behavior for improving academic achievement, in transversal studies (Van der Graaff et al., 2018), as well as in longitudinal studies (Caprara et al., 2000).

Based on these potential benefits the relevance of carrying out interventions based on fostering students' prosocial behavior is crucial. What is more, to date, despite the fact that researchers have striven to foster intervention programs with the aim of developing adolescents' prosocial behavior (e.g., Caprara et al., 2014; 2015; Mesurado et al., 2019), even today there is still a significant lack of prosociality between cultures. This is the case of the high percentage of Korean adolescents who have suffered cyberbullying (The Ministry of Education of Korea, 2018), or the case of the few percentage of Canadian adolescents that claim that they would help a bullying victim (Trach et al., 2010), to name but a few.

Interventions focused on increasing students' prosocial behavior should have a series of features that have been previously discussed in the literature. On this matter, it is noteworthy the study carried out by Shin & Lee (2021) who reveal in a meta-analysis which should be the main factors that affect the effectiveness of prosocial behavior interventions. In this sense, the wide variety of interventions are focused on adding

positive attitudes as a way of promoting prosociality (e.g., Caprara et al., 2014), whereas others use interventions with the aim of removing one's negative behavior by managing one's anger, resolving disputes and dealing with impulse control (e.g., McMahon & Washburn, 2003; Muratori et al., 2015; Yeager et al., 2013). As some studies point out, interventions focused on increasing social competence tend to be more effective than those focused on preventing problem behavior as they obtain smaller effects compared to those structured to improve positive behaviors (Menting et al., 2013). The durability of the interventions as well as the length of the sessions when fostering prosocial behavior is another topic that has been previously discussed (Granski et al., 2020; Kriemler et al., 2011; Shin & Lee, 2021), pointing out how short duration interventions seem to be more ineffective than large duration interventions for developing social skills (Limbos et al., 2007; Hynynen et al., 2016). With regard to the measuring tools, self-reports, behavioral ratings and observations tend to be the most common instruments, surely by their ease of use (Shin & Lee, 2021). Nevertheless, these authors discuss that future studies could attempt to mix different measuring methods in order to assess whether prosocial behavior values differ by the tool used. Subsequently, another feature to take into account is the usage of standardized scales. In fact, the effectiveness of an intervention could be better measured when using more valid and reliable scales (e.g., Caprara et al., 2005), instead of using ad-hoc instruments with poor validity and reliability (e.g., Bosworth et al., 1998). Indeed, Shin & Lee (2021) observed how studies that used non-standardized instruments for measuring prosociality obtained larger effects than those studies using standardized instruments. In addition, the participant's age is another feature that has been discussed. Shin & Lee (2021) state that, here, inconclusive results are highlighted as some studies point out that prosociality is better developed as early as possible (e.g., Ramey & Ramey, 1998; Webster-Stratton et al., 2004), while others claim that prosociality is gradually improved in the development from childhood to early adulthood (e.g., Crocetti et al., 2016; Luengo-Kanacri et al., 2013). What it is more, some authors consider the early and middle adolescence as a proper period for the development of prosociality (Eisenberg et al., 2016;), as first real intimate circles with friends supporting each others appear (Goldstein et al., 2015) and a series of skills are rapidly developed, as perspective taking (Van der Graaff et al., 2014), moral reasoning (Malti et al., 2014) and the cognitive and affective skills to think and act prosocially (Carlo et al., 2011). Finally, the last feature

of interventions focused on developing prosociality is the nature of the participants, underlining regular children and adolescents, and children and adolescents with behavioral disorders. As observed in the literature, participants with behavioral disorders tend to participate more often in a therapy or treatment carried out by psychologists or therapeutic specialists than in an intervention program carried out, generally by teachers (Kellner et al., 2008; Nitkowski et al., 2009). Consequently, Shin & Lee (2021) state that intervention programs for regular adolescents could be less therapeutic than treatment programs, in which approximately 85% of adolescents with behavioral disorders successfully respond to the training's aim (Reinke et al., 2014).

### **Contribution of Successful Educational Actions for developing Prosocial Behaviors**

The *Learning Communities* model refers to the project made up of a series of *Successful Educational Actions* with the aim of socially and educationally transforming schools (Díez-Palomar & Flecha, 2010). These *Successful Educational Actions* arise as a result of the European research project INCLUD-ED, whose ultimate objective was to detect which specific actions helped promote educational success and social inclusion, thus reducing educational inequalities, throughout the different stages mandatory (Valls-Carol et al., 2014). Among the main *Successful Educational Actions* within these centers we find dialogical gatherings, interactive groups, homework clubs outside school hours, learning mentors, or tutored libraries, among others (Valls-Carol et al., 2014). Despite the fact that the impact of *Successful Educational Actions* in developing prosocial behaviors is a relatively novel topic, and hence, the available literature is scarce, there are some findings that should be commented below:

- **Dialogical gatherings.** They are presented as a space in which, after reading a text at home, generally a literary classic, and selecting a significant piece for each one, a series of people meet to interpret it through interactive dialogue, respecting all the contributions without taking into account the sociocultural origin of the members. This is possible thanks to the active role of the moderator of the gathering (Pulido & Zepa, 2010). In this process, the families' role stems from the fact that they help their children when reading the

literary classic at home. The chosen literary classic will depend on the age of the student, but some of them are, *Alice in Wonderland* (Lewis Carroll, 1865), *Around the World in 80 Days* (Jules Verne, 1873), or *Oliver Twist* (Charles Dickens, 1838).

- In relation to quantitative works, Villardón et al. (2018) carry out an intervention of dialogic gatherings with a control group in students of the last cycle of Primary Education. The results pointed out how the students who participated in the intervention with the dialogical literary gatherings improved certain prosocial behaviors, such as solidarity and friendship, in a statistically significant way, unlike the control group, which remained stable over time.
- In relation to qualitative works, García-Carrión et al. (2020) carry out a series of egalitarian dialogues with Primary Education students, appreciating how participating in dialogic gatherings helped them to get to know the other classmates better and to build relationships of trust. By the same token, Foncillas et al. (2020), study the impact of 10 sessions of Dialogic Literary Gatherings with Primary Education students. Using the written communicative stories and the argued drawings of 48 students as an instrument of analysis, the authors conclude that the intervention favored the students' understanding and capacity for reflection.
- Likewise, García-Carrión et al. (2016), analyze the impact of dialogical literary gatherings on Primary Education students through a series of interviews. The results pointed to how the students improved their academic results and their relationships, sharing words and deep feelings. In addition, Ugalde et al. (2022), present an intervention with dialogic gatherings in order to transform the memories of those victims of violent and intimidating couples. The results obtained helped support the idea that the participants who read the play "Radical Love" and participated in the intervention increased their rejection of violent people and reduced the intensity of emotions associated with memory. It is also noteworthy the study of López de Aguilera et al. (2020), who carry out a 28-session intervention based on dialogic gatherings with students in the last years of Primary Education, in order to analyze patterns of violent behavior in relationships. The results indicated that the

dialogical gatherings enabled the emergence of the language of desire in combination with the language of ethics towards non-violent relationships. Finally, Villarejo-Carballido et al. (2019) carried out a case study in a Primary Education center in which they studied the impact of *Successful Educational Actions*, especially dialogic gatherings, to deal with cyberbullying and violence. The results obtained from a documentary analysis, communicative observations and in-depth interviews, showed how the intervention helped to face cyberbullying, making the students more confident to reject violence and to support the victim.

- **Interactive groups.** They are presented as a form of inclusive grouping in which the students are divided into heterogeneous groups of four or five students for each group. As many adults participate in the classroom as groups have been consolidated, generally, volunteers, family members, retirees, or pre-service teachers. The teacher, prior to the participation of adults, must coordinate and train volunteers to avoid possible misunderstandings and lack of coordination in the classroom. Likewise, the teacher designs as many tasks (related to the same subject or to different subjects) as groups have been consolidated, and each adult is responsible for supporting the students in carrying out the task. Once the task, which lasts approximately 15 minutes, is completed, the students rotate to another type of task (Valls-Carol et al., 2014).
  - In relation to quantitative studies, Villardón et al. (2018) carry out an intervention of interactive groups with a control group in students of the last cycle of Primary Education. The results showed how the interactive groups did not contribute in a statistically significant way to the development of prosocial values such as solidarity or friendship. This pattern also occurred in the case of students belonging to the control group.
  - In relation to qualitative studies, Amaro et al. (2020) analyze the impact of *Successful Educational Actions*, especially interactive groups, in improving coexistence and the school climate. The results obtained from a series of interviews with teachers pointed to how the proper functioning of the interactive groups helped to improve coexistence and the school climate. Likewise, León-Jiménez et al. (2020) analyze the effect

of *Successful Educational Actions*, specifically interactive groups and dialogic gatherings, in Primary Education students, through a focus group with teachers, and interviews and documentary review of the students. The results pointed to a favorable development of friendship and empathy, reducing violent behavior and promoting inclusive attitudes among students. Finally, Valero et al. (2018) observed how interactive groups helped to foster prosocial behaviors, such as solidarity or mutual help, between immigrant and native students.

- **Tutored libraries.** It is presented as a space, not necessarily a library, in which students carry out activities guided by adults outside school hours in order to contribute to increasing their learning (Flores, 2017).
- **Learning mentors.** It is presented as a program in which the older students guide and get involved in the academic life of the younger students. Through this practice it is achieved that the younger students have positive references that motivate them to get involved with academic tasks, and that the older students get involved in the academic life of the school (Formosa & Ramis-Salas, 2012).
- **Homework club.** Families and students stay outside of school hours with a professional educator to work on different curricular content, do homework or reinforce certain subjects they need (Valls-Carol et al., 2014).

## Purpose of the study

After the reviewed literature some relevant gaps were found. Amongst others, the following ideas are highlighted:

- As it has been seen in the theoretical framework, there is an increase in the interest of carrying out interventions that fosters prosocial behavior (Caprara et al., 2015; Mesurado et al., 2019) in order to reduce the negative effects of the lack of prosociality (e.g., The Ministry of Education of Korea, 2018; Trach et al., 2010).
- In general, as it is a novel topic, the quantity of studies focused on analyzing the impact of *Successful Educational Actions* on

developing prosocial behaviors is scarce. Hence, it is required to shed more light on this topic.

- The vast majority of studies are carried out using a qualitative approach, hence, being scarce the quantity of studies applying a more quantitative approach.
- The vast majority of studies have been performed using small samples. Thus, it is required to delve into the effectiveness of *Successful Educational Actions* with more significant samples.
- The total of studies analyzed to date are mainly focused on Primary Education students, leaving aside other relevant stages of the Compulsory Education, as it could be the Secondary Education. Therefore, it is necessary to take into account this stage too when carrying out the analyses.
- The vast majority of studies that analyze prosocial behaviors when applying *Successful Educational Actions* are not based on a theoretical framework of this construct. Consequently, it is necessary to apply solid research taking into account previous literature about prosocial behavior models.

Based on these limitations and prospective lines, the aim of this study is to analyze the impact of the main *Successful Educational Actions*, as Dialogic Gatherings and Interactive Groups, on the development of Prosocial Behavior amongst Primary and Secondary Education students. On this topic and based on the previous literature, specially based on the qualitative studies, it could be thought that dialogic gatherings and interactive groups could be useful methodologies for improving students prosociality.

## Method

### Intervention

A quasi-experimental study with a pre-post design is presented. The sampling was done intentionally, contacting the participating center, consolidated as a *Learning Community*. This center agreed to carry out a 9-month intervention based on the use of the main *Successful*

*Educational Actions* with the students. The intervention was carried out by a total of 18 teachers (Age = 48.55; SD = 10.83). Although each teacher taught different subjects (Math, Sciences, Language...), the methodologies used jointly were significantly shared, highlighting exposition dynamics (M = 3.94; SD = 1.10), cooperative learning (M = 3.88; SD = 1.27) and debates (M = 3.77; SD = 1.21) that were used in most weekly sessions, and interactive groups (M = 3.22; SD = 1.59), dialogic gatherings (M = 3.44; SD = 1.82) and workshops (M = 3.16; SD = 1.54) that were held with the students every two weeks. These last methodologies were applied at the end of the didactic units following the main procedure explained in the theoretical framework with the aim of strengthening the knowledge worked along the didactic unit, promoting the interaction between heterogeneous groups, and manipulating and experimenting in a playful way. Another series of *Successful Educational Actions* were used to a lesser extent, such as *Learning Mentors* (M = 2.00; SD = 1.49) or *Tutored Libraries* (M = 1.72; SD = 1.22). Finally, the families occasionally actively participated in the classroom dynamics of their sons and daughters (M = 2.5; SD = 1.04), attending the classroom to be part of the interactive groups, as well as to prepare the readings in their respective homes in the case of dialogical gatherings.

## Sample

A total of 257 Compulsory Education students initially participated in this study, although the study was completed by 186 students (27.6% mortality). Specifically, of the total 110 were Primary Education students (Age = 8.54, SD = 1.76; 50 Girls and 60 Boys). By academic course, 18 came from the 1st course of Primary Education, 14 from the 2nd, 18 from the 3rd, 22 from the 4th, 16 from the 5th and 22 from the 6th. In addition, 76 students came from Secondary Education (Age = 13.28, SD = .974; 35 Girls and 41 Boys). By academic course, 8 came from the 1st course of Secondary Education, 40 from the 2nd, 24 from the 3rd and 4 from the 4th. By race, as the vast majority of participants was from Spain, 152 were Whites, 15 Latinos, 11 Asians, and 8 Blacks.

The center of all the participants was intentionally selected for its characteristics through which they are consolidated as a *Learning Community*.

## Instruments

In the present study, two different instruments were used. On the one hand, an ad-hoc instrument was used that allowed collecting a series of sociodemographic variables of the participants; specifically, course, age, gender, repeater status and performance in mathematics, science and languages.

On the other hand, the Spanish *Scale to Evaluate Prosocial Behavior* (Balabanian & Lemos, 2018) was used. This scale is a scale formed by 30 items that measures a total of 3 dimensions: Helping (i.e. “I help a person if they stumble or fall”), Sharing (i.e. “I lend something for a while if someone needs something that I have”) and Comforting (i.e. “I congratulate others when they have a good idea or do something well”).

## Procedure

The procedure began by agreeing with the *Learning Community* on the conditions and objectives of the study in September 2021. Seeing the infrastructure of the center, it was agreed that the students from 1st to 4th grade of Primary Education would fill out the questionnaires in paper format, unlike the 5th grade students of Primary Education to 4th year of Secondary Education, who filled out the questionnaires in digital format. Prior to passing the questionnaires, the management team met with the teaching team to send them the data collection guidelines. Days later, the teachers gave the families the informed consent where the participation and ethics conditions of the study were collected, as well as its objective and data processing. In September 2021, the pre-study phase was carried out. Subsequently, and after a 9-month intervention, in May 2022, the post-study phase was carried out. Finally, all the data were transferred to a database and analyzed using SPSS Statistics 24 and SPSS AMOS 24.

## Data Analysis

Initially some preliminary adjustments were done by assessing the model fit of pre and post phases. Specifically, the main indices ( $X^2/df$ , CFI, RMSEA and AIC), as well as by the usage of factorial loadings and

Modification Indices were evaluated. Subsequently, a correlation analysis was performed by the usage of Pearson's  $r$ , and the internal consistency of the scale was assessed by Cronbach's alpha. Finally, a paired t-test was carried out, first with primary Education students, and then, with Secondary Education students. These last analyses were carried out highlighting the means and standard deviations of each phase, as well as the p-values and Cohen's  $d$  values of the t-tests.

## Results

First of all, some preliminary adjustments were done. Indeed, the theoretical model's goodness of fit was assessed for pre and post phases. The model fit was adequate for both pre ( $X^2/df = 1.93$ ; CFI = .878; RMSEA = .071; AIC = 536.62) and post phases ( $X^2/df = 1.98$ ; CFI = .872; RMSEA = .073; AIC = 582.32), as well as all the factor loadings for both phases as they were all above  $\lambda = .50$  (Galindo-Domínguez, 2020).

Apart from the model fit, as it was expected to use parametric tests, a descriptive normality test was carried out, taking into account the asymmetry and kurtosis values of all dimensions for both phases. Results, shown in Table II, revealed that all dimensions ranged between -2 and +2 ensuring an acceptable normal distribution of the data (George & Mallery, 2010).

TABLE II. Skewness and kurtosis values of the main dimensions

	PRE PHASE		POST PHASE	
	Skewness	Kurtosis	Skewness	Kurtosis
<b>TOTAL</b>	-.981	1.2	-.518	-.426
<b>SHA</b>	-1.28	1.78	-.793	-.131
<b>HEL</b>	-.678	-.118	-.298	-.724
<b>COM</b>	-1.39	1.85	-.946	.804

NOTE. SHA, Sharing; HEL, Helping; COM, Comforting.

Next a correlational analysis was performed in order to check the association between all dimensions for pre and post phases. As it can be seen in Table III, all dimensions correlated positively and significantly

with values ranging from  $r = .538$ ;  $p < .001$  to  $r = .737$ ;  $p < .001$  in the pre phase, and with values ranging from  $r = .606$ ;  $p < .001$  to  $r = .789$ ;  $p < .001$  in the post phase.

TABLE III. Correlations between the main dimensions of the Prosocial Behavior Scale

	PRE PHASE		
	1	2	3
<b>SHA</b>	(.708)	.661	.538
<b>HEL</b>		(.837)	.737
<b>COM</b>			(.862)
POST PHASE			
<b>SHA</b>	(.702)	.687	.606
<b>HEL</b>		(.799)	.789
<b>COM</b>			(.859)

NOTE. SHA, Sharing; HEL, Helping; COM, Comforting.

With regard to the internal consistency of the scale, Cronbach's alpha values were calculated, pointing out good values ranging from  $\alpha = .702$  to  $\alpha = .862$ . These values made the scale useful for doing research.

Next, a paired t-test for all the dimensions of the Prosocial Behavior Scale for Primary Education and Secondary Education students was performed.

With respect to Primary Education students and collected in Table IV, scarce differences were observed before and after the 9-months intervention in dimensions as well as in the total scale. In fact, all differences were statistically not significant, except for the case of Helping ( $p < .001$ ;  $d = .84$ ) in which students of primary education worsened over the time, from pre phase ( $M = 4.64$ ;  $SD = .902$ ) to post phase ( $M = 3.95$ ;  $SD = .729$ ).

Likewise, with respect to Secondary Education students and collected in Table V, scarce differences were observed before and after the 9-months intervention in dimensions as well as in the total scale. In fact, all differences were statistically not significant, except for the case of Helping ( $p < .001$ ;  $d = .59$ ) in which students of secondary education worsened over the time, from pre phase ( $M = 3.96$ ;  $SD = .839$ ) to post phase ( $M = 3.50$ ;  $SD = .704$ ).

Finally, as it can be seen comparing the values from all dimensions from pre and post phases, higher values appear in favour of primary

TABLE IV. Paired t-test for all the dimensions of the Prosocial Behavior Scale for Primary Education students

	PRE		POST		p	d
	M	SD	M	SD		
<b>Total</b>	4.23	.683	4.20	.607	.418	.04
<b>SHA</b>	4.04	.985	4.14	.782	.216	.11
<b>HEL</b>	4.64	.902	3.95	.729	< .001	.84
<b>COM</b>	4.40	.641	4.41	.561	.952	.01

NOTE. SHA, Sharing; HEL, Helping; COM, Comforting.

TABLE V. Paired t-test for all the dimensions of the Prosocial Behavior Scale for Secondary Education students

	PRE		POST		p	d
	M	SD	M	SD		
<b>Total</b>	<b>3.81</b>	<b>.554</b>	<b>3.81</b>	<b>.586</b>	<b>.977</b>	<b>.00</b>
<b>SHA</b>	4.15	.725	4.15	.706	.950	.00
<b>HEL</b>	3.96	.839	3.50	.704	< .001	.59
<b>COM</b>	3.97	.574	3.95	.578	.850	.03

NOTE. SHA, Sharing; HEL, Helping; COM, Comforting.

education students in contrast to secondary education students. Specifically primary education students scored higher values in the total scale ( $M_{pre} = 4.23$ ;  $SD_{pre} = .683$ ][ $M_{post} = 4.20$ ;  $SD_{post} = .607$ ]), as well as in the different dimensions of Helping ( $M_{pre} = 4.64$ ;  $SD_{pre} = .902$ ][ $M_{post} = 3.95$ ;  $SD_{post} = .729$ ]) and Comforting ( $M_{pre} = 4.40$ ;  $SD_{pre} = .641$ ][ $M_{post} = 4.41$ ;  $SD_{post} = .561$ ]), in contrast to secondary education students for the total scale ( $M_{pre} = 3.81$ ;  $SD_{pre} = .554$ ][ $M_{post} = 3.81$ ;  $SD_{post} = .586$ ]), as well as in the different dimensions of Helping ( $M_{pre} = 4.64$ ;  $SD_{pre} = .902$ ][ $M_{post} = 3.95$ ;  $SD_{post} = .729$ ]) and Comforting ( $M_{pre} = 4.40$ ;  $SD_{pre} = .641$ ][ $M_{post} = 4.41$ ;  $SD_{post} = .561$ ]). The unique dimension in which non significant differences were found was for the dimension of Sharing in which primary education students ( $M_{pre} = 4.04$ ;  $SD_{pre} = .985$ ][ $M_{post} = 4.14$ ;  $SD_{post} = .782$ ]) scored similar to secondary education students ( $M_{pre} = 4.15$ ;  $SD_{pre} = .725$ ][ $M_{post} = 4.15$ ;  $SD_{post} = .706$ ]).

## Discussion

The aim of this study has been to analyze whether the main *Successful Educational Actions*, as Dialogic Gatherings and Interactive Groups, contributed to developing prosocial behavior amongst Primary and Secondary Education students. Findings reveal that after a 9-month intervention applying *Successful Educational Actions*, like Dialogic Gatherings and Interactive Groups, neither Primary Education students, nor Secondary Education students significantly improved their prosocial behavior.

These results are contrary to those studies that used qualitative approaches in order to measure the effectiveness of their intervention when developing students' prosociality (Amaro et al., 2020; García-Carrión et al., 2016, 2020; Foncillas et al., 2020; León-Jiménez et al., 2020; López de Aguilera et al., 2020; Ugalde et al., 2022; Valero et al., 2018; Villarejo-Carballido et al., 2019), but are partially shared with the findings of the quantitative study of Villardón et al. (2018), who in spite of the fact that concluded that the intervention based on dialogic gatherings contributed to developing prosociality, like solidarity and friendship, more than the control group; in the case of the intervention based on interactive groups, students did not improved their solidarity and friendship values.

These results have relevant implications. First, with regard to teaching practice, these findings are useful for teachers in order to assess whether some types of *Successful Educational Action* could play an important role in developing primary and secondary students' prosociality. Specifically, these results support the idea that dialogic gatherings and interactive groups do not contribute to the development of prosociality, and hence, it could serve for teachers in order to reflect about new paths for developing prosocial behavior, as well as reconsider their teaching programmes whenever these methodologies are used. For improving these kinds of teaching programmes, it can be taken into account the study carried out by Caprara et al. (2014). These authors, based on their intervention called CEPIDEA (*Promoting Prosocial and Emotional Skills to Counteract Externalizing Problems in Adolescence*), did obtain positive effects with the experimental group across time increasing their prosociality and reducing their physical and verbal aggression, concluding how prosociality can flourish counteracting aggressive conducts. Their intervention was based on 4 fundamentals: (1) sensitization to prosocial

values; (2) development of emotion regulation skills (management of negative emotions, and expression and reinforcement of positive emotions); (3) development of perspective-taking skills; and (4) improvement of interpersonal-communication skills. Therefore, future interventions based on *Successful Educational Actions* should consider the fact of introducing these pillars within their teaching programmes in a transversal and specific way. Second, with regard to institutional performance, these findings could serve as a turning point for *Learning Communities* that commonly use different *Successful Educational Actions*. Based on the obtained results and taking into account the low values of implication of families within students' learning processes, it is hypothesized that fostering the implication of families in dialogic gatherings as well as in interactive groups, could bring positive effects to the development of prosociality in primary and secondary students. This hypothesis is based on the results of Yoo et al. (2013) who revealed how enhancing a balanced connectedness in the parent-child relationship may contribute to promoting empathy and prosociality in adolescents over time. Third, with regard to teacher training, these results are significant in a way that they could serve for deliberating and comparing the effectiveness of different teaching methods. On this matter, carrying out this reflecting process could empower teachers' professional training as the conclusions could justify the teaching methods used in their future professional job. In addition, these reflecting processes could be interesting to be performed with the collaboration of pre-service peers, due to the fact that Van Ryzin et al. (2020) found that cooperative learning contributes positively to evolving prosocial behavior in adolescents, and thus, it should be a central component in teacher training as well as in professional development.

Finally, this study has some limitations that should be considered when interpreting the results. The main limitation of this study has been the lack of a control group. In fact, a control group could have served as a reference for comparing these results. As a result, future studies could attempt to replicate this study's methodology complementing it with a control group. In addition, the second limitation refers to the inability to guarantee a causal relationship between the methodologies used and the development of prosociality. As in the vast majority of research carried out in the social sciences, individuals are involved in an environment influenced by an amalgam of variables that to a greater or lesser extent

have repercussions, in this case on prosocial behavior, so guaranteeing that the applied methodologies are the main cause of non developing prosociality could result in a simplistic reading of reality. Hence, the results are more focused on the association between methodologies and prosocial behavior, more than the causality between methodologies and prosocial behavior. Finally, the last limitation is linked to the fact that the intervention was carried out by different teachers of Primary and Secondary Education, with different backgrounds. Hence, despite the fact that the common points of *Successful Educational Actions* have been met by all teachers, maybe, the material or spatial resources used by the teachers could have varied, leading to potential differences between classes.

In spite of all these limitations, it is hoped that this work will be the beginning of a series of future quantitative works that contribute to shedding more light on the impact of the main *Successful Educational Actions*, like dialogic gatherings and interactive groups, on students' prosociality.

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