

---

# Creativity, social skills and prosocial behaviour in adolescents: differences according to sex

Creatividad, habilidades sociales y comportamiento prosocial en adolescentes: diferencias según sexo

青少年的创造力、社交技能和亲社会行为：性别差异

Креативность, социальные навыки и просоциальное поведение у подростков: различия в зависимости от пола

---

**Alba González Moreno**

University of Almería  
agm048@ual.es  
<https://orcid.org/0000-0003-2254-7456>

**María del Mar Molero Jurado**

University of Almería  
mmj130@ual.es  
<https://orcid.org/0000-0001-9187-1474>

---

## Dates · Fechas

Received: 2022-09-02  
Accepted: 2022-12-5  
Published: 2022-12-31

---

## How to Cite this Paper · Cómo citar este trabajo

González, A., & Molero M. M. (2022). Creativity, social skills and prosocial behaviour in adolescents: differences according to sex. *Publicaciones*, 52(2), 131–144. <https://doi.org/10.30827/publicaciones.v52i2.26184>

## Abstract

The development of variables such as creativity or social skills can favour the increase of prosocial behaviour in adolescent students. These types of skills may be altered depending on the sex of the young people. The main objective of this research is to examine whether there are significant differences in creativity, social skills and prosocial behaviour between adolescent boys and girls.

A total of 743 students between 14 and 19 years of age from different schools participated in this study. The instruments used were the Turtle Creativity Questionnaire (CCT), the Social Skills Questionnaire (CHASO) and the Prosocial Behaviour Questionnaire (PBQ).

The results obtained indicate that there are no differences related to creativity between the two groups of adolescents, but such differences are found in the variables of social skills and prosocial behaviours. Adolescent girls score higher on the social skills dimensions of expressing positive feelings, coping with criticism and apologising, while boys score higher on total social skills and their dimensions of interacting with people I am attracted to, keeping calm in the face of criticism, speaking in public/interacting with superiors and coping with situations of making a fool of oneself. In terms of prosocial behaviours, girls excel in empathy and respect, while boys are more involved in social relationships.

On balance, this research shows gender differences in variables that help adolescents develop positively.

---

Keywords: creativity, social skills, prosocial behaviour, adolescents.

---

## Resumen

El desarrollo de variables como la creatividad o las habilidades sociales puede favorecer el incremento de las conductas prosociales en el alumnado adolescente. Este tipo de competencias pueden verse alteradas según el sexo de los jóvenes. El objetivo principal de esta investigación es examinar si existen diferencias significativas en creatividad, habilidades sociales y conductas prosociales entre los chicos y chicas adolescentes.

Un total de 743 estudiantes de entre 14 y 19 años pertenecientes a distintos centros educativos han participado en este estudio. Los instrumentos utilizados han sido el Cuestionario de Creatividad de Turtle (CCT), el Cuestionario de Habilidades Sociales (CHASO) y el Cuestionario de Conducta Prosocial (CCP).

Los resultados obtenidos indican que no existen diferencias relacionadas con la creatividad entre ambos grupos de adolescentes, pero sí se encuentran dichas diferencias en las variables de habilidades sociales y conductas prosociales. Las chicas adolescentes puntúan más alto en las dimensiones referidas a las habilidades sociales de expresar sentimientos positivos, afrontar las críticas y pedir disculpas, mientras que los chicos tienen mayor nivel en habilidades sociales total y sus dimensiones de interactuar con las personas que me atraen, mantener la calma ante las críticas, hablar en público / interactuar con superiores y afrontar situaciones de hacer el ridículo. En cuanto a las conductas prosociales, las chicas destacan en empatía y respeto, mientras que los chicos se encuentran más implicados en las relaciones sociales.

En definitiva, esta investigación muestra las diferencias según el sexo en variables que ayudan a los adolescentes a desarrollarse de manera positiva.

---

Palabras clave: creatividad, habilidades sociales, conducta prosocial, adolescentes.

---

## 概要

创造力或社交技能等变量的提升有利于促进青少年学生的亲社会行为。这些类型的能力会根据年轻人的性别而改变。本研究的主要目的是检验青春期男孩和女孩在创造力、社交技能和亲社会行为方面是否存在显著差异。

共有来自不同学校的 743 名 14 至 19 岁的学生参与了这项研究。使用的工具是 Turtle Creativity Questionnaire (CCT)、社交技能问卷 (CHASO) 和亲社会行为问卷 (PCQ)。

研究结果表明, 两组青少年之间在创造力方面没有差异, 但在社交技能和亲社会行为的变量中发现了这种差异。青春期女生在表达积极情绪、应对批评和道歉等社交技能维度得分较高, 而男生在综合社交技能和与吸引的人交往、面对批评时保持冷静、在公开场合演讲/与上级互动和面临嘲笑的情况等维度得分较高。在亲社会行为方面, 女孩在同情和尊重方面表现突出, 而男孩则更多地参与社会关系。

简而言之, 这项研究显示了有助于青少年以积极方式发展的变量的性别差异。

---

关键词: 创造力, 社交技能, 亲社会行为, 青少年。

---

## Аннотация

Развитие таких переменных, как креативность или социальные навыки, может способствовать росту просоциального поведения у учащихся-подростков. Эти типы навыков могут изменяться в зависимости от пола молодых людей. Основная цель данного исследования - изучить, существуют ли значительные различия в креативности, социальных навыках и просоциальном поведении между мальчиками и девочками подросткового возраста.

В исследовании приняли участие 743 учащихся в возрасте от 14 до 19 лет из разных школ. Использовались такие инструменты, как Turtle Creativity Questionnaire (CCT), опросник социальных навыков Social Skills Questionnaire (CHASO) и опросник просоциального поведения Prosocial Behaviour Questionnaire (PCQ).

Полученные результаты показывают, что между двумя группами подростков нет различий, связанных с креативностью, но такие различия обнаружены в переменных социальных навыков и просоциального поведения. Девочки-подростки набрали больше баллов по таким параметрам социальных навыков, как выражение позитивных чувств, умение справляться с критикой и извиняться, в то время как мальчики набрали больше баллов по общему количеству социальных навыков и их параметрам: взаимодействие с людьми, которые меня привлекают, сохранение спокойствия перед лицом критики, выступление на публике/взаимодействие с начальством и преодоление ситуаций, когда приходится выставлять себя дураком. Что касается просоциального поведения, то девочки выделяются в сопереживании и уважении, в то время как мальчики больше вовлечены в социальные отношения.

Короче говоря, это исследование показывает гендерные различия в переменных, которые помогают подросткам развиваться в позитивном ключе.

---

Ключевые слова: творчество, социальные навыки, просоциальное поведение, подростки.

---

## Introduction

Adolescence is a vital period characterised by the development of various areas such as the psychological and social spheres, where young people have to form their own identity and the mechanisms necessary to face situations and establish social relationships typical of adulthood (Barragán et al., 2021). Various studies indicate that this stage of development is linked to greater mental health problems, as it is estimated that one in five adolescents suffers from some type of mental disorder and that the majority of mental disorders that are detected throughout life have their onset in adolescence (Speyer et al., 2022). Similarly, there is a progressive increase in research on peer aggression problems, as these tend to occur during adolescence both through information technologies and in the educational environment (Feijóo et al., 2021).

It is estimated that the promotion of variables such as creativity and social skills can favour coping and correct problem solving, which is associated as a protective factor against antisocial behaviour (Doris & Santa María, 2020; Guichot & de la Torre, 2019; Hernández-Serrano et al., 2016). Thus, the relevance of these skills in adolescence can be indicated. Previous studies indicate the existence of a positive relationship between figurative creativity and four dimensions of social skills (conscientiousness, agreeableness, openness to experiences and external locus of control) and verbal creativity with two dimensions (conscientiousness and agreeableness) (Nakano et al., 2021). This relationship with social skills is also linked to prosocial behaviours, since it is estimated that adolescents with a good level of social skills have higher levels of positive behaviours (González & Molero, 2021). To date, scientific evidence on the relationship between creativity and prosocial behaviour is scarce. However, the need to foster creative thinking in students has been pointed out so that adolescents are able to respond to the everyday problems they face (Wagner, 2010). Thus, it is believed that the use of creativity-enhancing resources can positively moderate young people's behaviour (Montgomery & Maunders, 2015). In the following, each of the variables that make up this research is presented in more detail in order to know what each of them consists of and the existing previous studies on gender differences in these variables. It is important to highlight the importance of identifying the differences between adolescent boys and girls in order to specify the consequences of these differences in future lines of research and to be able to establish actions to ensure the optimal development of young people, as well as their personal well-being.

## Creativity

Creativity has no unanimous definition, although most researchers agree that creativity is composed of two attributes: originality and usefulness (Plucker et al., 2004; Runco & Jaeger, 2012). However, it is understood as a person's own ability to create new things (De Hean & Havighurst, 1961). During adolescence, young people undergo a series of changes that may affect their creative identity, because at this age a transformation in objective, rational, hypothetical and abstract thinking is perceived (Beghetto & Dilley, 2016; Kleibeuker et al., 2016). Research on existing differences in creativity between men and women is currently contradictory (González & Molero, 2022). Some studies estimate that women score higher than men in creativity (Caballero et al., 2019); while others refute this idea by stating that men are more creative (Belmonte & Parodi, 2017).

## Social skills

Social skills are a construct that encompasses different psychological factors such as behaviour, learning or attitudes (Merrell & Gimpel, 2014). These types of skills refer to the various behaviours that are used when socialising with other people, and therefore the learning and development of these skills occurs through social interactions (Del Prette & Del Prette, 2011, 2017). Social skills facilitate the interpersonal bonds that are established in adolescence, thus helping young people to initiate and maintain conversations with others, build quality relationships, offer support, apologise or reject proposals in a positive way (Jovarini et al., 2018). Current research finds that girls have higher social skills scores than boys (de Sousa et al., 2021; Betancourth et al., 2017).

## Prosocial behaviour

Prosocial behaviours refer to behaviours aimed at promoting positive, cooperative, responsible and empathic relationships (Eisenberg et al., 2006). Therefore, the promotion of prosocial behaviours in adolescence leads to the formation of quality interpersonal relationships and the maintenance of social and personal well-being (Gutiérrez et al., 2011). It is suggested that boys have more antisocial behaviours related to direct aggression, while girls are more interested in maintaining friendships and resolving conflicts (Gring & O'Higgins, 2016; Rosen & Nofzige, 2019). The same is true for the use of certain substances harmful to health, where it is reported that boys tend to develop these behaviours more than girls (Hassan et al., 2020). Therefore, it is suggested that females have higher scores in prosocial behaviour (Vargas et al., 2018).

## Aim and hypothesis of the study

The aim of this research is to examine whether there are significant differences in creativity, social skills and prosocial behaviour according to gender in adolescence. Based on the existing scientific evidence, the starting hypothesis proposed is that there are differences between adolescent girls and boys in the three variables analysed.

## Method

### Study design and participants

This quantitative research was based on a cross-sectional descriptive design, following the guidelines established by the STROBE Declaration for cross-sectional studies (Vandenbroucke et al., 2007). The selection of participants was carried out using random sampling and consisted of a total of 743 students of Compulsory Secondary Education (ESO) from six schools in different areas of Almería (Spain). The participants are aged between 14 and 19 years ( $M= 14.99$ ;  $SD= .86$ ), with 50.7% female ( $n= 377$ ) and 49.3% male ( $n= 366$ ). These students are enrolled 50.7% in the third year and 49.1% in the fourth year of ESO. In terms of nationality, most of the participants were of Spanish origin (92.9%), although there were also students of other origins such as Moroccan, Colombian, Romanian and Venezuelan.

## Instruments

An ad hoc questionnaire was initially developed to collect socio-demographic data on the adolescents, such as gender, age, academic year and nationality. The rest of the variables were measured using other instruments already validated by other researchers.

Creativity was measured with the Turtle Creativity Questionnaire (1980) which was created to be applied to all ages from 5th grade onwards. This instrument consists of a total of 31 items with dichotomous responses and must be answered by the students depending on whether they identify with the items or not. The level of creativity of the participants is assessed as the ability to be original and to create new things by means of a total score. The level of reliability obtained for this instrument is  $\alpha = .67$ .

Social skills were analysed using the Social Skills Questionnaire (CHASO) (Caballo et al., 2017). This instrument has been validated in Spanish adolescents and consists of a total of 40 items divided into 10 dimensions and answered on a five-point Likert scale (1= Very uncharacteristic of me; 2= Not very characteristic of me; 3= Moderately characteristic of me; 4= Quite characteristic of me; 5= Very characteristic of me). The reliability obtained with this questionnaire was good in each of its dimensions: 1) Interacting with strangers (Skill 1;  $\alpha = .75$ ), 2) Expressing positive feelings (Skill 2;  $\alpha = .77$ ), 3) Coping with criticism (Skill 3;  $\alpha = .71$ ), 4) Interacting with people I am attracted to (Skill 4;  $\alpha = .88$ ), 5) Keeping calm in the face of criticism (Skill 5;  $\alpha = .59$ ), 6) Public speaking/interacting with superiors (Skill 6;  $\alpha = .71$ ), 7) Dealing with situations of making a fool of oneself (Skill 7;  $\alpha = .59$ ), 8) Defending one's rights (Skill 8;  $\alpha = .67$ ), 9) Apologising (Skill 9;  $\alpha = .81$ ), 10) Refusing requests (Skill 10;  $\alpha = .71$ ). The total score on social skills also obtained high reliability indices ( $\alpha = .86$ ).

Prosocial behaviour was assessed using the Prosocial Behaviour Questionnaire (PCQ) developed by Martorell et al. (2011). This questionnaire aimed at children and adolescents aged 10-17 years assesses the different helping behaviours used by participants such as sharing, understanding, encouraging and collaborating. It consists of a total of 55 items grouped into four components and has four Likert-scale response alternatives ranging from "Never" to "Always". The internal consistency of each of the dimensions has had good results: Factor 1 - Empathy, referred to as the ability to put oneself in the place of another person ( $\alpha = .90$ ), Factor 2 - Respect, focused on the ability to treat others with assertiveness and respect ( $\alpha = .78$ ), Factor 3 - Social Relations, understood as the ability to establish positive relationships with people ( $\alpha = .69$ ) and Factor 4 - Leadership, oriented on the ability to lead and organise different group activities ( $\alpha = .74$ ).

## Procedure

Data collection was carried out from February to June 2022. First of all, the management of different secondary schools in the province of Almería was contacted. A total of six secondary schools agreed to participate in this research, so a day was agreed upon to be able to attend these schools and for the students to complete the instrument booklet with all the variables to be examined in person. Before collecting the data, it was ensured that all participants and their legal guardians were in agreement with the

study and its objective. This research has been approved by the Bioethics Committee in Human Research of the University of Almeria with reference UALBIO2021/025.

## Data analysis

Once all the data had been collected, they were recorded and prepared for analysis with the SPSS statistical analysis programme version 28 (IBM, 2021).

To determine the reliability of the assessment instruments used, Cronbach's alpha coefficient was used. This formula allows us to estimate the reliability of instruments with dichotomous or Likert-scale responses (Bland & Altman, 1997; Tavakol & Dennick, 2011).

First, a descriptive analysis as well as a Pearson's bivariate correlation analysis was carried out to examine whether there is an association between the continuous variables in the study. The absolute values were interpreted using the following classification: between 0 and .10 no correlation, between .10 and .29 weak correlation, between .30 and .50 moderate correlation and finally between .50 and 1.00 strong correlation (Pearson, 1900).

The Student's *t*-test for independent samples was then calculated to determine the differences between men and women in the variables analysed and their corresponding dimensions. To estimate the effect size, we calculated Cohen's (1988) *d* Cohen's (1988): < .50 small, .50- .80 medium and  $\geq$  .80 large. To estimate statistical power (1- $\beta$ ), G\*power (v. 3.1.9.4) was used. Conventionally 1- $\beta$  = .80 (Faul et al., 2007).

## Results

The results obtained have been classified into two parts. Firstly, the aim was to investigate whether there is a correlation between the variables examined and, subsequently, the differences that exist according to the sex of the variables.

### Descriptive analyses and correlations

The correlations of the variables have been examined in general, with the exception of Prosocial Behaviours where results are presented by dimensions (Table 1).

Firstly, a negative correlation is observed between Creativity and Social Skills ( $r = -.42$ ;  $p < .001$ ). These data are similar in terms of the correlation between Creativity and the dimensions of Prosocial Behaviours: Empathy ( $r = -.29$ ;  $p < .001$ ); Respect ( $r = -.09$ ;  $p < .05$ ); Social Relationships ( $r = -.21$ ;  $p < .001$ ) and Leadership ( $r = -.46$ ;  $p < .001$ ).

Regarding Social Skills and Prosocial Behaviours, positive correlations were observed between the variables: CHASO and Empathy ( $r = .42$ ;  $p < .001$ ), CHASO and Respect ( $r = .14$ ;  $p < .001$ ), CHASO and Social Relations ( $r = .45$ ;  $p < .001$ ) and CHASO and Leadership ( $r = .45$ ;  $p < .001$ ).

Table 1

Descriptives and correlation matrix between the variables Creativity, Social skills and Prosocial behaviour (N = 743).

	Descriptive			Correlations					
	Min. / Max.	Media	DT	CREA	CHASO	Empathy (CCP)	Respect (CCP)	Social Relations (CCP)	Leadership (CCP)
CREA	2 / 38	13.41	4.39	-					
CHASO	66 / 186	126.62	20.23	.42***	-				
Empathy (CCP)	21 / 75	55.98	9.62	.29***	.42***	-			
Respect (CCP)	27 / 77	48.91	6.62	-.09*	.14***	.53***	-		
Social Relations (CCP)	19 / 44	32.78	4.66	.21***	.45***	.39***	.28***	-	
Leadership (CCP)	8 / 32	20.57	4.52	.46***	.45***	.35***	.16***	.53***	-

Note. \* $p < .05$ ; \*\*\* $p < .001$ ; CREA= Creativity; CHASO= Social Skills Questionnaire; PCQ= Prosocial Behaviour Questionnaire; PQ= Prosocial Behaviour Questionnaire.

## Creativity, HHSS and Prosocial Behaviours: Gender Differences

Table 2 shows that there are differences between adolescent boys and girls on different dimensions of the variables Social Skills and Prosocial Behaviours. However, no significant differences were found in the level of creativity between the two groups of adolescents.

In the case of girls, it was found that adolescent females scored higher than males in different dimensions of social skills such as: Expressing positive feelings ( $t = -4.87$ ;  $p < .001$ ;  $d = .36$ ;  $1-\beta = .99$ ); Dealing with criticism ( $t = -2.68$ ;  $p < .01$ ;  $d = .20$ ;  $1-\beta = .75$ ) and Refusing requests ( $t = -2.68$ ;  $p < .05$ ;  $d = .20$ ;  $1-\beta = .77$ ). With regard to Prosocial Behaviours, it is worth noting that there are differences between both sexes, with females showing higher levels in the dimensions of Empathy ( $t = -6.24$ ;  $p < .001$ ;  $d = .46$ ;  $1-\beta = .99$ ) and Respect ( $t = -2.45$ ;  $p < .05$ ;  $d = .18$ ;  $1-\beta = .68$ ).

However, regarding adolescent boys, this group shows higher overall scores in Social Skills ( $t = 2.45$ ;  $p < .05$ ;  $d = .19$ ;  $1-\beta = .73$ ), as well as, in different dimensions of this variable: Interacting with people I am attracted to ( $t = 5.92$ ;  $p < .001$ ;  $d = .45$ ;  $1-\beta = .99$ ), Keeping calm in the face of criticism ( $t = 2.38$ ;  $p < .05$ ;  $d = .18$ ;  $1-\beta = .68$ ), Public Speaking/Interacting with superiors ( $t = 5.84$ ;  $p < .001$ ;  $d = .44$ ;  $1-\beta = .99$ ) and Coping with situations of making a fool of oneself ( $t = 2.14$ ;  $p < .05$ ;  $d = .16$ ;  $1-\beta = .58$ ). Regarding Prosocial Behaviours, boys report higher levels in the dimension of Social Relationships ( $t = 2.30$ ;  $p < .05$ ;  $d = .17$ ;  $1-\beta = .63$ ).



Table 2

Descriptive data and *t*-test by sex (females *n* = 377; males *n* = 366).

		Sex				<i>t</i>	<i>p</i>
		Men		Women			
		<i>Media</i>	<i>DT</i>	<i>Media</i>	<i>DT</i>		
Turtle Creativity Questionnaire	P. Total Creativity	13.54	4.72	13.28	4.01	.70	.483
Questionnaire of Social Skills (CHASO)	Interacting with strangers	10.50	3.62	9.96	3.97	1.91	.056
	Expressing positive feelings	14.01	3.98	15.43	3.92	-4.87***	< .001
	Dealing with criticism	14.71	3.45	15.39	3.50	-2.68**	.007
	Interacting with people I am attracted to	10.13	4.87	8.12	4.34	5.92***	< .001
	Keeping calm in the face of criticism	12.62	3.50	12.03	3.18	2.38*	.017
	Public speaking/ interacting with superiors	12.49	3.67	10.88	3.81	5.84***	< .001
	Dealing with situations of making a fool of oneself	11.12	3.47	10.58	3.35	2.14*	.032
	Defending one's rights	13.10	3.78	12.85	3.95	.87	.383
	Apologising	15.42	3.74	15.79	3.66	-1.37	.168
	Refusing requests	14.38	3.55	13.79	3.72	2.18*	.029
		P. Total CHASO	128.46	20.89	124.83	19.44	2.45*
Prosocial Behaviour Questionnaire (PCQ)	Empathy	53.80	9.67	58.10	9.08	-6.24***	< .001
	Respect	48.30	7.07	49.49	6.11	-2.45*	.014
	Social Relations	33.18	5.03	32.39	4.24	2.30*	.021
	Leadership	20.70	4.62	20.44	4.43	.77	.439

Note. \* *p* < .05, \*\* *p* < .01, \*\*\* *p* < .001

## Discussion and conclusions

This research has been focused on finding out if there are differences according to sex in a sample of adolescents in the variables of creativity, social skills and prosocial behaviours. We wanted to investigate these constructs because previous studies indicate that the development of these variables enhances the correct resolution of conflicts in young people, thus reducing the problematic behaviours that may arise in adolescents (Doris & Santa María, 2020; Guichot & de la Torre, 2019; Hernández-Serrano et

al., 2016). Analyses indicate a negative correlation between creativity and both social skills and prosocial behaviours in adolescents. These data obtained do not agree with previous studies, which indicate a positive relationship between creativity and both variables (Montgomery & Maunders, 2015; Nakano et al., 2021). On the other hand, a positive association has been obtained between social skills and prosocial behaviours; these results are in line with other previous studies conducted with adolescent students (González & Molero, 2021).

Regarding creativity, this construct does not currently have a generalised concept, although it is understood as the ability to create new things that is composed of originality and usefulness (De Hean & Havighurst, 1961; Plucker et al., 2004; Runco & Jaeger, 2012). The initial hypothesis about the existence of sex differences in the level of creativity in adolescents has been rejected. The results obtained indicate that there are no significant differences between boys and girls in creativity scores. These data support previous research showing that the level of creativity in adolescents is contradictory (González & Molero, 2022). Some studies indicate that adolescent girls may be more creative, while others indicate that boys are more creative (Caballero et al., 2019; Belmonte & Parodi, 2017). These contradictory data may be related to the multidisciplinary definition of creativity discussed above, as well as to the creative identity itself, which is affected in adolescence (Beghetto & Dilley, 2016; Kleibeuker et al., 2016).

Referring to social skills, these types of abilities allow the development of quality social relationships that are linked to attitudes, behaviour and learning (Del Prette & Del Prette, 2011, 2017; Merrell & Gimpel, 2014). The promotion of social skills in adolescence is essential, as they help young people to relate to other people in the right way (Jovarini et al., 2018). The results obtained in this research support the initial hypothesis that there are gender differences in the level of social skills in adolescents. As other studies show, adolescent girls have higher social skills scores than boys (de Sousa et al., 2021; Betancourth et al., 2017). The present study confirms this idea, since it was found that adolescent girls are likely to score positively on certain dimensions of social skills such as expressing positive feelings, coping with criticism and apologising. On the other hand, significant differences were also observed in social skills, with the male sex obtaining higher scores in social skills as a global construct and in the dimensions: interacting with people I am attracted to, keeping calm in the face of criticism, speaking in public/interacting with superiors, and dealing with situations of making a fool of oneself. Thus, it can be mentioned that both sexes can stand out differently in the dimensions of social skills.

Finally, regarding the prosocial behaviours of adolescent students, the results have been similar to those of social skills. Through prosocial behaviours, young people promote a series of behaviours that help them to relate to others (Eisenberg et al., 2006; Gutiérrez et al., 2011). The data analysed indicate significant differences in prosocial behaviours between boys and girls. Specifically, girls are related to higher scores in the dimensions of empathy and respect, while boys stand out in the dimension of social relationships. This idea is linked to previous research showing that adolescent girls have higher prosocial behaviours and, therefore, boys tend to develop certain antisocial behaviours such as substance use or the use of violence (Gring & O'Higgins, 2016; Hassan et al., 2020; Rosen & Nofzige, 2019; Vargas et al., 2018).

In conclusion, it should be noted that this research has allowed us to find out whether there are gender differences in creativity, social skills and prosocial behaviour in adolescents. As for the practical implications of this study, it is important to bear in mind the importance of studying these types of variables in the adolescent stage. By means

of these constructs, the optimal development of young people can be enhanced. With regard to the limitations of this research, it should be noted that the age range of the participants is between 14 and 19 years, so it does not cover all the ages corresponding to the stage of adolescence (from 10 to 19 years). Therefore, as future lines of research, it would be interesting to be able to cover all ages, as well as to examine whether there are differences not only by gender but also by age and/or academic year. It is suggested that the development of creativity, social skills and prosocial behaviours in adolescent students may be beneficial in forming people capable of establishing quality social relationships and promoting their personal well-being.

## Acknowledgements

This work is supported by the Ministry of Education and Vocational Training through the University Teacher Training (FPU) grant programme awarded to Alba González Moreno with reference FPU19/01570.

## References

- Barragán, A. B., Molero, M. D. M., Pérez-Fuentes, M. D. C., Oropesa, N. F., Martos, Á., Simón, M. D. M., & Gázquez, J. J. (2021). Interpersonal support, emotional intelligence and family function in adolescence. *International Journal of Environmental Research and Public Health*, 18(10), 5145. <https://doi.org/10.3390/ijerph18105145>
- Beghetto, R. A., & Dilley, A. E. (2016). Creative aspirations or pipe dreams? Toward understanding creative mortification in children and adolescents. *New Directions for Child and Adolescent Development*, 2016(151), 85-95. <https://doi.org/10.1002/cad.20150>
- Belmonte, V. M., & Parodi, A. I. (2017). Creatividad y adolescencia: Diferencias según género, curso y nivel cognitivo. *European Journal of Investigation in Health, Psychology and Education*, 7(3), 177-188. <https://doi.org/10.30552/ejihpe.v7i3.205>
- Betancourth, S., Zambrano, C., Ceballos, A., Benavides, V., & Villota, N. (2017). Habilidades sociales relacionadas con el proceso de comunicación en una muestra de adolescentes. *Revista Psicoespacios*, 11(18), 133-148. <https://doi.org/10.25057/21452776.898>
- Bland, J. M., & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *BMJ*, 314(7080), 572-572. <https://doi.org/10.1136/bmj.314.7080.572>
- Caballero, P. Á., Sánchez, S., & Belmonte, M. L. (2019). Análisis de la creatividad de los estudiantes universitarios. Diferencias por género, edad y elección de estudios. *Educación XX1*, 22(2). <https://doi.org/10.5944/educxx1.22552>
- Caballo, V., Salazar, I., & Equipo de Investigación CISO-A España (2017). Desarrollo y validación de un nuevo instrumento para la evaluación de las habilidades sociales: el "cuestionario de habilidades sociales" (CHASO). *Behavioral Psychology*, 25(1), 5-24. <https://www.behavioralpsycho.com/producto/desarrollo-y-validacion-de-un-nuevo-instrumento-para-la-evaluacion-de-las-habilidades-sociales-el-cuestionario-de-habilidades-sociales/>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Routledge.
- De Haan, R. F., & Havighurst, R. J. (1961). *Educating gifted children*. The University of Chicago Press.

- de Sousa, M. L., Peixoto, M. M., & Cruz, S. (2021). The association of social skills and behaviour problems with bullying engagement in Portuguese adolescents: From aggression to victimization behaviors. *Current Psychology (New Brunswick, N.J.)*, 1–14. <https://doi.org/10.1007/s12144-021-02491-z>
- Del Prette, A., & Del Prette, Z. A. P. (2017). *Competencia y habilidades sociales: Manual teórico-práctico*. Voces.
- Del Prette, Z. A. P., & Del Prette, A. (2011). *Psicología de las habilidades sociales en la infancia: Teoría y práctica (5ª ed.)*. Voces.
- Doris, F. G., & Santa María, H. R. (2020). New functional model of research skills in social problem solving. *International Journal of Early Childhood Special Education*, 12(1), 442–451. <https://doi.org/10.9756/int-jecse/v12i1.201024>
- Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial Development. En N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of Child Psychology: Social, emotional, and personality development* (pp. 646–718). John Wiley & Sons, Inc.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>
- Feijóo, S., O'Higgins, J., Foody, M., Pichel, R., Braña, T., Varela, J., & Rial, A. (2021). Sex differences in adolescent bullying behaviours. *Intervencion Psicosocial*, 30(2), 95–100. <https://doi.org/10.5093/pi2021a1>
- Ging, D., & O'Higgins, J. (2016). Cyberbullying, conflict management or just messing? Teenage girls' understandings and experiences of gender, friendship, and conflict on Facebook in an Irish second-level school. *Feminist Media Studies*, 16(5), 805–821. <https://doi.org/10.1080/14680777.2015.1137959>
- González, A., & Molero, M. M. (2021). Las habilidades sociales y su relación con otras variables en la etapa de la adolescencia: una revisión sistemática. *Revista Iberoamericana de Psicología*, 15(1), 113–123. <https://doi.org/10.33881/2027-1786.rip.15111>
- González, A., & Molero, M. M. (2022). Diferencias de sexo en habilidades sociales y creatividad en adolescentes: una revisión sistemática. *Revista Fuentes*, 1(24), 116–126. <https://doi.org/10.12795/revistafuentes.2022.17471>
- Guichot, V., & de la Torre, A. M. (2019). Emociones y creatividad: una propuesta educativa para trabajar la resolución de conflictos en educación infantil. *Cuestiones Pedagógicas*, 27, 39–52. <https://doi.org/10.12795/cp.2018.i27.03>
- Gutiérrez, M., Escartí, A., & Pascual, C. (2011). Relaciones entre empatía, conducta prosocial, agresividad, autoeficacia y responsabilidad personal y social de los escolares. *Psicothema*, 23(1), 13–19. <https://www.psicothema.com/pi?pii=3843>
- Hassan, N., Abdul, A., Husain, R., Daud, N., & Juhari, S. N. (2020). Association of prosocial behavior with ever smoking and alcohol drinking among school-going adolescents. *Heliyon*, 6(7), e04530. <https://doi.org/10.1016/j.heliyon.2020.e04530>
- Hernández-Serrano, O., Espada, J. P., & Guillén-Riquelme, A. (2016). Relación entre conducta prosocial, resolución de problemas y consumo de drogas en adolescentes. *Anales de Psicología*, 32(2), 609–616. <https://doi.org/10.6018/analesps.32.2.204941>
- IBM Corp. (2021). *IBM SPSS Statistics for Macintosh*. IBM Corp.

- Jovarini, N. V., Leme, V. B. R., & Correia-Zanini, M. R. G. (2018). Influence of social skills and stressors on academic achievement in the sixth grade. *Paidéia*, 28, e2819. <https://doi.org/10.1590/1982-4327e2819>
- Kleibeuker, S. W., De Dreu, C. K., & Crone, E. A. (2016). Creativity development in adolescence: Insight from behavior, brain, and training studies. *New Directions for Child and Adolescent Development*, 2016(151), 73-84. <https://doi.org/10.1002/cad.20148>
- Martorell, C., González, R., Ordóñez, A., & Gómez, O. (2011). Estudio Confirmatorio del Cuestionario de Conducta Prosocial (CCP) y su Relación con Variables de Personalidad y Socialización. *Revista Iberoamericana de Diagnóstico y Evaluación*, 32(2), 35-52. <https://www.aidep.org/sites/default/files/2018-12/r32art2.pdf>
- Merrell, K., & Gimpel, G. (2014). *Social skills of children and adolescents: Conceptualization, assessment, treatment*. Psychology Press.
- Montgomery, P., & Maunder, K. (2015). The effectiveness of creative bibliotherapy for internalizing, externalizing, and prosocial behaviors in children: A systematic review. *Children and Youth Services Review*, 55, 37-47. <https://doi.org/10.1016/j.childyouth.2015.05.010>
- Nakano, T. de C., Primi, R., & Alves, R. J. R. (2021). Habilidades do século XXI: relações entre criatividade e competências socioemocionais em estudantes brasileiros. *Educar em Revista*, 37. <https://doi.org/10.1590/0104-4060.81544>
- Pearson, K. (1900). X. On the criterion that a given system of deviations from the probable in the case of a correlated system of variables is such that it can be reasonably supposed to have arisen from random sampling. *The London Edinburgh and Dublin Philosophical Magazine and Journal of Science*, 50(302), 157-175. <https://doi.org/10.1080/14786440009463897>
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39(2), 83-96. [https://doi.org/10.1207/s15326985ep3902\\_1](https://doi.org/10.1207/s15326985ep3902_1)
- Rosen, N. L., & Nofziger, S. (2019). Boys, bullying, and gender roles: How hegemonic masculinity shapes bullying behavior. *Gender Issues*, 36(3), 295-318. <https://doi.org/10.1007/s12147-018-9226-0>
- Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal*, 24(1), 92-96. <https://doi.org/10.1080/10400419.2012.650092>
- Speyer, L. G., Hall, H. A., Ushakova, A., Luciano, M., Auyeung, B., & Murray, A. L. (2022). Within-person relations between domains of Socio-emotional development during childhood and adolescence. *Research on Child and Adolescent Psychopathology*. <https://doi.org/10.1007/s10802-022-00933-1>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Turttle, L. (1980). *County Public Schools South Central District*. University of Miami.
- Vandenbroucke, J. P., von Elm, E., Altman, D. G., Gøtzsche, P. C., Mulrow, C. D., Pocock, S. J., Poole, C., Schlesselman, J. J., Egger, M., & STROBE Initiative (2007). Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *Epidemiology (Cambridge, Mass.)*, 18(6), 805-835. <https://doi.org/10.1097/EDE.0b013e3181577511>

- Vargas, K., Villoría, Y. A., & López, V. M. (2018). Factores protectores de la conducta prosocial en adolescentes: un análisis de ruta. *Revista Electrónica de Psicología Iztacala*, 21(2), 563–589. <https://www.medigraphic.com/pdfs/epsicologia/epi-2018/epi182j.pdf>
- Wagner, T. (2010). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need-and what we can do about it*. ReadHowYouWant.