

Social and emotional competencies and empathy as predictors of literacy competence

Vicente J. Llorent¹, Antonio L. González-Gómez¹, David P. Farrington², and Izabela Zych¹

¹ Universidad de Córdoba, and ² University of Cambridge

Abstract

Background: Desirable interpersonal interactions require literacy competence and social and emotional competencies, which are closely related to empathy. This study aimed to investigate whether social and emotional competencies and empathy predict literacy competence in Primary Education, assessing students' socio-educational characteristics. **Method:** The three variables were analysed in a sample consisting of 516 Primary Education children from six schools in Spain. **Results:** Competence was higher in girls and students from the ethnic-cultural majority. Empathy and social and emotional competencies were related to literacy competence. **Conclusions:** Literacy competence could be improved by targeting social and emotional development. New intervention programs could be based on the results.

Keywords: Social and emotional competencies, empathy, literacy competence, Primary Education.

Resumen

Competencias socioemocionales y empatía como predictores de la competencia en comunicación lingüística. Antecedentes: las interacciones interpersonales deseables requieren competencia en comunicación lingüística y competencias sociales y emocionales, que están estrechamente relacionadas con la empatía. Este estudio tuvo como objetivo investigar si las competencias sociales y emocionales, y la empatía, predicen la competencia en comunicación lingüística en Educación Primaria, teniendo en cuenta las características socioeducativas de los estudiantes. **Método:** la muestra de este estudio consta de 516 niños de Educación Primaria de seis escuelas en España y se analizaron las tres variables. **Resultados:** la competencia en comunicación lingüística fue mayor en mujeres y estudiantes de mayoría étnico-cultural. La empatía y las competencias sociales y emocionales estaban relacionadas con la competencia en comunicación lingüística. **Conclusiones:** la competencia en comunicación lingüística podría mejorarse mediante el desarrollo social y emocional. Las nuevas intervenciones podrían basarse en estos resultados.

Palabras clave: competencias socioemocionales, empatía, competencia en comunicación lingüística, Educación Primaria.

The inclusion of competencies in European school systems is intended to respond to social changes. Competency-based education seeks to provide students and, therefore, citizens with the necessary training to fully participate in the global and interconnected society (Rychen & Salganik, 2003). Consequently, different school systems have implemented the teaching-learning processes focused on the development of competencies to interact in society and to be a responsible, egalitarian and inclusive citizen (UNESCO, 2016).

Desirable social interaction requires adequate development of key skills: speaking (producing oral interaction), listening (getting information from other people speaking), reading (getting information from written texts) and writing (producing text to communicate) in real-life situations (European Parliament

and Council of the European Union, 2006). Different terms have been used such as "linguistic competence" (Chomsky, 1965) or "communicative competence" (Hymes, 1972), but nowadays "literacy competence" is the concept which is used in Europe (Council of European Union, 2018). Having adequate relationships with others depends on people not having difficulties in speaking and writing (Hernández-Torres & Hernández-Abenza, 2014).

Reading and writing can be areas of difficulty for many children and it can continue over time (Dockrell, Lindsay, Connelly, & Mackie, 2007), especially if they suffer some kind of developmental language disorder which may be associated with developmental problems in other domains, such as behaviour and social relations (Durkin, Toseeb, Botting, Pickles, & Conti-Ramsden, 2017). Language difficulties in childhood probably continue into adulthood (Law, Rush, Schoon, & Parsons, 2009) because these areas are crucial for literacy competence and they may negatively affect children (Spanoudis, Natsopoulos, & Panayiotou, 2007).

Language problems may negatively affect children's behaviour and have detrimental effects on the development of peer-relations (Helland, Lundervold, Heimann, & Posserud, 2014) because correct

social interaction requires social and emotional competencies (Halberstadt, Denham, & Dunsmore, 2001). Social and emotional competencies help children to recognize and manage emotions, solve problems effectively, and establish positive relationships with others (CASEL, 2003) and these competencies should be embedded in the curriculum, especially in language courses (CASEL, 2012). Recent studies (Zych, Ortega-Ruiz, Muñoz-Morales, & Llorent, 2018) have considered that social and emotional competencies are concretely formed by four dimensions: self-awareness, the ability to recognize emotions; self-management and motivation, skills to regulate emotions and manage them to achieve goals; social awareness and prosocial behaviour, the ability to empathize with other people in different contexts and situations; and decision making, the ability to decide according to ethical values and taking into account the possible consequences (CASEL, 2012). Improving these competencies is a promising initiative to improve school success (Zins & Elias, 2006). Several studies also indicate that a high level of social and emotional competencies is a protective factor against problem behaviours (Nasaescu, Marín-López, Llorent, & Zych, 2018).

Social and emotional competencies have been studied in adults (Fernández-Berrocá, Cabello, Castillo, & Extremera, 2012), in Secondary School students between the ages of 12 and 16 years (Salguero, Fernández-Berrocá, Balluerka, & Aritzeta, 2010), in relation to bullying and cyberbullying (Zych, Beltrán-Catalán, Ortega-Ruiz, & Llorent, 2018), and other antisocial behaviours (Alonso-Alberca, Vergara, Gutiérrez-Castro, & Vozmediano, 2017; Sutherland et al., 2018), but there are still pressing gaps in knowledge regarding the desirable impact of a high level of social and emotional competencies on different outcomes, especially in Primary Education.

Social and emotional competencies are usually accompanied by a key factor in the recognition and understanding of others, namely empathy (Allemand, Steiger, & Fend, 2015). Many researchers have demonstrated empirical relations between many forms of prosocial behaviour and empathy (Eisenberg, Fabes, & Spinrad, 2006), and empathy is important for promoting desirable behaviours toward others and facilitating social interactions (McDonald & Messinger, 2011). Empathy is defined as the ability to understand and experience others' feelings, and it is a personality variable that predicts the emotional and social functioning of young people (Jolliffe & Farrington, 2006). This variable is composed of two dimensions, affective empathy and cognitive empathy (Jolliffe & Farrington, 2004), and it plays a fundamental role in personal and social development (Ware, Hopper, Tugenberg, Dickey, & Fisher, 2008). Affective empathy is defined as is the tendency to experience an emotionally concordant response to the affective state of another (Baron-Cohen & Wheelwright, 2004) while cognitive empathy is defined as the capacity to understand other's feelings (Jolliffe & Farrington, 2004). The evidence suggests that empathy is linked to the establishment and maintenance of desirable interpersonal relationships (Del Barrio, Aluja, & García, 2004), because a positive development of empathy entails increasing levels of satisfaction in close relationships (Oberle, Schonert-Reichl, & Thomson, 2010).

Empathy has been studied in Primary Education (6-12 years) and was found to be related to prosocial behaviours (Geng, Xia, & Qin, 2012). High empathy was also connected to a good theory of mind (Cavojova, Sirota, & Belovicova, 2012), high social skills, and desirable family characteristics (Sánchez-Pérez, Fuentes, Jolliffe, & González-Salinas, 2014).

The number of studies focused on the development of different competencies is increasing. Indeed, there is evidence that self-regulation, as part of social and emotional competencies, is related to reading skills in pre-school students (Blair & Razza, 2007), few behavioural problems (Poehlmann et al., 2010), development in early childhood (Feldman, 2015) and socio-cognitive skills (Selcuk, Yavuz, Etel, Harma, & Ruffman, 2018). The empathy level in adolescence is related to individual differences in social competencies and communication skills (Allemand et al., 2015). Based on these studies, it could be suggested that there is a relationship between literacy competence and social and emotional competencies, as well as with empathy, but new studies are needed to confirm this in Primary Education.

The main objective of the present study is to investigate the relationship of literacy competence with social and emotional competencies and empathy in Primary Education children.

Method

Participants

The sample was selected by convenience sampling, with a total of 516 students from the 4th, 5th and 6th grades of Primary Education during the school year 2017/2018. Participants were distributed as follows: 226 4th graders (43.8%, $M_{age} = 9.17$, $SD = .53$), 137 5th graders (26.6%, $M_{age} = 10.07$, $SD = .31$), and 153 6th graders (29.7%, $M_{age} = 11.05$, $SD = .34$). The children were aged between 8 and 12 years ($M_{age} = 9.97$, $SD = .88$), with 49.6% girls ($n = 256$) and 50.4% boys ($n = 260$). The sample was obtained from six Primary Education schools in the counties of Cordoba, Jaen, and Malaga (Spain).

Taking into account the ethnic-cultural diversity, there were 24 children who identified themselves as members of the Gipsy community (13 with both parents being Gipsies and 11 with one parent being Gipsy), representing 4.7% of the sample; and 63 first- and second-generation immigrants (12.2% of the sample). The ethnic-cultural composition of the sample is very similar to the population in the whole region of Andalusia, where there are approximately half a million of the Gipsy ethnic group (6.2%) in the last census (Junta de Andalucía, 2017), and where the immigrant population represents 13.5% (Instituto de Estadística y Cartografía de Andalucía, 2017). Thus, there are two ethnic-cultural groups: the minority group of 87 students (16.9%) and the majority group of 429 (83.1%) students.

Instruments

The collection of information was carried out through an instrument composed of four parts: socio-educational data (age, academic year, gender, nationality, the nationality of the parents and belonging to the Gipsy community), a language proficiency test, the Social and Emotional Questionnaire, and the Basic Empathy Scale.

The language proficiency test includes three factors: listening, reading and writing. The speaking test requires much time and was excluded because of limited research resources. The listening part requires that the teacher reads a story and the children write answers to several questions. In the reading part, the children have a text to understand and questions to answer about the text. In the third part of the test, writing, a picture is presented in the test, and

the students write a story about this picture. The scale indicators have been designed based on The Common European Framework of Languages (Council of Europe, 2018), taking into account the PISA tests and Spanish Ministry of Education guidelines in Primary Education for 3rd grade (MEC, 2017a) and 6th grade (MEC, 2017b).

Two scales were created, one to measure reading and listening skills, and one to measure writing skills. Both scales were divided into indicators that are grouped by levels (A1, A2, B1, B2, C1 and C2). The scales were used in the scoring of specific tests created for each academic level following the typology established by PIRLS and following the examples proposed by the Ministry of Education (MEC, 2013). Both tests, literacy competence and the scales of assessment of this competence, have been reviewed by an expert group of ten university professors in the field of Educational Sciences and twelve in-service teachers belonging to Primary Education.

The Social and Emotional Competencies Questionnaire (SEC-Q) (Zych et al., 2018) is composed of 16 items grouped into four factors: self-awareness (four items), self-management and motivation (three items), social-awareness and prosocial behaviour (six items), and decision making (three items). These items have Likert type responses from 1 (strongly disagree) to 5 (strongly agree). The scale in this study has a high reliability, measured by Cronbach's alpha and Omega ($\alpha = .80$ and $\Omega = .86$). The reliability of its factors are as follows: self-awareness ($\alpha = .61$ and $\Omega = .61$), self-management and motivation ($\alpha = .55$ and $\Omega = .55$), social-awareness and prosocial behaviour ($\alpha = .73$ and $\Omega = .73$), and decision making ($\alpha = .59$ and $\Omega = .62$).

The Basic Empathy Scale (Jolliffe & Farrington, 2006), validated in Spanish (Villadangos, Errasti, Amigo, Jolliffe, & García-Cueto, 2016), consists of 20 items that measure two factors of empathy: affective empathy (11 items) and cognitive empathy (nine items). The items are each answered on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale in this study has a high reliability, measured with Cronbach's alpha and Omega, ($\alpha = .83$ and $\Omega = .82$). The reliability of its factors are as follows: affective empathy ($\alpha = .69$ and $\Omega = .70$) and cognitive empathy ($\alpha = .78$ and $\Omega = .78$).

Procedure

This ex post facto study was carried out through a survey using a convenience sample formed by Primary Education students, during the first trimester of the 2017/2018 school year. The researchers selected six schools after contacting different teachers. In each school, the researchers obtained the necessary authorisations. The questionnaires were completed individually by the students during school hours and in the presence of the teachers responsible for each group. The survey was anonymous, and the students could refuse to participate. The survey was not completed by 31 students. The schools were informed that the data obtained would be analysed only for scientific purposes and under the confidential and ethical-professional commitment of the researchers, following the ethical standards of the Declaration of Helsinki.

Data analysis

Data analysis was carried out, with the purpose of describing the relationship between literacy competence and social and emotional competencies and empathy. Pearson correlation coefficients were calculated to discover possible relations among the variables. To test unique relations between the predictors and literacy competence, linear regression analysis was performed using literacy competence as the dependent variable and social and emotional competencies, empathy and the other factors, such as age, gender and ethnic-cultural group membership, as predictors. The significant value was considered $p < .05$. All these tests were performed using the SPSS 23.0 software. Effect sizes were calculated using Cohen's d with the 95% CI, through the Campbell Collaboration's Calculator.

Results

High literacy competence was significantly related to a high total score on social and emotional competencies (see Table 1). In addition, high scores on all literacy factors, writing, listening and reading, were also related to high social and emotional competencies. At the same time, high self-awareness was related

Table 1
Correlations among literacy competence, social and emotional competencies, and empathy

	1	2	3	4	5	6	7	8	9	10	11
1. Writing											
2. Speaking	.59**										
3. Reading	.61**	.88**									
4. LITERACY COMPETENCY	.86**	.90**	.91**								
5. Self-awareness	.14**	.15**	.15**	.17**							
6. Self-management and motivation	.06	.02	.04	.05	.41**						
7. Social awareness and prosocial behaviour	.07	.12**	.11*	.11*	.47**	.46**					
8. Decision making	.08	.05	.08	.08	.42**	.32**	.49**				
9. SOCIAL AND EMOTIONAL COMPETENCIES	.12*	.12**	.13**	.14**	.76**	.67**	.84**	.74**			
10. Affective empathy	.17**	.10*	.14**	.16**	.11*	.12**	.17**	.16**	.19**		
11. Cognitive empathy	.11*	.04	.06	.09	.36**	.30**	.48**	.30**	.49**	.39**	
12. EMPATHY	.18**	.10*	.14**	.16**	.24**	.23**	.34**	.26**	.36**	.90**	.76**

* Correlations are significant at the .05 level (2 tailed)
** Correlations are significant at the .01 level (2 tailed)

to high literacy competence and its three factors. Specifically, the high social-awareness and prosocial behaviour factor was significantly related to high literacy competence and its factors such as listening and reading.

In the case of social and emotional competencies, and their factors, high scores were significantly related to high empathy. Cognitive empathy and affective empathy were significantly related to social and emotional competencies and all its factors too.

High total empathy and affective empathy were related to high literacy competence and its three factors. However, high cognitive empathy was only related to writing.

A linear regression (Table 2) was performed to describe the independent relationships between the predictors and literacy competence, controlling for socio-personal variables (age, gender and ethnic-cultural group membership). The model explained 31% of the variance. The linear regression shows that literacy competence was greater in older participants. Likewise, literacy competence was better in girls ($M_{girls} = 66.39, DT_{girls} = 8.09$ vs $M_{boys} = 64.08, DT_{boys} = 8.93, d = .27, IC 95\% = .09-.45$) and in the majority ethnic-cultural group ($M_{maj} = 64.37, DT_{maj} = 8.61$ vs $M_{min} = 64.43, DT_{min} = 8.60, d = .11, IC 95\% = -.13-.35$). There was a significant relationship between a high level of literacy competence and a high level of self-awareness and a high level of affective empathy.

Discussion

Schools, in their goal of promoting a comprehensive education, must promote different dimensions of learning including cognitive, social and emotional competencies (Creemers & Kyriades, 2010). Schools must promote good relationships and interaction to develop many competencies. Considerable evidence exists to establish that there is a negative association in childhood between language ability and shyness (Coplan & Evans, 2009) and for this reason it is important to investigate the relationship between socioemotional competencies and literacy competency.

Following the main objective of this study, the results confirm the positive relationships between literacy competence and social and emotional competencies and empathy. The evidence shows that young people with language impairment are likely to be entering adulthood less socially confident (Durkin et al., 2017). Social and emotional wellbeing and children's ability to form friendships and develop good peer relations rely heavily on their literacy competence (Im-Bolter & Cohen, 2007). Children with

specific language impairment have shown to be at elevated risk for social exclusion, academic failure and emotional and behavioural difficulties (Conti-Ramsden & Durkin, 2015). Other studies could show the relation between social and emotional competencies with cognitive and academic performance (Fernández-Berrocal, Cabello, & Gutiérrez-Cobo, 2017; Zins & Elias, 2006). The findings of this research corroborate the links between literacy competence and social and emotional competencies and empathy in Primary Education.

Therefore, we could conclude that empathy and social and emotional competencies are related to each other and possibly influence each other and literacy competence. The significant relationships between literacy competence and empathy coincide with the conclusions of other studies, such as the one carried out by Blair and Razza (2007), in which there was a positive impact of empathy on literacy, specifically on high self-regulation of reading ability in pre-school children. However, more research is required to provide more detailed knowledge on this subject, especially longitudinal studies.

Cognitive and affective empathy are significantly related to high social and emotional competencies. All this evidence could corroborate the relationship between empathy, as a factor associated with social and emotional competencies, as suggested by Allemand et al. (2015), although empathy could also be considered as part of the set of social and emotional competencies.

Other interesting conclusions of this research are related to gender and ethnic-cultural groups. Social and emotional competencies are greater in girls in comparison to boys. However, the development of social and emotional competencies does not vary according to belonging to a specific ethnic-cultural group. Based on the findings of this study, educational programs to improve social and emotional skills in all age and ethnic-cultural groups could improve academic skills. These competencies might be specially promoted in males to pursue gender equality.

Both cognitive and affective empathy are higher in girls compared to boys (Jolliffe & Farrington, 2006). Gender differences in educational settings could have a cultural component (Llorent-Bedmar & Llorent, 2012). Therefore, education could facilitate equality between genders, as suggested by other studies (Llorent & Álamo, 2016). Also, children belonging to the majority group have greater empathy than students belonging to ethnic-cultural minorities.

Some findings of the current study are especially interesting about the relationship between being a member of the ethnic-

Table 2
Age, gender, ethnic-cultural group, social and emotional competencies and empathy as predictors of literacy competence

	B	SE	Beta	t	d (95% CI)	p
Age	.271	.025	.46	10.62	.93 (.75, 1.12)	<.0001***
Gender (boys)	-.130	.047	-.12	-2.80	-.25 (-.42, -.07)	.005**
Ethnic-cultural group	-.265	.064	-.18	-4.11	-.36 (-.54, -.19)	.001**
Self-awareness	.032	.010	.17	3.25	.29 (.11, .46)	.001**
Self-management and motivation	-.009	.013	-.03	-.71	-.06 (-.26, .11)	.478
Social-awareness and prosocial behaviour	.014	.009	.086	1.55	.14 (-.04, .31)	.123
Decision making	-.009	.010	-.05	-.89	-.08 (-.25, .09)	.372
Cognitive empathy	-.002	.005	-.02	-.31	-.03 (-.20, .15)	.755
Affective empathy	.008	.003	.13	2.69	.24 (.06, .41)	.007**

* p<.05; ** p<.01; *** p<.001

cultural majority versus minority and cognitive empathy and self-awareness. These differences among ethnic-cultural groups in social interactions have been found in other studies (Llorent, Ortega-Ruiz, & Zych, 2016; Llorent & Álamo, 2016). As suggested by Cavojoja et al. (2012), cognitive empathy is important for the representation of feelings and it is related to the consciousness of the individual. At the same time, affective empathy can be more related to the automatic and unconscious processes put into practice daily. Possibly the promotion of cultural diversity could have an influence on the social consciousness of the majority group.

Even based on a large sample, a limitation of this study is the difficulty to generalize all these findings and it would be useful to repeat the study with a more representative sample. Because this is a cross-sectional study, causal relations cannot be firmly established and can only be suggested on a theoretical basis. Another limitation is the low resources to collect data, writing was used to gather information from students but speaking could not be investigated. Future studies could also include this factor and other variables that could influence literacy competence. Even with these limitations, the results of this study provide new evidence about relevant variables that could improve literacy competence.

This study opens new lines of research on the design of educational interventions. Those should increase empathy and social and emotional competencies as factors that contribute to the improvement of academic skills, such as literacy competence. According to the present findings, new teaching resources should be developed to improve education by including the promotion of social and emotional competencies, empathy and literacy competence in the curriculum.

There is a social demand to improve education, and at the same time to prevent antisocial behaviour by young people in schools and outside of schools. Better education should be delivered especially to certain groups such as ethnic-cultural minorities. It should be useful to study and promote social and emotional competencies and empathy, as a possible way to facilitate the progress of different ethnic-cultural groups in different life domains, including academic achievement. Also, schools and teachers need to be provided with more scientific knowledge to become more effective in improving the positive interpersonal relationships among children, especially in students at risk, as suggested by previous studies (Hong, Song, Llorent, Patel, & Voisin, 2018). Based on these research findings, teachers should be informed that it is important to include social and emotional competencies in curriculum planning and school practices.

Future studies could focus on the relationship between social and emotional competencies and other cognitive skills, such as mathematical competence. Based on the present data, planning and innovations of the curriculum in Primary Education should be influenced by the importance of social and emotional competencies, which would include empathy, to achieve a better education of citizens and, in turn, to positively affect other competencies related to cognitive factors. The current findings suggest that social and emotional competencies could be included in the curriculum planning. These competencies should be developed in language courses, as suggested in many social and emotional learning programmes (CASEL, 2012). This should yield a holistic education of children and future citizens, as well as being a method to improve comprehensive and inclusive education, and to foster social inclusion.

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