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**EMPATHY PERCEPTION IN SOCIAL EDUCATION STUDENTS:
AN INTER-INSTITUTIONAL STUDY**

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Abstract

Affirming the profession of social educator, one who is best suited to mediate human relationships, requires an investment in training to improve the (inter)personal development of students, thereby contributing to a professional profile able to face the complex challenges of contemporary society. Research into developing empathy, a core variable in exercising of social-educational support functions, should be invested in by educational institutions. In this context, the aim of this study is to identify the students' perceptions of empathy in two higher education institutions in Portugal and to see how they vary according to academic year, gender and age, in order to understand the implications for training and outline strategies to promote (inter)personal development. It is a non-experimental, cross-sectional study, for which the Portuguese adaptation (Limpo, Alves & Castro, 2010) of the Interpersonal Reactivity Index (IRI, Davis, 1980, 1983) was used to measure empathy. The convenience sample is non-probabilistic with 242 students participating. There were no statistically significant differences in the partial and overall results of the IRI according to age and the institution. However, there were statistically significant differences in the Empathic Concern subscale, by gender and academic year. We also assessed the influence of gender on the affective dimension and on the overall empathy scale. The results obtained are in line with most of the scientific literature on empathy and allows us to outline implications in terms of education

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1. Introduction

The emergence of social education is warranted by the increase in problems related to social exclusion and by the need to provide effective social responses. The nature of more paternalistic assistance intervention strategies have shown to be ineffective and reinforce dependency and maintaining cycles of poverty and psychosocial risk. In addition, the development of theoretical frameworks and research have culminated in the advent of paradigms and action models which differ from the conventional ones (Carvalho & Baptista, 2004). In this sense, social education has come to occupy an important place in the context of the social sciences and education, consolidating scientific and technical developments which, for some time, have been energizing and growing, currently acquiring a scientific robustness that, at this stage, is worth clarifying and reflecting, looking ahead to the following stages of development.

Thus, social education is situated in a professional space, anchored at the interface between the social and educational areas (Díaz, 2006). This brings it some difficulty in affirming its professional identity. Placed in the field of social action dealing with individuals and groups who are more socially fragile, social education differs from social service by the pedagogical character of its references and intervention models and formats (Carvalho, 2008).

In recent decades, we have noticed an evolution of social education. The traditional approach, fundamentally practical and intuitive and focused on solving concrete and immediate problems, was shown to be unable to respond effectively to complex social realities. Therefore, current social educators require a thoughtful and systematic approach: knowing how to read social reality and knowing how to interpret individuals and contexts (Bargallóa & Martin, 2014; Ribeiro, 2013). With the aid of conceptual pedagogical tools, they require educators to be able to know how to deal with increasing social and cultural complexity. Among the skills that educators should develop, we emphasize (inter)personal skills, particularly, the ability to empathize; that is, being able to see, feel and demonstrate to the individuals and groups with whom they work, their unconditional support.

The social educator, as a social, cultural and educational mediator (Moyano, 2012) is highly reflective and should be able to understand the people and groups in their various socio-educational intervention contexts, in order to enhance their personal and social development, their integration and participation in the community and in the assorted socio-cultural spaces (Calvo, 2012).

1.1. The social educator's skills

Accrediting social education professionals from a reflexive perspective (Bargallóa & Martin, 2014) needs a (re)frameworking of their training and socio-educational practice. Educational institutions need to (re)equat their syllabi and training strategies to train more competent professionals due to the challenges today's society faces.

The proposal to develop training should be structured around the skills required for efficient action (Zabala & Arnau, 2007). In this regard, training social educators should enhance core skills to practice the profession that, according to the International Association of Social Educators, the AIEJI (2008), involve key professional skills related to the different levels of how to act, intervene, evaluate and reflect in the

contexts of professional practice. The educator, starting from conceptual, procedural and attitudinal contents (Zabala & Arnau, 2014) should be able to intervene directly in situations and circumstances, responding to the needs and potentialities of individuals and groups.

Moreover, the social educator's training should promote personal, relational/interpersonal and social core skills (AIEJI, 2008), which are the educator's main aptitudes. The relationship established with children, adolescents or adults in distress and socially fragile situations must be based on a culture of solidarity, justice, respect and participation in all in their life contexts. The training should promote the inclusion of people supporting, respecting their social and cultural values. This requires a high level of sensitivity and civic and ethical conscience, as well as a sense of responsibility and social and communication skills (AIEJI, 2008).

Knowing that most educational work is collaborative and is carried out within a network of formal and informal social support, we stress the importance of interpersonal skills to understand and know how to communicate with others with authenticity, so that there is mutual understanding (Zabala & Arnau, 2014).

1.2. The role of empathy in the social educator's professionalism

In this context, we emphasize the ability to empathize within the social educator's professionalism. Empathy is a complex multidimensional construct that includes different dimensions of an affective and cognitive nature. Davis (1980, 1983) states it is related to aspects of the individual's reaction as an observer of someone else's experiences.

Among the various definitions presented in the scientific literature, empathy can be defined as a shared emotional response, in which an individual observes and listens to someone else, understands their perspective and experience, feels their feelings and actions, expresses their understanding, respects and supports (Gano-Overway, 2013; Shanafelt et al., 2005). It also involves the notion of the individual's responsiveness with regard to others (Decety & Jackson, 2004).

Essentially, empathy is a phenomenon that encompasses cognitive and affective features. The cognitive component of empathy is related to the individual's ability to understand other personal perspectives; the affective component is linked to the tendency to respond emotionally to the feelings experienced by others (Shanafelt et al., 2005). Notwithstanding the existence of both different dimensions, Davis (1980) states that they work in an interdependent system and that research which studies only one dimension to the exclusion of the other is artificial. In contrast, Hojat (2009) says that empathy is an eminently cognitive attribute involving the ability to understand the perspectives and experiences of others, as well as the ability to convey acceptance to them.

The scientific literature in the field, based mostly on students in the health field, asserts that empathy is related to gender (Chakrabarti & Baron-Cohen, 2006; Davis, 1980, 1983; Gano-Overway, 2013). Girls tend to show higher levels of empathy (Davis, 1980; Gano-Overway, 2013; Han, Fan, & Mao, 2008; Kavussanu, Stamp, Slade, & Ring, 2009) and prosocial behavior (Eisenberg, 2005).

The studies also showed that empathy is related to personality traits (Magalhães, Costa & Costa, 2012), social skills and prosocial behaviours (Eisenberg, 2005; McMahon, Wernsman, & Parnes, 2006)

and a strong association with well-being (Shanafelt et al., 2005; Wei, Liao, Ku, & Shaffer, 2011), particularly in the Perspective Taking subscale (cognitive dimension of empathy).

With regard to the theoretical framework of the approach to empathy, it can be conceptualized as a stable constitutional trait, or from the approach that perceives empathy as a phenomenon that can change over time, consisting of constitutional features that interact with the contingencies of the social context (Paro et al., 2014).

In line with this latter perspective, education and experiences have an important effect on the development of empathy, which has been shown in studies which reported empathy was related to academic year (Kataoka, Koide, Ochi, Hojat, & Gonnella, 2009). However, studies have not always been shown to be consistent; some suggest stagnation (Costa, Magalhães, & Costa, 2013) or regression (Neumann et al., 2011), requiring greater investment in research.

It is within this framework that higher learning institutions with training in social education should reflect on their syllabi, methodologies and training strategies, questioning the extent to which they are training competent and effective professionals, enhancing their professional, social and (inter)personal skills. It is important to know the effect of challenging and collaborative educational practices in stimulating learning environments (Pascarella & Terenzini, 2005), the attendance of extracurricular programmes and activities, involvement in academic activities, and the relationships with teachers and among peers (Astin, 2003; Kunh, 2009; Pascarella, 2006).

Today, much is discussed about the necessary reforms around the teacher's role in promoting students' social skills, especially those associated with empathy, which has become a leading topic in the discourse of global higher education policy. It is important to think about changing teaching practices, from a more traditional transmissive form of teaching, to more student centred pedagogical approaches which will promote students' social learning, including the development of prosocial skills, especially empathy (English, 2016).

2. Problem Statement

Our aim is to ascertain the perception of empathy in undergraduate social education students in two institutions, and in particular, to understand the influence of sociodemographic variables (gender and age), academic year. We will reflect on the results with a perspective for possible training implications.

3. Research Questions

We posed the following questions: What is the influence of the students' institution, academic year, age and gender on the overall and partial results of empathy? What implications can be determined for training in social education?

4. Purpose of the Study

Our purpose is to identify the perceptions of empathy of students attending the Degree in Social Education programme in two higher education institutions in Portugal and to apprehend the effect of the

following variables: academic year, gender and age, in order to understand the implications for training and/or strategies to promote (inter)personal development in students.

5. Research Methods

[This is a non-experimental and cross-sectional study.

5.1. Participants

The study used a non-probabilistic and convenience sample whose characteristics can be seen in Table 1. 242 students participated in the study. They were attending the three-year Degree in Social Education programme at two Polytechnic institutions in Portugal. 124 (51.2%) were students at School of Education of Bragança (ESEB) and 118 (48.8%) were students at School of Education of Viseu (ESEV). Their ages ranged between 18 and 46 years with a mean age of 21.6 years (± 3.77 SD). Of the total number of students, 119 (49.2%) students were 21 years old or less and 123 (50.8%) were over 21. The majority was female ($n=213$, 89.7%) with a considerably lower number of males ($n=25$, 10.3%). The students were enrolled in the three-year course in social education, with 90 (37.2%) in the 1st year, 80 (33.1%) in the 2nd year and 72 (29.8%) in the 3rd year.

Table 1. Characterization of sample of social education students (N=242)

Variables	Minimum	Maximum	M	DP
Age (years)	18	46	21.26	3.77
		n		%
Gender				
Female		213		89.7
Male		25		10.3
Age categories				
≤ 21 years		119		49.2
> 21 years		123		50.8
Higher Education Institution				
School of Education of Bragança		124		51.2
School of Education of Viseu		118		48.8
Academic year				
1 st		90		37.2
2 nd		80		33.1
3 rd		72		29.8

5.2. Instrument

The Interpersonal Reactivity Index (IRI, Davis, 1980, 1983) was used in the study. A short questionnaire was also added with sociodemographic questions (gender, age, academic year, place of residence). Using Davis's 28-item IRI (1980) was warranted as it is one of the most widely used scales to assess empathy. It is based on a multidimensional approach to empathy, consisting of a cognitive and emotional dimension, described by its relationship with measurements of personal and social functioning,

emotion and sensitivity to others (Davis, 1980, 1983). The Portuguese version (Limpo, Alves, & Castro, 2010) consists of 24 items: statements about thoughts and feelings that the person may or may not have experienced, answered on a 5-point Likert scale (0 = “It does not describe me well.” 4 = “It describes me very well.”). It is organized in four subscales with items 7 each. Its scores may range from 0 to 24, evaluating different faces construct: the Perspective Taking subscale measures the ability to adopt others’ point of view; the Empathic Concern subscale assesses the feelings of sympathy, compassion and concern for others; the Personal Distress subscale measures personal feelings of personal anxiety and apprehension in tense social environments, especially when witnessing the negative experiences of others; the Fantasy subscale assesses the tendency of individuals to imagine themselves in fictitious situations, identifying with the actions and feelings of characters from movies, novels and books. The cognitive dimension is measured by the Perspective Taking subscale and the affective dimension by the other three subscales.

5.3. Procedure

The instruments were applied in the classroom, in the months of May and June 2017. Rules of ethics pertaining to research project of this type were fully complied with. The participants were informed about the purpose of the study and that their participation was strictly voluntary with the confidentiality and anonymity of responses assured. They were also provided any necessary clarifications during application.

5.4. Data analysis techniques

Statistical analyses were performed using the *Statistical Package for Social Sciences* (SPSS) version 24. Nonparametric tests were used as the data were not fit the standards of normality and homogeneity.

6. Findings

In terms of internal consistency, the Cronbach’s Alpha values are acceptable and for the subscales Perspective Taking and Fantasy the values were found to be close to those of the IRI scale’s author (Davis, 1980); however, they were lower in other subscales. Thus, for the overall IRI (24 items), the value was $\alpha=.73$ and for the subscales the values were as follows: Perspective Taking subscale (6 items)/ cognitive dimension, $\alpha=.74$; Empathic Concern (6 items), $\alpha=.67$; Personal Distress (6 items), $\alpha=.61$; Fantasy (6 items), $\alpha=.73$. As for the affective dimension (3 subscales 18 items), the value was $\alpha=.74$.

We analysed the preliminary descriptive statistics (Mean and Standard Deviation) of the empathy subscales (IRI) and compared the results with studies which had adapted the IRI in Portugal (Limpo et al., 2010) and Spain (Pérez-Albéniz, Paúl, Etxeberría, Montes, & Torres, 2003), where the samples used were also higher education students. As shown in Table 2, for all samples the empathy scores were higher for women. In general, the results of our sample were close to those found in the Portuguese adaptation of the IRI (Limpo et al., 2010). However, the Spanish students showed higher scores for the subscales (in both

sexes), which we may lead us to the importance of sociocultural factors in the development of empathy. However, these questions should be studied in greater depth.

Table 2. Comparison of the subscale scores of empathy in this study with the results found in studies which adapted the IRI in Portugal^a and Spain^b

Empathy scale (IRS) and subscales	Present study, N=242		^a Limpo et al. (2010), N=478		^b Pérez-Albéniz et al. (2003); N=1997	
	<i>M(SD)</i>		<i>M(SD)</i>		<i>M(SD)</i>	
	Male	Female	Male	Female	Male	Female
Perspective Taking	2.48(.67)	2.71(.67)	2.63(0.57)	2.89(0.55)	3.33(.69)	3.39(.68)
Empathic Concern	2.36(.65)	3.03(.62)	2.47 (0.62)	3.06(0.57)	3.88(.58)	4.24(.50)
Personal Distress	1.68(.59)	1.83(.64)	1.48 (0.63)	1.92	2.59(.68)	2.93(.72)
Fantasy	2.04(.76)	2.25(.81)	1.94(0.85)	2.58(0.83)	3.26(.79)	3.51(.82)
Global IRI	2.14(.40)	2.46(.40)				

We performed inferential analyses and used the Mann-Whitney *U* and Kruskal-Wallis nonparametric tests for this purpose. Thus, with regard to the effect of the higher learning institution on empathy, we did not find statistically significant differences between ESEB and ESEV for the overall scale IRI ($U=6746.500$, $p=.295$), the affective dimension ($U=6985.000$, $p=.543$), the subscale Perspective Taking/ Cognitive Dimension ($U=6439.000$, $p=.106$) and the subscales Empathic Concern ($U=7265.000$, $p=.925$) and Fantasy ($U=6702.000$, $p=.258$). These results are not surprising, even though the socio-cultural differences in contexts have similarities as both belong to the polytechnic higher education subsystem and are located in medium-sized cities in the interior of the country.

The results regarding empathy, IRI and the subscales, by gender, as shown in Table 3, we can see that there are significant differences in the Empathic Concern subscale ($U=1214.000$, $p=.000$), the affective dimension ($U=1587.000$, $p=.001$) and the overall results of the IRI ($U=1399.000$, $p=.000$), with the girls obtaining higher results in empathy.

These results are consistent with most national and international studies (Costa et al., 2013; Davis, 1980; Gano-Overway, 2013; Han et al., 2008; Limpo et al., 2010; Kavussanu et al., 2009).

Table 3. Results of the IRI scale, subscales and dimensions, by gender (*Mann-Whitney U* test)

IRI, subscales and dimensions	Gender		<i>U</i>	<i>p</i>
	Male (n=25)	Female (n=213)		
	Mean Rank	Mean Rank		
Perspective Taking/ Cognitive Dimension	100.74	123.89	2193.500	.116
Empathic Concern	61.56	128.41	1214.000	.000
Personal Distress	106.70	123.21	2342.500	.263
Fantasy	103.94	123.52	2273.500	.184
Affective Dimension	76.48	126.69	1587.000	.001
IRS global	68.96	127.55	1399.000	.000

No statistical differences were found in the overall and partial values of empathy between the age categories, ≤ 21 years and > 21 years, in the global IRI ($U=6305.000$, $p=.062$); the affective dimension ($U=6542.000$, $p=.154$); the Taking Perspective/ Cognitive Dimension subscale ($U=6911.500$, $p=.453$); and the Empathic Concern ($U=6745.500$, $p=.291$); Personal Distress ($U=7167.500$, $p=.781$); and Fantasy ($U=6711.000$, $p=.263$) subscales.

Research on the effect of age on the development of empathy have not received much attention from researchers (Lennon & Eisenberg, 1987); moreover, they are inconsistent. The literature reports that in some studies there were no significant differences in empathy in relation to age, but others reported differences in which older adults show less empathy than younger ones (Grühn, Rebucal, Diehl, Lumley, & Labouvie-Vief, 2008). Similarly, Pinho, Fernandes and Falcone (2011) found a negative correlation between age and altruism and a positive correlation with affective sensitivity (empathy components).

Regarding the effect of academic year, on empathy, as presented in Table 4, we found significant differences in the subscale Empathic Concern ($\chi^2_{kw}(2)=6.551$, $p=.038$). The comparison between pairs showed that the differences occur between the 2nd and the 3rd year of the course, and the values of empathy are higher in the 3rd year. However, the effect of the academic year was not found on the overall IRI ($\chi^2_{kw}(2)=3.392$, $p=.183$), in the Perspective Taking/ Cognitive Dimension subscale ($\chi^2_{kw}(2)=4.805$, $p=.090$), the affective dimension ($\chi^2_{kw}(2)=1.706$, $p=.426$) and the Personal Distress ($\chi^2_{kw}(2)=4.137$, $p=.126$) and Fantasy ($\chi^2_{kw}(2)=1.629$, $p=.443$) subscales.

The scores for the affective empathy subscale indicate that students have developed this aspect of empathy during their training. These results are not convergent with other studies in the health field, particularly in medical training, where cognitive and affective aspects did not improve over the period of the course (Paro et al., 2014).

Table 4. Results of the IRI scale, subscales and dimensions, by academic year (Kruskal-Wallis test)

IRI, subscales and dimensions	Academic Year			χ^2_{kw}	<i>p</i>
	1 st (n=90)	2 nd (n=80)	3 rd (n=72)		
	Mean Rank	Mean Rank	Mean Rank		
Perspective Taking/ Cognitive Dimension	131.16	108.07	124.35	4.805	.090
Empathic Concern	124.91	106.10	134.35	6.551	.038
Personal Distress	114.84	116.41	135.48	4.137	.126
Fantasy	126.96	122.94	113.08	1.629	.443
Affective Dimension	123.19	113.64	128.12	1.706	.426
Global IRI	127.07	109.72	127.63	3.392	.183

7. Conclusion

With reference to the aims of this study, its results contribute to the reflection on empathy and lead us to implications in terms of training of students of social education. In short, we highlight the findings relating to the differences in empathy by gender and academic year. Female students showed better scores in the affective dimension of empathy, despite not finding the same effect on the cognitive component (Perspective Taking). Similarly, students in the 3rd year revealed higher scores in the affective dimension (Empathic Concern subscale). Given what has been laid out above, it is necessary to promote empathy,

with particular attention to its cognitive component, that is, the ability of individuals to understand other personal perspectives.

Thus, it is important to think about changing teaching practices from more transmissive teaching to an approach more focused on the student, promoting collaborative learning (English, 2016). To this end, the teacher must create stimulating learning environments (Pascarella & Terenzini, 2005), with an enabling environment for cooperation among students (Gano-Overway, 2013), that encourages participation and the sharing of perspectives and different points of view. Spaces, conducive to promoting social and interpersonal skills should also be created, with the establishment of extracurricular programmes and activities, as well as involvement in academic activities and relationships with teachers and among peers (Astin, 2003; Pascarella, 2006).

Despite the contribution of this study to better understanding the development of empathy in social education students throughout their training, further studies are needed with larger samples and longitudinal methodologies.

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References

- [Astin, A. W. (2003). Studying how college affects students: A personal history of the CIRP. *About Campus*, 8(3), 21-28.
- Bargalló, G. R., & Martín, J. V. (2014). La praxis reflexiva un reto para la Educación Social. *Edetania: estudios y propuestas socio-educativas*, 45, 129-144.
- Brock, C., & Salinsky, J. (1993). Empathy: an essential skill for understanding the physician-patient relationships in clinical practice. *Family Medicine*, 25(4), 245-248.
- Carvalho, A., & Baptista, I. (2004). *Educação Social: fundamentos e estratégias*. Porto: Porto Editora.
- Chakrabarti, B., & Baron-Cohen, S. (2006). Empathizing: Neurocognitive developmental mechanisms. *Progress in Brain Research*, 156, 403-417.
- Choi, D., Minote, N., Sekiya, T., & Watanuki, S. (2016). Relationships between trait empathy and psychological well-being in Japanese University students. *Psychology*, 7, 1240-1247.
- Costa, P., Magalhães, E., & Costa, M. J. (2013) A latent growth model suggests that empathy of medical students does not decline over time. *Advances in Health Sciences Education*, 18(3), 509-522.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44, 113-126.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalogo Selected Documents in Psychology*, 10, 85.
- Eisenberg, N. (2005). The development of empathy-related responding. In G. Carlo & C. P. Edwards (Eds.), *Moral motivation through the life span* (pp. 73-117). Lincoln: University of Nebraska Press.
- English, A. R. (2016). John Dewey and the role of the teacher in a globalized world: imagination, empathy, and 'third voice'. *Educational Philosophy and Theory*, 48 (10), 1046-1064.
- Fields, S. K., Mahan, P., Tillman, P., Harris, J., Maxwell, K., & Hojat, M. (2011). Measuring empathy in healthcare profession students using the Jefferson Scale of Physician Empathy: Health provider – student version. *Journal of Interprofessional Care*, 25(4), 287-293. doi: 10.3109/13561820.2011.566648

- Gano-Overway, L. A. (2013). Exploring the connections between caring and social behaviors in Physical Education. *Research Quarterly for Exercise and Sport*, 84, 104-114.
- Grühn, D., Rebucal, K., Diehl, M., Lumley, M., & Labouvie-Vief, G. (2008). Empathy Across the Adult Lifespan: Longitudinal and Experience-Sampling Findings. *Emotion*, 8(6), 753–765. doi:10.1037/a0014123.
- Han, S., Fan, Y., & Mao, L. (2008). Gender differences in empathy for pain: An electrophysiological investigation. *Brain Research*, 1196, 85-93.
- Hojat, M. (2009). Ten approaches for enhancing empathy In health and human services cultures. *Journal of Health and Human Services Administration*, 31, 4, 412-450.
- Hojat, M. (2007). *Empathy in patient care: Antecedents, development, measurement, and outcomes*. New York: Springer.
- Kataoka, H. U., Koide, N., Ochi, K., Hojat, M., & Gonnella, J. S. (2009) Measurement of empathy among Japanese medical students: psychometrics and score differences by gender and level of medical education. *Academic Medicine*, 84(9), 1192-1197.
- Kavussanu, M., & Boardley, I. D. (2009). The prosocial and antisocial behavior in sport scale. *Journal of Sport & Exercise Psychology*, 31, 97-117.
- Kuh, G. (2009). What student's affairs professionals need to know about student engagement. *Journal of College Student Development*, 50 (6), 683-706.
- Lennon, R., & Eisenberg, N. (1987). Gender and age differences in empathy and sympathy. In N. Eisenberg, & J. Strayer (Eds.), *Empathy and its development* (pp. 195-217). Cambridge: Cambridge University Press.
- Limpo, T., Alves, R. A., & Castro, S. L. (2010). Medir a empatia: Adaptação portuguesa do Índice de Reactividade Interpessoal. *Laboratório de Psicologia*, 8(2), 171-184.
- Magalhães, E., Costa, P., & Costa, M. J. (2012) Empathy of medical students and personality: evidence from the Five-Factor Model. *Medical Teacher*, 34(10), 807-812. doi: 10.3109/0142159X.2012.702248
- McMahon, S., Wernsman, J., & Parnes, A. (2006). Understanding prosocial behavior: the impact of empathy and gender among African American adolescents. *Journal of Adolescent Health*, 39(1), 135-137.
- Moyano, S. (2012). *Acción educativa y funciones de los educadores sociales*. Barcelona: Editorial UOC.
- Neumann, M., Edelhäuser, F., Tauschel, D., Fischer, M. R., Wirtz, M., Woopen, C., Haramati, A., & Scheffer, C. (2011). Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Academic Medicine*. 86 (8), 996–1009. <http://dx.doi.org/10.1097/ACM.0b013e318221e615>
- Paro, H. B. M. S., Silveira, P. S. P., Perotta, B., Gannam, S., Enns, S. C., et al. (2014) Empathy among Medical Students: Is There a Relation with Quality of Life and Burnout? *PLoS ONE* 9(4): e94133.
- Pascarella, E. T. (2006). How College affects students: ten directions for future research. *Journal of College Student Development*, 47 (5), 508-520.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students (Vol. 2): A third decade of research*. San Francisco: Jossey-Bass.
- Pérez-Albéniz, A., Paúl, J., Etxeberría, J., Montes, M. P., & Torres, E. (2003). Adaptación de Interpersonal Reactivity Index (IRI) al español. *Psicothema*, 15(2), 267-272.
- Pinho, V. D., Fernandes, C. S., & Falcone, E. O (2011). A influência da idade e da escolaridade sobre a experiência empática de adultos. *Estudos e Pesquisas em Psicologia*, 11(2), 456-471.
- Quince, T. A., Parker, R. A., Wood, D. F., & Benson, J. A. (2011) Stability of empathy among undergraduate medical students: a longitudinal study at one UK medical school. *BMC Medical Education*, 11(90), 1-9. <https://doi.org/10.1186/1472-6920-11-90>.
- Ribeiro, E. (2013). O educador Social, identidade e reptos na aprendizagem da profissão. In J. Palhares, & A. Afonso (Org.), *Livro de Atas do I Colóquio Internacional de Ciências Sociais da Educação, II Encontro de Sociologia da Educação – O não formal e o informal em educação: centralidades e periferias* (pp. 827-832). Braga: Centro de Investigação em Educação (CIEEd), Instituto de Educação Universidade do Minho Braga.

- Saldana, G. N., Albornoz, J. M., & Contreras, M. V. (2016). Diferencias en empatía según sexo y área disciplinar en estudiantes universitarios chilenos de la provincia de Concepción, Chile. *Educación* [online], 25, 49, 63-82. <http://www.scielo.org.pe/pdf/educ/v25n49/a04v25n49.pdf>
- Shanafelt, T. D., West, C., Zhao, X., Novotny, P., Kolars, J., Habermann, T., & Sloan, J. (2005). Relationships between increased personal well-being and enhanced empathy among internal medicine residents. *Journal of General Internal Medicine*, 20(7), 559-564. doi: 10.1111/j.1525-1497.2005.0108.x
- Singer, T., Seymour, B., O'Doherty, J. P., Stephan, K., Dolan, R. J., & Frith, C. D. (2006). Empathic neural responses are modulated by the perceived fairness of others. *Nature*, 439, 466-469.
- Wei, M., Liao, K. Y. H., Ku, T. Y., & Shaffer, P. A. (2011). Attachment, self-Compassion, empathy, and subjective well-being among college students and community adults. *Journal of Personality*, 79, 191-221. <http://dx.doi.org/10.1111/j.1467-6494.2010.00677.x>.
- Zabala, A., & Arnau, L. (2007). 11 Ideas clave. Cómo aprender y enseñar competencias. Barcelona: Editorial Graó.