Article

Trainee Teachers' Perceptions on Cyberbullying in Educational Contexts

Carmen Yot-Domínguez [1] **, María Dolores Guzmán Franco** [2] **and Ana Duarte Hueros** [2,*]

1   Department of Didactic and School Organization, Faculty of Education, University of Seville, C/Pirotecnia, s/n, 41013 Sevilla, Spain; carmenyot@us.es
2   Department of Pedagogy, Faculty of Education, Psychology and Sports Sciences, Avda. Tres de Marzo s/n, University of Huelva, 21007 Huelva, Spain; maria.guzman@dedu.uhu.es
*   Correspondence: duarte@uhu.es

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Abstract: This paper analyzes the perceptions of teachers in training regarding cyberbullying in schools. The objectives of the study were: to ascertain their perceptions regarding their concern and their commitment to cyberbullying, their agreement with the measures to address it in educational contexts, as well as the assessment of their capabilities to act and the training they have received and they would like to receive; to determine if the perceptions differ according to gender, age and degree pursued and if there are relationships between the perceptions; and, to define pre-service teachers' profiles based on perceptions. With a survey research design, 408 students from different undergraduate and graduate education-related degree programs at Spanish public universities participated. Findings highlight the coexistence of three different teacher in training profiles. All profiles exhibit a high level of concern and recognize cyberbullying as a problem. They strongly agree with all the proposed prevention and management measures. Two of the three profiles perceive themselves as highly confident and willing to respond. On the contrary, participants in the third profile do not feel confident enough to act and consider their training insufficient, coinciding with the second profile. The need to approach this issue in the initial training of future education professionals is a main conclusion.

1. Introduction

Although bullying is a phenomenon that has always existed to a greater or lesser extent in schools, it currently casts a shadow over numerous children and adolescents whose health (in terms of social welfare, but also their psychological, physical and emotional well-being) and academic performance, among other basic aspects of their lives, are affected. The consequences of this problem may extend to later stages of life and development. As Musalem and Castro (2015) point out, adults seem to perceive bullying as a transitory problem, but this is not real since it is persistent and linked to other problems in children's lives, both in the short and long term.

The widespread use of ICTs among young people from a very early age is favoring the manifestation of new forms of risk behaviors in digital scenarios such as cyberbullying (Giménez Gualdo et al. 2018; Larrañaga et al. 2018). Cyberbullying has been defined as "willful and repeated harm inflicted through the use of computers, cell phones and other electronic devices" (Hinduja and Patchin 2009, p. 5). It has been considered a new form of traditional bullying, but with its own characteristics (Álvarez et al. 2011). Cyberbullying is not confined to a specific space. It expands

easily and rapidly. It can occur in anonymity. In addition, victims are easily accessible while the possibility of empathy on the part of the aggressors towards them is unlikely.

In the last decades, the progressive increase in cyberbullying cases has been evidenced in every country of the world (Garaigordobil 2011; Finkelhor et al. 2010). At the same time, interest and concern for the problem, not only in society but also in the academic community, has increased significantly.

Participation in traditional harassment as victims or as perpetrators is the most clearly predicting factor for cyberbullying and cybervictimization (Athanasiades et al. 2016). Cyberbullying is often an extension of traditional bullying, with bullying victims also facing this risk (Notar et al. 2013). In fact, as noted Kowalski et al. (2014), cyberbullying and traditional bullying overlap.

There are no totally defined motives for harassing or being harassed. Although in the scientific literature it has been mentioned a number of elements that could be understood as facilitators (Muñoz 2016). Navarro et al. (2012, 2018) highlight as risk factors the interpersonal difficulties people display in social interactions. Cappadocia et al. (2013) point to the higher levels of antisocial behaviors and fewer prosocial peer influences as two of the risks associated with cyberbullying. Cyberbullies show low adaptive psychosocial profiles (Buelga et al. 2015).

Regarding its consequences, Sourander et al. (2010) indicate that similar to children and young people affected by traditional bullying, all those involved in cyberbullying are likely to face challenges on multiple areas such as psychosomatic symptoms (headaches, abdominal pain, and sleeping difficulties), emotional and peer problems, and feelings of insecurity and non-cared by teachers. Giménez Gualdo et al. (2015) draw attention to the anguish that young people feel when they are harassed in traditional contexts and on the Internet. Ortega-Barón et al. (2016) have shown that victims of moderate to severe cyberbullying have significantly lower academic self-esteem than non-victimized adolescents, as well as a significantly lower sense of peer affiliation. In fact, as highlighted by Payne and Hutzell (2017), victims of any form of bullying are prone to avoidance behaviors towards school settings compared to students who have not experienced such victimization.

Despite the increased knowledge about the problem, numerous myths have spread, often unfoundedly, such as those analyzed by Sabella et al. (2013). For example, everyone knows what cyberbullying is; cyberbullying is a direct cause of suicide; or to avoid cyberbullying, all you have to do is turn off your computer or mobile phone. This last myth can contribute to the misguided decisions of some parents, teachers and guardians, who may be less familiar with information technologies and may take a markedly protective approach, such as the mere removal of the mobile phone, without considering other more effective measures (Hinduja and Patchin 2009).

It is necessary that families and teams of teachers understand what cyberbullying really is, and what measures are best suited to prevent and intervene in each case. It is also important to bear in mind that the reasons for the negative impact of intimidation vary according to the type of harassment, so coping strategies need to be adapted (Slonje et al. 2017).

At the international level, harassment has been a core area of research that has aroused concern as reflected in studies such as those by Baek and Bullock (2014), Cassidy et al. (2013) or Jimerson et al. (2010). In the national context, the first research on this topic was published at the beginning of the 21st century, coordinated by Ombudsman-UNICEF (2000). Since then, different works have drawn attention to a common concern: prevention, detection, intervention and management of this problem and its consequences. Thus, clear lines of intervention have been defined (Orjuela et al. 2013).

In a recent report by the Minors Ombudsman from the Andalusian Parliament (Parliament of Andalusia 2017), the importance of having teachers who take responsibility for prevention and response in cyberbullying situations is emphasized. They must act coordinated with health and social service professionals. In order to do this effectively, a strong initial training and continuous professional development dealing with cyberbullying is fundamental.

In our context, Álvarez et al. (2010a) analyze the lack of training displayed by teachers in initial training in their last year of studies at the University of Oviedo, in the face of school violence. The perception that they are not sufficiently prepared to respond effectively to bullying was widespread

among pre-service teachers, coinciding with previous research findings (Ryan and Kariuki 2011), even observing a greater degree of ignorance than in other studies, and depending on the educational level for which these future teachers are being trained.

Both undergraduate and graduate education students display deficiencies that are evidenced when they are questioned about their acquired competencies to deal with cyberbullying as well as when discussing their degree of satisfaction with the training received (Álvarez et al. 2010b; Bauman and Del Río 2005; Yanes and Ries 2014). Therefore, a review of education university degree programs is necessary to include harassment, bullying and cyberbullying in initial training (Patchin and Hinduja 2006; Ryan et al. 2011).

However, this training should extend beyond the initial stages of teacher education. In this sense, the Ministry of Education, Culture and Sports, in coordination with autonomous communities, institutions, organizations, and a team of experts, launched the Strategic Plan for School Coexistence in 2015, in line with the current law that regulates education in Spain. This is an attempt to make schools safe and non-violent spaces. One of the pledges that schools must make is to become a place of respect. It is imperative to create a climate where students can only grow and coexist safely, without shadows, frustration or suffering. In order to do this, teacher training is highlighted as a key element for achieving this goal. For this reason, there is an incentive to promote teacher professional development in this area (in collaboration with universities, schools and other stakeholders that constitute educational communities) through the dialogue-based construction of knowledge.

As Boulton et al. (2013) point out, teachers have a vital role. And the reality is that victims do not consider teachers as capable of solving harassment situations (Gradinger et al. 2010; Ortega-Barón et al. 2016). Also, teachers have a limited perception of their ability to resolve conflicts (Abreu and Kenny 2017). DeSmet et al. (2015) confirmed that the large majority of teachers do not appropriately handle cyberbullying.

In recent times, research studies have centered on teachers' view of cyberbullying: how they see this phenomenon, what strategies they consider most useful to prevent it, their agreement with response measures, etc. The growing interest in their understanding arises, among other reasons, because differences in students' perceptions of the problem have been detected. These differences could further explain the gaps and dissatisfactions in their performance. There are discrepancies beyond their conceptualization of cyberbullying (Compton et al. 2014). Baraldsnes (2015) evidenced that even teachers' and pupils' perceptions regarding cyberbullying frequency are quite different. As a result, there have been successive studies, although they are scarce today, involving in-service teachers and pre-service teachers.

In-service teachers are concerned about cyberbullying (Eden et al. 2013). The most common type of cyberbullying they perceive is the circulation of embarrassing content (Huang and Chou 2013). Teachers disagree with the disregard of cyberbullying when it occurs inside the school and are more determined towards the following prevention strategies: reinforcing the role of bystanders, enriching classrooms with anti-bully lessons, and building character (Ghamrawi et al. 2016). Moreover, the strategies teachers perceive as most helpful in addressing cyberbullying (Stauffer et al. 2012) include increasing parental involvement and warning students about consequences for cyberbullying.

Pre-service teachers also display awareness of cyberbullying (Monks et al. 2016). They believe that cyberbullying is a problem in schools that affects students and teachers (Ryan et al. 2011). They are aware of the negative effects of cyberbullying on student lives (Yilmaz 2010). Although in the study carried out by Craig et al. (2011), taking as a sample teachers in the first years of initial training, a different way of understanding bullying is observed, and therefore of facing it, considering bullying of the homophobic, relational and cybernetic type to be less serious and problematic than physical bullying at school. These discrepancies seem to be related to issues such as the greater/lesser evidence of harassment, the lack of preparation of teachers in training to deal with this type of problem, and their previous harassment experiences.

Lester et al. (2018) was concerned with analyzing the incidence of age in perceptions. Age had not been taken into consideration in previous studies. They found distinct differences between pre-service teachers under and over 25 years of age. Specifically, pre-service teachers over the age of 25 have more favorable attitudes towards preventing bullying in schools, using proactive and less punitive incident management strategies and are more likely to believe students can change their behavior.

In contrast, gender has been understood as a source of variation regarding perceptions of teachers in training in different studies. From them we know that female pre-service teachers perceive bullying and cyberbullying in general as more serious than male ones and are more persuaded about the effects of cyberbullying (Craig et al. 2011; Yilmaz 2010). The only study, however, that yields extensive results is that of Yilmaz (2010). It states that gender also affects the perception of training. Male pre-service teachers feel more confident in identifying and managing cyberbullying as opposed to their female counterparts.

Generally, pre-service teachers report they are not skilled to identify and manage cyberbullying (Lester et al. 2018) and not prepared adequately (Ryan and Kariuki 2011; Ryan et al. 2011). However, there are studies that question generalization. In the work of Spears et al. (2015) pre-service teachers demonstrate high levels of self-efficacy with regard to addressing bullying and cyberbullying and are well prepared. In the same way, there are others that raise doubts about the real degree of awareness among teachers in training. According to Li (2008), preservice teachers are not aware the significance of this problem. In Li's study, although pre-service teachers display an understanding of the significant effects of cyberbullying on children and are concerned about cyberbullying, they do not think it is a problem in our schools.

After a thorough review of literature, we find that the research done is insufficient. We observe that findings about this topic are not conclusive and more research is warranted to answer numerous questions. Efforts should be made to differentiate teachers in training according to their perceptions. It is also important to clarify the incidence of gender and to analyze if the age or the specific degree pursued influences perceptions. This last variable has not been considered in previous studies and in our context it is relevant because the training that teachers receive is differentiated according to whether they are teachers of early childhood, primary or secondary education. But we must also overcome the descriptive character of the analyses and pause to examine the interaction between perceptions.

2. Objectives and Research Problems

With this study we intend to approach the perspective of teachers in training about cyberbullying in schools. We will address their perceptions about the relevance of the problem and the appropriateness of the response. We will ascertain, on the one hand, whether pre-service teachers see themselves prepared to act against cyberbullying as future professionals and, on the other hand, the assessment they make of the training they have received and they would like to receive. We will analyze whether perceptions of cyberbullying in educational settings expressed by teachers in training vary according to gender, age and degree pursued. We will examine pre-service teacher clusters related to their perceptions.

Thus, our research questions are the following:

1. Do teachers in training recognize cyberbullying as a current problem in education? Are they concerned by it?
2. How prepared do teachers in training feel to identify and manage cyberbullying situations? Are they willing to intervene? Does their level of preparation determine their intentions?
3. What is the degree of agreement of teachers in training with the response to cyberbullying in schools? Are pre-service teachers sensitized to act in coordination with families?
4. Do they feel that cyberbullying plays a role in their training programs? Are they interested in cyberbullying as academic content?

5.   Do these perceptions of teachers in training change according to gender, age or degree pursued? Do their perceptions relate to each other?

6.   Are there different teacher in training profiles according to their perceptions towards cyberbullying?

In particular, the objectives set out in this research study were:

- To inquire about the perceptions of teachers in training about:

    ○   Their recognition of cyberbullying in schools and their concern for it.
    ○   Their ability to identify and respond to cases of cyberbullying, as well as their interest in intervening.
    ○   Their agreement with the measures to prevent, detect and respond to cyberbullying in schools.
    ○   Their initial training and their perceived need for specialization in the subject.

- To analyze whether the pre-service teachers' perceptions differ according to gender, age and degree pursued.
- To determine whether the perceptions of teachers in training correlate.
- To establish different profiles of teachers in training according to their manifested perceptions.

3. Method

3.1. Participants

A total of 408 teachers in training participated in the study by answering a questionnaire. Of these, 85.8% are women. 35.5% are under the age of 20 and 47.5% are between the ages of 21 and 25. 45.8% study at the University of Huelva and 32.8% at the University of Malaga. In this regard, it is worth noting that all participants are enrolled in different Andalusian public universities (Seville, Granada and Cadiz, as well as Huelva and Malaga), except for 9.8% who belong to the University of Castilla la Mancha. 51% of the participants are pursuing the undergraduate program in Primary Education, 34.3% the Early Childhood Education program and 14.5% are enrolled in the Secondary Education Master's program. 28.2% of the students are attending the first year of one of the two undergraduate degree programs, 10% the second year and 23% are enrolled in the third year, and 22.1% in the fourth year of the program.

3.2. Research Instrument

The research was conducted using a quantitative survey approach. Data collection consisted of a survey validated and reused in other contexts besides Spain. The instrument was developed by Li (2008), based on a prior survey on teachers' attitudes towards bullying (Siu 2004) and applied in other studies, such as those by Ryan et al. (2011) or Eden et al. (2013).

In this study, the 22 items from the original survey were maintained, adapting them to the Spanish educational context as instructed by qualified educational experts. Thus, for example, the reference in one of the items to surveys as an information collection instrument for those affected by cyberbullying was substituted by the interview technique. Also, explicit allusions to the School Board or the Coexistence Commission are included in various items. Also, the 5-point Likert scale was used to assess the suitability of each item.

Li (2008) had already submitted the instrument to a multidisciplinary panel of experts. Five reviewers rated the appropriateness of items by assigning values of relevant, unable to decide or not relevant. In light of the findings, Li determined that the content validity was good. However, university professors specialized in educational research methodology and the subject matter reviewed our adaptation and translation of the survey from English.

After its review, the improvements suggested by the reviewers were incorporated. The instrument was uploaded to the online poll application "Opina", a platform available to University of Seville's teaching and research personnel. It was directly distributed to student representative at the different universities, for their distribution to the rest of the student body. The sample was thus non-probabilistic and accidental.

The "Survey on cyberbullying in education and perceptions of teachers in initial training" was comprised by a first series of demographic questions (gender, age, degree enrolled and year, university degree if any, and university where one attended), which were used to collect descriptive information from the sample, and a total of 22 items that had to be evaluated by those polled, using a 5 point Likert scale (from 1, or completely disagree, to 5, completely agree), plus the additional response option of Do not know/No response (see Appendix A). The Alpha coefficient of internal reliability for the instrument in our study was 0.74. With Li (2008) and Eden et al. (2013), the coefficient reached 0.88.

The instrument was internally organized into four indexes according to the adaptation of Eden et al. (2013) to gather information from in-service teachers. The four indexes were:

A.　Concern about cyberbullying. The first 3 items allow us to inquire about the impression and degree of concern that students have about the problem. For example: "I believe that cyberbullying is a current educational problem", or "I am concerned about cyberbullying in education".

B.　Self-confidence and intention to act when faced with cyberbullying. The students' perception of their current ability to identify and respond to cyberbullying cases and their interest in intervening is reflected in 3 items. Among them: "I am able to manage cyberbullying situations".

C.　Agreement with action measures against cyberbullying. The opinion on the required actions at school and classroom level and the handling of cyberbullying by families and society is addressed with 13 items. Among them: "I think that the schools should sensitize families on the importance of the role they play in the prevention of cyberbullying" or "I consider it necessary to devote efforts to the professional development of teachers favoring their training in cyberbullying".

D.　Assessment of initial training. Finally, 3 items collect the students' assessment of the attention given to the problem in initial teacher training and their perceived need for specialization. Among them: "In my studies (Early Childhood Education Degree, Primary Education Degree or Secondary Education Masters as appropriate) I am being trained to manage cyberbullying situations".

3.3. Data Analysis Procedure

The data was exported directly from the polling service "Opina" into an Excel spreadsheet, which was imported into IBM SPSS Statistics for analysis. In SPSS, the data set was purged, eliminating unsuccessful response attempts and correcting the type of variable and measure assigned by default to each of the items.

After analyzing the responses given to each of the items, based on a basic recount of the frequencies, a one-way analysis of variance (ANOVA) was conducted to detect possible differences according to the different categorical values. These were: gender, age and degree pursued. When homoscedasticity was not found (with Levene's test), the corresponding non-parametric tests were used (Mann-Whitney U test and Kruskal-Wallis H test).

Afterwards, four new variables were created, each one responding to the indexes (Concern about cyberbullying, Confidence and intention to act when faced with cyberbullying, Agreement with the action measures when facing cyberbullying, Assessment of the initial training), calculating them on the basis of the responses provided to the items that comprised each particular index. The variables in question were designated as: Concern, Confidence, Agreement and Assessment. In order to determine if these variables correlated bilaterally with each other, Pearson's correlation coefficient was calculated. Also, the different items in the indexes "Concern about cyberbullying", "Confidence and intention to

act when faced with cyberbullying", "Assessment of the initial training" and a selection of them were also correlated with "Agreement with the measures of action when facing cyberbullying".

Lastly, a k-means cluster analysis was performed taking into account the four variables related to the indexes and the entire sample. That is, no case was removed from analysis. The iterate and classify method was used. The number of case clusters was fixed at three, according to a hierarchical cluster analysis performed previously with the Ward method. Convergence was achieved in the eighth iteration because no further representative change in cluster centers was possible. The minimum distance between the initial centers was 3.853.

4. Results

4.1. Perceptions of the Teachers in Training

Almost 80% of teachers in training (79.4%) strongly agree and are concerned about cyberbullying in education. Significant differences were found between men and women (sig. 0.000). While 82.6% of women are absolutely alarmed, 60.3% of men display this level of concern. Women report greater concern.

The large majority of future teachers (87.5%) agree that cyberbullying is a current problem in education, although only 55.9% of them are fully convinced of this. 63.2% completely agree and are certain and 24.8% are aware that victims of cyberbullying can now be found in classrooms. The perception of both issues differs with age (sig. 0.046; sig. 0.032). Most of the subjects in the different age groups strongly agree with them except those aged between 36 and 40 (see Table 1). Also, according to the degree program, there are differences with respect to the last perception. Thus, compared to 55.7% of students in the Early Childhood Education undergraduate degree who completely agree that in schools centers there are students suffering cyberbullying, 76.3% of those in the Secondary Master's degree share the same perception.

The results shed light on the solid agreement that exists on the ideal nature of prevention and intervention measures when faced with cyberbullying (M = 4.57). Polled participants stated that they agree or completely agree with almost all the cyberbullying prevention and management actions in school (see Appendix B). Among them, we find the statement "I think that all teachers should know the protocol of action in cases of bullying" is regarded as the most important (2.7% agree and 96.6% completely agree). However, it is interesting to note that only 67.6% of the teachers in training completely agree (although 24.8% were in agreement) with the statement "I believe that teachers should integrate into the curriculum how to make responsible use of technologies and what their risks are" or that only 65.9% completely agree (with an additional 30% in agreement) with the statement "I believe that teachers should organize specific classroom activities to raise awareness and provide training in cyberbullying".

The interpretation of these three measures differs with respect to gender (sig. 0.002; sig. 0.011; sig. 0.27). While 97.7% of the women were completely convinced about the first measure, 89.7% of the men were. As compared to the 70% and 68.3% of women who completely believed in the need of the second and third action, respectively, 53.4% and 51.7% of the men found themselves in the same position.

There are two items for which participants tend towards a neutral valuation, which is why we consider further studies necessary to understand this trend. These referred to the statement "I understand that interviews are a useful tool for students to express themselves about their cyberbullying experiences" (2.7% did not answer, and 27.5% were placed in intermediate values of the scale) and the statement "I value positively that in institutions the Coexistence Commission should be informed of situations of cyberbullying and the disciplinary measures taken" (24.5% did not answer, and 29.9% were found in intermediate values of the scale). With respect to the first, differences were found in relation to the degree program (sig. 0.18). As observed in Table 2, the students enrolled in the Early Childhood Education Degree and the Primary Education Degree were less convinced as compared to those in the Master's in Secondary School Education.

Table 1. Descriptive data according to age.

Item	Younger than 20 Years of Age		21–25 Years of Age		26–30 Years of Age		31–35 Years of Age		36–40 Years of Age		41–45 Years of Age		Older than 46 Years of Age	
	M (SD)	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]
I believe that cyberbullying is a current problem in education	4.36 (0.8)	53.8	4.44 (0.83)	55.2	4.68 (0.57)	73.7	4.58 (0.52)	58.3	3.73 (1.27)	27.3	0.8 (0.447)	80	4 (1)	33.3
I believe that there are children/youth who are currently victims of cyberbullying in the educational context	4.57 (0.81)	63.4	4.51 (0.76)	62.9	4.84 (0.5)	73.7	0.75 (0.62)	58.3	4 (0.78)	27.3	4.8 (0.447)	80	4.33 (1.16)	66.7

[1] % of the maximum value, established in the scale at 5%.

Table 2. Descriptive data according to degree program.

Item	Early Childhood Edu. Degree		Primary School Edu. Degree		Secondary Edu. Degree	
	M (SD)	**%** [1]	**M (SD)**	**%** [1]	**M (SD)**	**%** [1]
I understand that the interviews are useful instruments for the students to express their experiences about cyberbullying.	3.79 (0.97)	0.7	3.67 (1.1)	2.4	4.1 (1.05)	1.7
I feel enabled for identifying situations of cyberbullying	3.01 (1.02)	7.1	3.23 (1.06)	4.8	2.85 (1.2)	13.6

[1] % of the minimum value, established in the scale at 1.

In terms of self-confidence, the results reveal that teachers in training don't consider themselves qualified. Only 7.4% completely agree with the statement "I feel qualified to identify situations of cyberbullying" and 3.7% of them completely agree with the statement "I am able to manage cyberbullying situations". Meanwhile, 42.6% and 42.9% respectively are at the mid-point of the scale. The self-perception of their ability to detect cyberbullying situations differs based on the degree pursued (sig. 0.030). Those enrolled in the Secondary Education Master's perceive themselves as the least qualified (see Table 2).

The average value of the index that measures satisfaction with the training they are receiving in the subject as future teachers, and the one they would like, demonstrates that it is low (M = 3.23) (see Table 3). Data shows that 54.2% and 20.6% of the subjects either disagree or completely disagree that in their studies they are being prepared to manage cyberbullying situations. Moreover, 16.7% stated that cyberbullying is not the content to which they give the greatest importance among those that they would like to see addressed (or would have liked to develop) in their degree program. Only 7.4% completely agree with this. The general perception of cyberbullying in the set of contents that they would like to study in depth is not the same based on gender (sig. 0.042). 15.5% of men completely disagree that this is the topic they would most like to address compared to 3.7% of women. Similarly, compared to 3.4% of men, 8% of women do agree strongly with the statement.

Table 3. Descriptive statistics of the different indexes and correlations.

Index	M	SD	Pearson			
			Concern	**Confidence**	**Agreement**	**Assessment**
Concern	4.57	54	-			
Confidence	3.56	0.74	0.125 *			
Agreement	4.57	0.36	0.438 **	0.142 **		
Assessment	3.23	0.69	0.119 *	0.283 **	0.149 **	

* p < 0.05, ** p < 0.01.

4.2. Links between the Perceptions of the Teachers in Training

As observed on Table 3, between concern about cyberbullying and agreement with the action measures, there is a moderate linear relationship. The more recognition cyberbullying got as a current problem that required the school's attention, the greater the appreciation was for the measures of prevention, diagnosis, intervention and monitoring, which could be promoted in the education sphere. The correlations between the other possible index combination pairs were low but significant.

The differences shown by subjects in the item that specifically asks them to state agreement or concern about cyberbullying account for 9.06% of the differences in the intention expressed by subjects to intervene immediately if they knew that cases of cyberbullying were occurring ($r = 0.301$); and 13.25% of the differences in the desire for their training programs to address cyberbullying in depth ($r = 0.364$) (see Table 4).

The intention to respond to cyberbullying correlates with virtually all the measures included in the questionnaire. The one that is most strongly related is the one that alludes to the fact that the educational community must be involved and committed in the fight against cyberbullying in schools, although the relationship is moderate ($r = 0.301$ $p < 0.01$).

The correlation of the intention to act with the perception of the ability to identify situations of cyberbullying and the ability to manage them is significant but low. The coefficients of determination (r^2) are: 0.015 and 0.02, respectively. The bilateral relationship of the intention to act in cyberbullying situations is also low with the belief that cyberbullying is a current problem and with the perception that children and youth are currently suffering cyberbullying in the networks. Moreover, both abilities ($r = 0.509$) and both beliefs ($r = 0.467$) were moderately correlated.

Table 4. Correlation of the items related to the indexes Concern, Confidence and Assessment.

	I Believe That Cyberbullying . . .	I Believe That There Are Children . . .	Cyberbullying in the Educational . . .	I Feel Qualified for Identifying . . .	I Am Able to Manage . . .	If I Knew That Cyberbullying Was Occurring . . .	In the Lessons I Take, I Am Being Prepared . . .	I Would Like to Delve into . . .	Of All the Subjects . . .
I believe that cyberbullying is a current problem in education	-								
I believe that there are children and youth who are currently victims of cyberbullying in the educational context	0.467 **	-							
Cyberbullying in the educational context concerns me	0.242 **	0.226 **	-						
I feel qualified for identifying situations of cyberbullying	0.015	0.032	0.077	-					
I am able to manage situations of cyberbullying	0.020	−0.060	0.020	0.509 **	-				
If I knew that cyberbullying was occurring in my center/institution, I would intervene immediately	0.171 **	0.261 **	0.301 **	0.121 *	0.141 **	-			
In the courses I take, I am being trained to manage situations of cyberbullying	−0.048	−0.089	−0.028	0.216 **	0.273 **	−0.027	-		
I would like to delve into cyberbullying in the courses I have left in my degree program	0.256 **	0.236 **	0.364 **	0.015	−0.001	0.275 **	−0.044	-	
Of all the topics that I would like to be the object of study in the degree (or I would have liked them to have been addressed, if you are finishing your studies), I give most importance to cyberbullying.	0.011	−0.051	0.208 **	0.110 *	0.192 **	0.167 **	0.243 **	0.305 **	-

* $p < 0.05$, ** $p < 0.01$.

4.3. Profiles of Teachers in Training

Three profiles could be differentiated among the teachers in training, which were identified as (see Table 5):

Table 5. Descriptive statistics of the indexes according to profile.

	Index A		Index B		Index C		Index D	
	M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
Trained	4.58	0.5	3.9	0.52	4.62	0.32	4.06	0.43
Competent	4.64	0.46	3.89	0.49	4.57	0.33	2.92	0.42
Aware	4.45	0.66	2.64	0.46	4.5	0.44	2.89	0.51

Profile 1. Trained. They represent 27.8% of future teachers. They are highly concerned about cyberbullying. They decidedly recognize the appropriateness of measures to approach cyberbullying in educational contexts. They perceive themselves as qualified and willing to respond to cyberbullying situations. They display satisfaction with their initial training in the subject and would even like to delve deeper into it.

Profile 2. Competent. They are 45.7% of the participants. They are highly concerned about cyberbullying. They decidedly recognize the appropriateness of measures to approach cyberbullying in educational contexts. They perceive themselves as qualified and willing to respond to cyberbullying situations in school contexts, but they are not satisfied with their initial training.

Profile 3. Aware. They constitute the smallest conglomerate (26.5%). They are highly concerned about cyberbullying, they decidedly recognize the appropriateness of measures to approach cyberbullying in educational contexts. But they do not feel qualified to respond to a cyberbullying situation nor satisfied with their training in this subject.

5. Discussion and Conclusions

Bullying and cyberbullying perceptions held by both teachers in initial training and in-service teachers, has been an object of study in the last few years (Craig et al. 2011; Eden et al. 2013; Ghamrawi et al. 2016; Gorsek and Cunningham 2014; Huang and Chou 2013; Marczak and Coyne 2016; Ryan and Kariuki 2011), which makes it possible to compare the results obtained.

The need for the academic community to assess the awareness of educators regarding their responsibility and role in cyberbullying situations justifies the increasing interest to analyze their perceptions related to this issue. Research points to high levels of awareness alongside quality training as a fundamental basis to achieve effective prevention and management performances in cyberbullying situations (Ayas and Horzum 2011; Campbell et al. 2018).

Our study is based on the work of Li (2008) in Canada and Yilmaz (2010) in Turkey. But, with it, we advance the understanding on the perceptions of teachers in training regarding cyberbullying in educational contexts. We have delved into their perceptions, inquiring about the effects of variables such as gender (in line with findings from previous research), age and degree pursued. This last variable had not been previously considered. We have also analyzed the existing interactions between different participants' perceptions. Finally, three different profiles were identified and described based on four indexes. These were concern about cyberbullying, self-confidence and intention to act when faced with cyberbullying, agreement with action measures, and finally assessment of initial training.

In-service teachers see bullying as a serious problem (Craig et al. 2011) and recognize its negative impact on students (Ghamrawi et al. 2016). Similarly, teachers in training perceive cyberbullying as a current problem in schools (Ryan and Kariuki 2011; Ryan et al. 2011). In our study this perception is confirmed as well as it is corroborated that future teachers perceive that there are children and young people who are victims of cyberbullying in classrooms. According to our findings, these perceptions correlate and differ with the age variable, with younger participants exhibiting higher levels of concern.

Degree pursued is another variable that correlates with their awareness of cyberbullying situations, with a higher awareness in participants from secondary education programs. These findings could be explained by subjects taking into account the age of their future students and their proportion of use of technological devices, by means of which they could experience cyberbullying situations. Along the same line, Eden et al. (2013) concluded that student age affected the teachers' level of concern about cyberbullying.

Yilmaz (2010) found that among teachers in training, female teachers displayed a higher awareness than their male counterparts regarding cyberbullying as an educational problem today. Our analysis does not support these findings. Moreover, in the present study, regardless of gender all participants exhibit concern, with female participants displaying higher levels of concern than male participants.

Previous studies have shown, among other things, the lack of teacher knowledge regarding the possible cyberbullying prevention strategies (Ghamrawi et al. 2016) or the hesitation they have when managing incidents (Huang and Chou 2013) and the inability of properly managing situations of cyberbullying (DeSmet et al. 2015). By extension, the future teachers in our study, just as the ones from Ryan and Kariuki (2011), have displayed self-doubt in their abilities to detect and manage cyberbullying. In spite of this, the surveyed subjects would attempt to take action when faced with this problem. We cannot firmly argue from our analysis that the greater the capacity, the greater the intention to intervene, or vice versa. Intention is related, in part, to concern. The other factors that would explain intention to intervene should be addressed in subsequent studies.

However, what we can point out the need to incorporate (or reinforce) training opportunities in this area in initial teacher training. In our context, teachers in training believe that within their curricula they are not being prepared to prevent or deal with cyberbullying (Álvarez et al. 2010a). Thus, according to Redmond et al. (2018), within the framework of each degree, the intentional design of authentic learning experiences must be undertaken in order to favor a deeper understanding of the subject, improve the competencies of future teachers with regard to their approach to cyberbullying situations, and increase their confidence. And, in the words of these authors, as their trainers, it is our responsibility to bring them closer to educational practices that reduce cyberbullying. An important formative strategy would be the establishment of networks between in-training teachers and experienced ones where they can share and exchange viewpoints, reflect on measures, analyze shared proposals, etc. (Yilmaz 2010).

Let us bear in mind that, as Ho et al. (2017) point out, increasing the knowledge of children and adolescents about the risks of social networks, they become more prudent in their social network activity and more aware of the negative consequences that can derive from inappropriate behavior. Also, if they develop as resilient young people, we mitigate the harmful effects of possible intimidation (Hinduja and Patchin 2017). Thus, among others, schools must promote awareness of the consequences of cyberbullying and encourage empathy towards those affected (Notar et al. 2013). And, specifically from the curriculum viewpoint, students must be empowered in the use of information and communication technologies and their digital competence (Cassidy et al. 2013).

Let us return to a question highlighted by our results. Not all pre-service teachers are completely convinced of the need to incorporate into the curriculum the responsible and safe use of technologies or to implement learning activities to raise awareness of the problem. Teacher educators must lead to improve the perception of these measures, about which women are most in favour. In the designated line, these measures may not be put in doubt.

Huang and Chou (2013) found that only a small percentage of in-service teachers offer anti-cyberbullying instruction and guidance before or after cyberbullying happens to curtail future acts of cyberbullying. According to these authors, this is due to the fact that teachers lack the knowledge on how to approach it. Our study's findings support this assumption. A small part of participants do not feel qualified to deal with cyberbullying situations (profile 3). In addition, a high number of future teachers are not satisfied with their training on the issue (profiles 2 and 3). The reasons for that perception will have to be approached in future studies.

Participants from the Master's in Secondary Education exhibit the lowest levels in perceived self-confidence. These findings reflect a scarce training in the topic of cyberbullying that may be related to the issues raised by Montoro and Ballesteros-Moscosio (2016) regarding the design of the program itself. These authors describe how the promotion of school coexistence and conflict resolution were considered among the competencies, but none of them directly referred to bullying, and less if it took place in a virtual context. This emphasizes the importance of reviewing current teacher education programs to include the subject in the initial training of future education professionals.

Likewise, it is necessary to diagnose pre-service teachers' learning needs and know in depth their interests. Let us bear in mind that, according to the pre-service teachers of our study, not only cyberbullying is not being currently addressed in their programs but that also teachers do not consider it as priority academic content. Unlike the found by Ryan and Kariuki (2011), future teachers in our study do not perceive cyberbullying as the issue that most would like to see addressed (or would have wanted to address) in their degree. This perception is more characteristic of men than of women. Women are more concerned than men about cyberbullying and also are more in favour of cyberbullying as academic content. Concern correlates positively with the desire to learn about cyberbullying. Eden et al. (2013) also showed that there is interaction between the importance of learning about cyberbullying and in-service teachers' concern.

Precisely, the determining factors that allow us to differentiate up to three profiles of the teachers in training are the posture they adopt about their initial training, and the self-evaluation they make about their abilities. DeSmet et al. (2015) defined four secondary school educator clusters, on the basis of teachers' perceptions but also their practices.

In our case, three profiles of pre-service teachers have been differentiated. No other previous study has advanced knowledge in this line. This is, therefore, the first classification of teacher-in-training profiles available.

There are practically no differences between the profiles with regard to the degree of agreement with the measures adopted in schools (and cited in our data collection instrument). Among these, it is worth highlighting an action with which the future teachers completely agree. This refers to the fact that schools must make families aware of the importance they play in the prevention of cyberbullying. To prevent and deal with cyberbullying, teachers and families need to understand the nature of the problem and recognize their role. Educational measures to deal with cyberbullying include providing education to the students about the responsible use of the technologies, promoting professional development for teachers on the issue and supporting families so that they could also contribute to it (Beale and Hall 2007).

Teachers recognize that the involvement of parents in prevention must be encouraged, and for this to happen, families must be made aware of the problem. According to Stauffer et al. (2012), schools and parents should be encouraged to band together as a united force in preventing and addressing student cyberbullying. The creation of collaborative work between families and educators is needed, to overcome any type of bullying, either using the information technologies or not, inside as well as outside the school. Efforts should also be coordinated with students (Giménez Gualdo et al. 2018). Teachers, students and parents need to discuss in each school what constitutes cyberbullying and how to combat it (Compton et al. 2014).

Eden et al. (2013) found strong correlations between school commitments and in-service teachers' concern about cyberbullying. In relation to in-training teachers, our analysis confirms the existence of this correlation. The degree of agreement with prevention, detection, and intervention measures increases as their perception that cyberbullying is an educational problem increases, as well as their intention to seek an answer to the problem increases, also if their intention to seek an answer to the problem increases.

Of all the measures included in our questionnaire, there are two on which teachers do not position themselves. These are concerned with the usefulness of interviews as a means of gathering information

from students suffering from cyberbullying and the importance of the role of Coexistence Commissions in centers to address cyberbullying situations.

Both measures are promoted in our country. On the one hand, interviews serve to collect direct information and assess the situation of cyberbullying. Their usefulness has been observed by Luengo Latorre (2014). In the Save the Children's protocol model for action against harassment and cyberbullying (Sastre 2016), its functionality is clearly defined. On the other hand, the role of Coexistence Commissions is considered decisive in promoting the design and development of information and awareness actions in the educational community (Luengo Latorre 2011). Based on the findings of our study, it is worth questioning whether these are due to the pre-service teachers' lack of knowledge, which would be further evidence of the need to improve initial training.

May this work serve to promote reflection. The perceptions of future teachers have been addressed in depth. We have defined a classification of professionals that allows us to highlight the presence of a group of future teachers who do not consider themselves trained. The suggestions point to the urgency of revising the training. We hope that teacher educators and university leaders will become aware of this.

It should be indicated that this study requires a greater deepening from a more qualitative and global perspective of the objectives; not only focusing on the perceptions that exclusively rely on self-reports, but also through interviews or discussion groups and also encompassing other sectors such as in-service teachers, families, social services, and other health professionals.

Appendix A

Inventory on cyberbullying in education and perceptions of teachers in initial training.

A1. I believe that cyberbullying is a current educational problem.
A2. I believe that there are children and young people who are currently victims of cyberbullying in the educational context.
A3. I am concerned about cyberbullying in education
B1. I feel qualified to identify situations of cyberbullying
B2. I am able to manage cyberbullying situations
B3. If I knew that cyberbullying was taking place in my center/institution, I would intervene immediately.
C1. I think that all teachers should know the protocol of action in cases of bullying.
C2. I think it is necessary to devote efforts to the professional development of teachers, fostering their training in cyberbullying.
C3. I believe that teachers should integrate into the curriculum how to make responsible use of technologies and what their risks are.
C4. I believe that teachers should organize specific classroom activities to raise awareness and provide training in cyberbullying.
C5. I am sure that the Coexistence Commissions promote the continued development of information and awareness-raising activities in cyberbullying at school level.

C6. I understand that interviews are a useful tool for students to express themselves about their cyberbullying experiences.

C7. I value positively that in institutions the Coexistence Commission should be informed of situations of cyberbullying and the disciplinary measures taken.

C8. I think that from the schools, families should be made aware of the importance they play in the prevention of cyberbullying.

C9. I think that centers should coordinate with community resources (social services, health services, nongovernmental organizations, etc.) to address cyberbullying.

C10. I believe that the educational community must be involved and committed in the fight against cyberbullying in schools.

C11. I think that television and other media should discuss and take action on cyberbullying.

C12. I think that students should receive advice on how to deal with cyberbullying.

C13. I believe that schools should organize their spaces and resources to help teachers cope with cyberbullying.

D1. In my current studies (Early Childhood Education undergraduate degree program, Primary Education undergraduate degree program or Secondary Master as appropriate) I am being prepared to manage cyberbullying situations.

D2. I would like to further delve into cyberbullying in the remaining part of the studies I am pursuing

D3. Of all the topics that I would like to see as objects of study in the degree (or I would have liked to see, if you are finishing your studies), I give most importance to cyberbullying.

Appendix B

Item	Minimum	Maximum	M	SD
A1.	1	5	4.42	0.81
A2.	1	5	4.56	0.76
A3.	1	5	4.75	0.57
B1.	1	5	3.1	1.07
B2.	1	5	2.92	1.21
B3.	1	5	4.68	0.72
C1.	1	5	4.95	0.34
C2.	1	5	4.76	0.52
C3.	1	5	4.59	0.69
C4.	2	5	4.57	0.66
C5.	1	5	3.92	1.47
C6.	1	5	3.78	1.03
C7.	2	5	4.64	0.71
C8.	1	5	4.82	0.49
C9.	2	5	4.7	0.59
C10.	2	5	4.81	0.45
C11.	1	5	4.47	0.79
C12.	1	5	4.8	0.48
C13.	1	5	4.6	0.64
D1.	1	5	1.88	1.2
D2.	1	5	4.45	0.78
D3.	1	5	3.34	1.03

Minimum and maximum values mean and standard deviation per item.

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