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Pre-school and primary teachers in the process of detecting child maltreatment in Andalusia (Spain). --Manuscript Draft--

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Running head: Spanish teachers detecting child maltreatment

Abstract:

This study analyzes teachers' knowledge about child maltreatment in the family and explores their professional background in dealing with this problem. 227 pre-school and primary teachers of Andalusia (Spain) participated in the study. The majority of the teachers had never reported a case of child maltreatment during their professional background. These situations were experienced by the teachers with high levels of emotional impact, and both they and their schools showed high levels of involvement in cases identified. Three teacher profiles were categorized, being the group of trained teachers was the most capable of identifying more complex signs of child maltreatment, followed by those with more years of seniority. The process of detection of child maltreatment in the school setting is complex, and a wide range of elements need to be analyzed conjointly.

Keywords: Teacher, child maltreatment, knowledge, detection.

Child maltreatment: the role of school context

Child maltreatment (hereafter CM) is a global problem with serious life-long consequences (World Health Organization [WHO], 2006). Despite the slight decrease observed in CM rates in the 2015-2019 period (4.0%), statistics continue to report high global incidence (Children's Bureau, 2021). In Spain, according to the notifications collected in the Unified Registry of Child Maltreatment (RUMI in its Spanish acronym), a total of 15,688 situations of suspected CM were recorded in 2020, representing a rate of 242.9 cases per 100,000 minors (Children's Observatory [OI], 2021). The most frequent situations were neglect (149.6 cases per 100,000 minors), emotional maltreatment (109.2/100,000) and physical maltreatment (53.6/100,000), with a very low incidence of sexual abuse. However, it is possible that these cases are just "the tip of the iceberg" (Gilbert et al., 2009), according to data provided by different retrospective studies showing that the real incidence of CM tends to be higher than that detected (Pereda, 2016).

Early detection and response to CM can prevent ongoing harm and adverse health outcomes (WHO, 2006). Schools play an important role, not just in preventing child abuse and neglect from occurring, but also in detecting CM (Lago et al., 2021). Education is compulsory in Spain for all children and young people between the ages of 6 and 16 years. School is a privileged setting for detecting and reporting CM because children spend a large portion of their time there, there are professionals with specialized training in childhood, and the close teacher-student interpersonal relationships favor the identification of changes in child development or the uncovering of a problem (Díaz-Aguado, 2001; Soriano, 2008). In accordance with the recent *Organic Law for the comprehensive protection of children and adolescents against violence* in Spain (Spanish acronym LOPIVI; Spanish Government, 2021), it is important to highlight the duty to inform authorities of any situations of violence that may arise, and this duty is particularly applicable to those persons who (by reason of their position, profession, trade or activity) are entrusted with the assistance, care, education or protection of minors (arts. 15 and 16), such as teachers. These professionals are in a unique position

to identify CM and, eventually, to report cases to the appropriate services. However, and although there has been an increase in the number of CM cases reported in recent years from the school setting (Greco & Pereda, 2021), official data continue to show a low level of annual detection of CM in schools (around 11.92% of total notifications in Spain, dropping to 3.3% in Andalusia) compared to cases reported by other institutions or services (OI, 2020; OIA, 2020).

Theoretical background

According to the ecological model, Belsky (1980) pointed out that cultural values and belief systems could influence how people perceive CM. In this way, the sociocultural approach asserts that each person manages to construct their ideas based on their experiences in a world full of meanings, languages, and discourses (Wertsch, 1985). Thus, cultural beliefs can promote processes of signification that the individual acquires at the psychological level and that ultimately regulate their social behavior (Vygostky, 1978). However, this internalization processes can also incorporate misconceptions, forming internal representations that ultimately influence the interpretation and explanation of what happens in their context (Raman & Hodes, 2012).

Lack of knowledge and misconceptions about CM have been shown to influence the detection of these situations (Gonzalez-Sánchez et al., 2021; Pérez de Albeniz et al., 2011; Schols et al., 2013; Weegar & Romano, 2019). Simply observing students is sometimes not enough to detect CM. Liébana et al. (2015) point out that it may be difficult to detect the different physical and behavioral signs presented by students who are experiencing maltreatment. However, Farcas & Roth (2011) report that teachers do recognize physical indicators, but find it more difficult to identify emotional and, again, behavioral indicators. In this sense, several authors have indicated that teacher training in CM is important both to eliminate misconceptions and to help recognize indicators of the different types of maltreatment. In fact, LOPIVI incorporates the obligation for professionals working with children to receive specific training to improve the detection of situations of violence and the response to these situations.

The effects of training in CM detection

The deliberate intervention of other members of the culture, who provide valid and contrasted knowledge, can influence the detection (and reporting) of CM. In this way, the person puts previously acquired knowledge into action in order to restructure it, which becomes a new, more adjusted, valid and reliable internal representation of reality. In this sense, teachers with more training are better at detecting CM without physical violence (Kenny, 2001; Vila et al., 2019), more confident in their ability to recognize indicators of abuse, have a more developed sense of responsibility, and a better understanding of what constitutes reasonable cause for reporting and how to respond appropriately to a child's disclosure of abuse (Hawkins & McCallum, 2001; Sainz et al., 2020). Cerezo and Pons (2004) developed a training plan with 251 education professionals which, after the intervention, led to an increase of 24.5% in the total number of cases reported by schools.

Due to the prominent role of teachers in the detection of CM, the inclusion of specific subjects dealing with this phenomenon in the training of future professionals in higher education seems a relevant topic. Nevertheless, the basic training of primary and pre-school teachers in this area is therefore clearly insufficient. The current regulations about Primary and Pre-school Education University Degrees in Spain (Order ECI/3857/2007 and Order ECI/3854/2007) do not include specific contents about CM; until LOPIVI, the decision about whether to cover or not these issues lies in each university lecturer. Beyond the basic university degree, there are a relevant postgraduate training (e.g. Master's degrees or specific courses) which can be voluntarily chosen by teachers for the exercise of their profession. Anyway, it seems essential that teachers have the opportunity to receive up-to-date and ongoing training in the core aspects of their profession.

There has been little research in Spain focusing on the training and knowledge about CM involving future education professionals or active teachers. Starting with the former, a longitudinal study with 241 pre-school and primary undergraduate students (Author et al., 2018), found that knowledge increased appreciably over the four years of training, although only 2% of the students

correctly completed the entire knowledge assessment questionnaire about CM on completing their degree. In addition, final-year undergraduates in primary and pre-school education showed less knowledge about CM than other final-year students completing degrees in nursing or social work (Author et al., 2018). Once their university studies are complete and teachers take up their posts at schools, they do not have much opportunity to receive any further specialized training that they may require (Schols et al., 2013). This, together with the insufficient training received in higher education, may explain the level of knowledge shown by Spanish teachers regarding CM (Greco et al., 2017; Villa et al., 2019).

As for professional training, theoretical understanding of CM has to be complemented with practical knowledge about the reporting process on the ground (Sainz et al., 2020; Schols et al., 2013). Particularly, there is a single school-based action protocol for all teachers in southern Spain to follow in the event of suspected cases of CM (Andalusian Government, 2011). It is a clear guide outlining signs, procedures, steps to be taken, and persons to be contacted depending on the severity of the case. Nevertheless, teachers are generally unaware of these action guidelines (Real & Jolluskin, 2002; Real & Mohamed, 2011), and attribute it to their lack of training (Liébana et al., 2015). Teachers tend to be unaware and/or feel unsure about where and how they should make the reporting (González & Guinart, 2011; Pérez de Albéniz et al., 2011), and evidence uncertainty regarding the effectiveness of the protocol (González & Guinart, 2011). Thus, García (2005) indicates that, in the absence of training on this subject, teachers may feel confused and very insecure when facing these situations.

Variability in detecting and reporting CM

Some studies have investigated possible variability in detecting and reporting cases of CM, mainly as a function of sociodemographic and professional indicators. Regarding the former, contradictory results have been found as to whether male or female teachers detect and report more frequently (Crenshaw et al., 1995, Kenny, 2001, 2004). As for the professional profile, teachers with greater seniority tend to report a higher number of suspected cases of CM (Goebbels et al., 2008; Greco

et al., 2017). Finally, teachers report both internal barriers (teachers' feeling of guilt towards children, fear of false positives, hesitation about interfering in family life) and external barriers (privacy laws, lack of parental cooperation, lack of support from school management) to reporting cases of CM (Díaz-Aguado, 2001; Farcas & Roth, 2011; González & Guinart, 2001; Pérez de Albéniz et al., 2011; Schols et al., 2013).

Objectives of the study

There is a lack of research investigating teachers' knowledge and background in dealing with CM in Spain. This research aims to address three key objectives:

1. To analyze the degree of reporting of CM (number of different detected cases and notified) from school, as well as the emotional impact of teachers, their personal involvement, and the involvement of the school.
2. To describe teachers' knowledge about CM, in general and specifically in relation to school protocol, and how these may relate to specialized training received about CM.
3. To identify teacher profiles according to their knowledge, training, and experience in dealing with CM, examining differences associated with sociodemographic characteristics.

METHOD

Participants

The sample consisted of 227 pre-school ($n = 99$, 43.6%) and primary ($n = 128$, 56.4%) teachers from schools throughout Andalusia (southern Spain): 33% ($n = 75$) were from the province of Huelva; 26.4% ($n = 60$) from Seville; 24.7% ($n = 56$) from Cadiz; and 15.9% from Jaen ($n = 36$). Of these 78% ($n = 177$) were women and 22% ($n = 50$) men, with a mean age of approximately 43 years ($M = 43.01$, $SD = 9.57$). On average, participants had a seniority (had been in their profession) of 17 years ($M = 17.30$, $SD = 9.61$).

Instruments

The information was collected through a questionnaire that addressed the following dimensions:

- Sociodemographic (age and sex) and professional data (educational stage, years of seniority, of the participants. In addition, the teachers answered whether they considered specialized training in CM important for their teaching profession (yes or no) and whether they had received it or not. Teachers' experience/background in dealing with CM. Five *ad hoc* questions addressed whether each teacher had notified (whereby detection/identify means that the CM has been both recognized and notified) any case of CM in his or her professional career; if so, the type/s of different CM notified (neglect, physical maltreatment, emotional maltreatment, labor exploitation, sexual abuse, and Münchausen syndrome by proxy); the level of emotional impact experienced by the teacher; his/her degree of personal involvement in these cases; and the level of participation and collaboration of the school (school involvement) in the notified cases of CM. The last three questions were asked with a response scale from 1 (minimum involvement or impact) to 10 (maximum involvement or impact).
- Knowledge about CM. This instrument assesses the level of knowledge about CM. Based on the material published by the Federation of Associations for the Prevention of Child Maltreatment (FAPMI, 2010) and Queen Sofia Center (Sanmartin, 2001), we developed a scale of 15 *ad hoc* statements (11 false and 4 true) on the origin, incidence, characteristics and consequences of CM. Each statement is answered *agree or disagree* according to the own knowledge. Each correct answer is scored with 1, and the sum of them gave a final score (range 0-15); the higher the score, the greater the knowledge about CM. Internal consistency of this scale was $KR20 = .70$.
- Knowledge about the school-based action protocol in cases of CM. This *ad hoc* scale assesses the level of knowledge about school-based protocol in cases of CM. Based on the

guidelines laid down by the competent authorities in the context of this study (Andalusian Government, 2011), seven statements (2 false and 5 true) on the procedure to be followed by the school in situations of suspected CM were developed). Each statement is answered *agree* or *disagree* according to the knowledge about this protocol. Each correct answer is scored with 1, and the sum of them gave a final score (range 0-7); the higher the score, the greater the knowledge about the school-based action protocol in cases of CM. Internal consistency was $KR20 = .72$.

- Training in CM. Two *ad hoc* questions, with a dichotomous response scale (*yes/no*), on whether the teacher had received any type of training in CM and whether they believed that such training was necessary.

Procedure

The study design was descriptive, quantitative, transversal, and integrating non probability (convenience sample, for the selection of the schools; and volunteer sample, for the selection of the teachers from each school). The sample of schools that participated in this study were selected from a list of pre- and primary centers with which the research team had previous contact for teaching and/or research purposes ($n = 79$); the management teams of 41 of these 79 schools (51.9%) agreed to participate. After the school management agreed to participate, teachers were personally informed of the details of the research and asked to voluntarily participate. Those who were interested completed and signed an Informed Consent Form, in which they stated that they had received all the information about the research, agreed to voluntarily collaborate, and gave permission to analyze and publish the resulting data. The participating teachers subsequently completed the evaluation instruments (see Appendix) after receiving them by mail or after making an appointment with one of the members of the research team. This non-interventional study (based by surveys) complies with the Declaration of Helsinki and current Spanish legislation on research involving human subjects. Ethical approval by ethics committee was not required.

Plan of Analysis

Data were processed and analyzed mainly with SPSS-25 (IBM Copr. Released, 2017). The analyses were computed with the full study sample, as there were no statistically significant differences between pre-school and primary school teachers in any of the variables included in the study. Previously, the absence of both univariate and multivariate outliers was checked (by examining box-and-whisker plots and calculating the Mahalanobis distance, respectively), as well as the requirements for the use of parametric tests (Hair et al., 2019).

For the descriptive analyses of quantitative variables means and standard deviations were calculated, and for qualitative variables frequencies and percentages were computed. Likewise, regarding to bivariate analyses, Student's *t* and Snedecor's *F* statistics were used for means comparison, and Chi-Square were computed for the study of the distribution of frequencies. With regard to correlations Cohen's *r* statistic was used, and the effect size was estimated according to: $r = .00 \leq .10$, null correlation; $0.10 \leq 0.30$, weak; $.30 \leq .50$, moderate; $.50 \leq 1$, strong.

Some indicators were transformed beforehand, specifically those referring to general knowledge about CM and school-based action protocol. Since the response scale is dichotomous in both cases, internal consistency was assessed with the KR20 index (Zaidi et al., 2018; Zubairi and Kassim, 2016) using TAP software (Brooks and Johanson, 2003). In accordance with recommendations for item difficulty analysis (e.g., Carr, 2011; Mahjabeen et al., 2017), participants with at least 70% correct answers to the items of each test (> 10 in knowledge about CM, > 4 in knowledge about the school-based action protocol) were considered in each case as *informed*; the rest were classified as *uninformed* about CM (≤ 10 correct answers) or about the school-based action protocol (≤ 4 correct answers).

To address Objective 3 a multivariate analysis were computed, specifically a Two-Step Cluster Analysis (hereafter TCA). TCA allows the identification of the grouping of similar cases according to

a set of both continuous and categorical variables, and automatically (exclusively based on statistical criteria, without the intervention of the researcher) provides the optimal number of clusters (Kaufman & Rousseeuw, 2009; Rubio-Hurtado & Vilà-Baños, 2017). The specific characterization of each cluster is examined in a second step of TCA, through bivariate contrasts considering the membership group as dependent variable and the scores introduced in the analysis as independent variables. The TCA was computed with the log-likelihood statistic as distance measure, and with *Bayes Information Criterion* (BIC) as the criterion for the algorithm to determine the optimal number of clusters (specifically, the solution with lower BIC values and higher BIC Change Ratio values). The goodness of the grouping established by the TCA was considered *poor*, *correct* or *good* based on the quality coefficient or silhouette measure.

RESULTS

1. Teachers' background in dealing with child maltreatment.

The majority (67.4% ($n = 153$)) of the sample had never reported cases of CM during their teaching career, while 32.6% ($n = 74$) had done it at least one case. Of the latter, 39.2% ($n = 29$) had reported one type of CM, 25.7% ($n = 19$) two, 23% ($n = 17$) three, and the rest ($n = 9$; 12.2%) four or more types of maltreatment. In general (see Table 1), these situations were experienced by the participants with high levels of emotional impact and their personal involvement was high, as was that of the school from their perspective. These three scores were positively and statistically significantly related to each other (see Table 1), reached strong correlations.

[INSERT TABLE 1 HERE]

The types of CM most frequently notified were neglect, physical and emotional maltreatment (see Table 2). In general, teachers reported high levels of both emotional impact and personal involvement related to the cases and, for all types of CM, school involvement was on average high. Correlation analyses showed that emotional impact, personal involvement, and school involvement

were positively and statistically significantly related (see Table 2). Specifically, the relationships between emotional impact and school involvement and the different types of maltreatment reported, reached a strong correlation. Personal involvement, on the other hand, correlated weakly with the detection of neglect and moderately with emotional maltreatment (see Table 2).

[INSERT TABLE 2 HERE]

2. Knowledge regarding child maltreatment.

2.1. General knowledge about CM.

Table 3 presents results of the 15 statements in the questionnaire on general knowledge about CM in decreasing order according to the percentage of correct answers. The mean number of correct answers was 11.23 ($SD = 2.46$), with a minimum of 3 ($n = 5, 2.2\%$) and a maximum of 15 ($n = 6, 2.6\%$). To analyze the characteristics of the teachers in terms of their knowledge about CM, two groups were formed according to the number of correct answers following the guidelines above described (see Plan of analysis). A total of 71.1% ($n = 160$) of the teachers had a reasonably good knowledge about CM (*informed* CM group), while 28.9% ($n = 65$) belonged to the *uninformed* CM group because they answered fewer than 10 of the statements correctly.

[INSERT TABLE 3 HERE]

2.2. Specific knowledge of the school-based action protocol in cases of CM.

Table 4 shows the descriptive data for each of the questionnaire's statements. The correct answers ranged around a mean of 4.55 ($SD = 1.10$), with a minimum of 2 and a maximum of 7 ($n = 6, 3.3\%$ in both cases). Results of the 7 statements of the questionnaire are presented in decreasing order, according to the percentage of correct answers. Using the procedure described in the Plan of Analysis, two groups were formed according to their degree of knowledge about the guidelines for action in the school in cases of CM. Specifically, 58.4% of the sample ($n = 118$) was included in the *protocol-informed* group and 41.6% ($n = 84$) in the *protocol-uninformed* group.

[INSERT TABLE 4 HERE]

The results on both types of knowledge were correlated. The analysis showed that the number of correct answers in both questionnaires was positively and statistically significantly related ($r = .331$, $p < .001$).

3. Teacher training in child maltreatment.

The majority ($n = 208$, 91.6%) of the sample considered that specialized training in CM is fundamental for improving the identification of and response to these cases in the school setting. However, 74% ($n = 168$) of the participants had no specific training in CM.

No relationship was found between having training in CM and the degree of specific knowledge about the school-based action protocol, but there was a relationship with general knowledge of CM. Thus, teachers with training gave a greater number of correct answers ($M = 12.14$, $SD = 1.76$) than untrained teachers ($M = 10.91$, $SD = 2.59$) ($t(223) = 3.33$, $p = .001$), and they mostly belonged to the *CM informed* group (82.2%, $\chi^2(226) = 4.32$, $p = .032$, $Phi = .150$). In addition, teachers with training had reported more cases of CM in their years of seniority ($\chi^2(201) = 6.81$, $p = .009$, $Phi = .182$), and more diverse cases in terms of their typology ($t(72) = 2.33$, $p = .022$). In turn, these situations had affected to a greater degree ($t(71) = 2.12$, $p = .037$) teachers with training ($M = 7.74$, $SD = 1.50$) than those who had not received training ($M = 6.78$, $SD = 2.07$). Differences in personal involvement in these cases between trained ($M = 7.97$, $SD = 1.45$) and untrained ($M = 6.97$, $SD = 2.07$) participants were also statistically different ($t(71) = 2.34$, $p = .022$).

4. Teacher profiles on the basis of training, knowledge and experience in dealing with child maltreatment.

4.1. Typology of teachers.

To jointly analyze the results on training, knowledge, and experience in dealing with CM at school, a TCA was computed with four indicators, two of which were ordinal (reported cases and specialized training) and two continuous (knowledge about CM and about the school-based action protocol). The results found three clusters, with a measure of good quality according to the silhouette analysis (see

Figure 1). Specifically, this solution (log-likelihood = 2.66) shows both the lowest BIC value (352.49) and the highest BIC Change Ratio value (-120.71).

[INSERT FIGURE 1 HERE]

To examine the characterization of each of these three clusters, in a second phase, we performed bivariate contrasts between the membership cluster and the four indicators introduced in the TCA (see Table 5).

[INSERT TABLE 5 HERE]

As can be seen, C1 ($n = 42$, 25.5%) included all teachers with training in CM, most ($n = 25$, 59.5%) of whom had reported cases of maltreatment at some point in their years of seniority, and were characterized by a high level of knowledge about CM. On the other hand, C2 ($n = 86$, 52.1%) was defined by not having received specialized training, not having reported cases of maltreatment in their professional career, and having moderate levels of knowledge about CM. Finally, C3 ($n = 37$, 22.4%) was characterized by the fact that none of its members had received specialized training in CM, all had reported cases of maltreatment, and their knowledge about this problem was limited. No differences were observed among the three clusters in terms of specific knowledge about the school-based action protocol.

Bivariate analyses were computed relating the teachers' experience with CM (different types reported, emotional impact, and personal and school involvement) and their degree of knowledge (*informed - uninformed of CM, informed – uninformed of protocol*) (see Table 6). The members of C1 were characterized by being informed about the phenomenon of CM, by having reported more different types of maltreatment, and by having experienced these situations with a high emotional impact. On the other hand, the teachers in C3 showed low variability in the type of maltreatment detected. Finally, C2 was not defined in a statistically relevant way by any of the indicators.

[INSERT TABLE 6 HERE]

4.2. Sociodemographic characterization of the teaching profiles.

As Table 7 illustrates, women were the majority in C2, while C1 and C3 were mainly men. The results regarding age and years of seniority offered a similar profile: both indicators were lower in C1, intermediate in C2 and statistically high in C3.

[INSERT TABLE 7 HERE]

DISCUSSION

The purpose of this work was to analyze the phenomenon of CM at school from the teachers' perspective. Most teachers have not detected cases of CM in their students over the course of their teaching career (whereby detection means that the CM has been both recognize and notified). These results coincide with population-based evidence (OI, 2020; OIA, 2020) and research with specific samples (Liébana et al., 2015; Pérez de Albéniz et al., 2011), which highlight the very modest role played by schools in the detection of CM. Taking into account that in Spain the approximate incidence rate is just over 200 cases per 100,000 minors (OI, 2020), and that in our country all minors are or should be at school, despite its privileged position (Díaz-Aguado, 2001; Soriano, 2008; WHO, 2006), school in this country is proving incapable of playing an effective role in reporting situations in which minors are victims of CM.

As for the teachers' experience in dealing with these situations, the results show that they tend to become quite involved in the cases of CM, and these situations affect them considerably at an emotional level, and in general they perceive significant levels of support from the school. These indicators have also been shown to be interrelated, in such a way that, in cases of CM, the teachers who are most involved tend to be those who feel most affected by the situation, but they are also the ones who receive the most support from the school. These issues have scarcely been addressed in previous research, so that, as far as is known, we have no data in our country on the personal experience of teachers when reporting abuse. However, the high emotional impact that teachers experience when facing this situation is evident, so that doubts about the consequences and implications of detection, as

well as fear of the process itself, may become barriers to be taken into consideration when explaining the low incidence of CM detection at school (Díaz-Aguado, 2001; Farcas & Roth, 2011; González & Guinart, 2001; Pérez de Albéniz, et al., 2011; Schols et al., 2013). In any case, we find the results obtained regarding the high involvement of schools noteworthy, especially in cases that are more intensely experienced by teachers. These results would appear to contradict possible lack of support from the school as a barrier to notify (Díaz-Aguado, 2001; González & Guinart, 2001; Pérez de Albéniz, et al., 2011).

Likewise, previous studies have specifically pointed out how poor or erroneous knowledge can be an impediment to detect cases from school (Goebbels et al., 2008; Gonzalez-Sánchez et al., 2021). In accordance with other authors (Greco et al., 2017; Vila et al., 2019), teachers' general knowledge about this problem is, on average, not low, but moderate. However, it is worth noting that approximately 3 out of 10 teachers with specialized training in childhood, and whose work involves frequent and close contact with minors, had little or erroneous knowledge about what CM is, what it consists of, and/or the way it manifests, along the same lines as other studies in our country (e.g., Liébana et al., 2011). With respect to knowledge about school-based action protocol (Andalusian Government, 2011), only around 5 out of 10 participants in this study were clear about what to do in these situations, a result that is consistent with the lack of knowledge found in other studies (González & Guinart, 2011; Farcas and Roth, 2011; Liébana et al., 2015; Pérez de Albéniz et al., 2011; Real & Jolluskin, 2002).

Regarding the extent of training in CM, previous evidence shows how most teachers feel unprepared to tackle CM in schools and consider that such preparation is very necessary (Gonzalez-Sánchez et al., 2021; Greco et al., 2017; Vila et al., 2019). On this point, we would like to draw attention to the scarcity of training available to teachers in CM, training that the vast majority see as fundamental. This is no surprise given that one is unlikely to receive courses on this subject in either higher education or continuing professional development. The lack of training possibilities in this area

is particularly worrying, given the available evidence on how training favors knowledge about CM and optimizes its detection (Cerezo & Pons, 2004; Goebbels et al., 2008; Greco et al., 2017; Hawkins & McCallum, 2001; Sethi et al., 2018). The results of this study point in the same direction: teachers with specialized training had better general knowledge about CM, had identified more cases and types of maltreatment, and were more involved than those without training. It would have been interesting to know the type of training that the teachers in our sample have received (e.g. in the framework of a master's degree or specific courses offered by the continuing professional development plans) in order to detect which of them improve the process of detection of CM.

However, analyses showed that general training in CM was not associated with better applied knowledge about the school-based action protocol. This is probably at least partly related to the fact that each management team is in charge of activating and monitoring the protocol and, therefore, a teacher who has not held management positions has probably not received this training. Once again, we are observing the discretionary nature of training teachers in both general and applied issues related to CM. These results confirm LOPIVI's recommendation that higher education institutions incorporate specific content on prevention, early detection and intervention in cases of violence in childhood and adolescence into the curricula of those professions that have regular contact with children and adolescents (articles 36 and 37). This research also invite reflection on the content of such training and the way it is provided. Furthermore, it would be advisable to create spaces for reflection and debate in schools in which all members of the educational community participate (Greco & Pereda, 2021). According to the sociocultural perspective, these interpersonal spaces would allow the construction of a common framework, at the level of meanings, languages and discourses, which would favour the process of detecting CM in each school. Likewise, these spaces for the construction of shared knowledge could reduce the levels of unaware detected in the teaching staff (González & Guinart, 2011; Pérez de Albéniz et al., 2011).

In this study, the indicators mentioned earlier have been examined jointly, enabling the identification of three distinct profiles. The C1 underlined the importance of training and having a high level of knowledge about CM. This cluster of younger teachers had not only notified a high number of CM but had also detected a greater variability of types of maltreatment. Thus, while it may be difficult to detect different signs of maltreatment, especially emotional and behavioral signs (Farcas & Roth, 2015; Liébana et al., 2011), teachers who have received more training may be capable of identifying more varied and complex signs of the phenomenon (Kenny, 2001). Thus, the identification of CM is more feasible when there is previous training and knowledge; spending many hours accompanying students is not enough (Soriano, 2008). These results clearly indicate that the improvement required in training on CM is not solely to do with quantity (more content on the subject, both in university studies and in subsequent continuing professional development plans) but also content (subjects and courses that facilitate specialized knowledge about this phenomenon, but also of the specific mechanisms and resources to address it from the school). Studies that have focused on the results of training interventions have emphasized the need to address the more procedural aspects of the reality of CM at school (Cerezo & Pons, 2004; Hawkins & McCallum, 2001; Kenny, 2001) to improve the effectiveness of the school context in detecting cases.

The other cluster with higher reports of this phenomenon was C3. These teachers, with many years of seniority, were not noted for either previous training or their knowledge about the subject. The results show the important role that seniority can play and the value that professional experience can have for teachers who have not had the opportunity of training in CM. These contents were probably not part of the curriculum when they studied at university and the lack of continuing professional development opportunities has since meant they were unable to receive training in this area. However, in line with other research, we observed that teachers with more seniority reported a greater number of cases of abuse (Goebbels et al., 2008; Gonzalez-Sánchez et al., 2021; Greco et al., 2017); however, we did not find in this cluster the high variability of CM typologies found in those

teachers with training and knowledge. In any case, it is possible that their years of seniority and professional roles —perhaps in management positions—, compensated for the lack of training, and gave them greater security and confidence when tackling these situations (García, 2005). In this line, we would like to highlight that detecting CM is a sensitive process, and that it will be the Child Protection Service who will determine the existence or not of maltreatment. However, the fact that senior teachers accumulate a higher frequency of reports may be related to the schools' satisfactory accompaniment of teachers in dealing with CM. It may be these senior teachers who, from management positions, accompany those with less professional background in the process of detection CM.

Finally, C2 was characterized by low reports and training compared to the other teacher profiles. This cluster included slightly over half of the sample, i.e., it represented the majority of teachers in this study. C2 consisted mainly of female teachers, a result that contradicts the bivariate analyses in this same paper regarding detection according to the gender of the teacher. Once again, and in line with the existing literature, we have met with contradictions as to whether female or male teachers detect CM more frequently (Crenshaw et al., 1995; Kenny, 2001, 2004).

In the examination of teacher profiles, we found that the only indicator for which no statistical differences were found between clusters was specific knowledge about the school-based action protocol. Thus, regardless of general knowledge about CM, specialized training on this phenomenon, and even experience in reporting cases of CM, there was little difference over the more practical and procedural issues among the three teacher profiles. In our opinion, the typology identified shows that CM in the school context is a complex reality involving very diverse issues that should be analyzed both as a whole and separately.

This work has a series of limitations that should be noted. On the one hand, we used non-standardized instruments designed *ad hoc* based on materials from other authors because we could not find any instruments to assess these subjects with greater psychometric validity. On the other hand, while the sample could be considered large, it was limited to southern Spain. Nevertheless, this study

offers interesting results, which are in line with studies carried out in different parts of Spain and in other countries. These findings allow us to highlight key aspects related to CM in terms of both research and professional practice.

We believe future research should address CM in schools in greater detail, covering specific types of maltreatment, and including other forms of maltreatment that have been recognized and conceptualized more recently. In addition, the experience of teachers in dealing with these cases should be addressed in greater depth, as there is very little information on this subject in the literature. It would also be interesting to gauge the extent to which schools follow up cases once the competent authority has been notified, given that the lack of training detected among the teaching staff may also limit the fulfillment of this task.

In short, we have found in this study sample that the reporting of CM by schools is poor. In addition, the findings have also underlined the connection between training and knowledge about the phenomenon of CM and its detection and reporting. Fortunately, in Spain there is a school protocol for action when a case of CM is suspected; however, it is essentially rendered worthless as teachers are unaware of its existence and procedures. For teachers to be able to detect and intervene promptly they require special training that covers misconceptions about CM, physical and behavioral indicators of maltreatment and how to respond to signs of possible abuse, and protocols for action upon identification (WHO, 2006). Likewise, we are aware of how important it is for teachers to have the backing and support of their educational institution and society in general for them to feel secure, this is one of the main external barriers detected in other studies (Mactavish et al., 2017; Schols et al., 2013). According to WHO (2022), the prevention of CM requires a multisector approach, with the school being a key social sector in the early recognition of cases, and this needs to be recognized with a coherent, integrated system of policies. The more effective the collaboration between services, the more likely it is that satisfactory results for preventing and responding to CM will be obtained, and the greater the benefits to the child and the society (Greco & Pereda, 2021; WHO 2022). Therefore, the

creation of intersectoral networks should be promoted and the school's relationships with other health, social and legal sectors should be strengthened. The work of the school in the area of CM does not end with the notification of the case: networking between different sectors, the joint approach (health, legal, social, and school) and continuing attention for child victims and their families are all decisive for the effective protection of the child (WHO, 2006, 2022).

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Table 1*Teacher's background in dealing with CM.*

	<i>M (SD)</i>	<i>r</i> ₁₂	<i>r</i> ₁₃	<i>r</i> ₂₃
1. Emotional impact	7.15 (1.92)	.539****	.294***	.611****
2. Personal involvement	7.37 (1.83)			
3. School involvement	7.10 (2.01)			

*** $p < .005$ **** $p < .001$

Table 2*Teacher's background in dealing with the different types of CM.*

Types of maltreatment (<i>n</i> , %)	1. Emotional impact <i>M (SD)</i>	2. Personal involvement <i>M (SD)</i>	3. School involvement <i>M (SD)</i>	<i>r</i> ₁₂	<i>r</i> ₁₃	<i>r</i> ₂₃
Neglect (54, 25.8%)	7.53 (1.62)	7.69 (1.90)	7.24 (2.06)	.642****	.283*	.575****
Physical maltreatment (37, 17.7%)	6.75 (1.88)	7 (1.91)	6.83 (2.16)	.627****	ns	.476****
Emotional maltreatment (34, 16.3%)	7.78 (1.62)	7.94 (1.74)	6.58 (1.82)	.591****	.415**	.763****
Labor exploitation (14, 6.7%)	6.31 (2.02)	6.77 (2.01)	7.31 (1.38)	na	na	na
Sexual abuse (6, 2.9%)	10 (0)	8.20 (2.17)	10 (0)	na	na	na
Munchausen Syndrome by proxy (7, 3.4%)	6.29 (1.11)	6.75 (1.67)	6.63 (1.85)	na	na	na
Begging (6, 2.9%)	6 (3.24)	7.20 (1.64)	6.80 (2.28)	na	na	na

na = not applicable (*n* insufficient), ns = not significant, * $p < .05$ ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 3.*General knowledge about CM.*

	Correct answer	n (%)
Maltreatment only affects low or disadvantaged social classes	False	216 (94.7%)
Boys do not suffer sexual abuse, as this only affects girls	False	214 (93.9%)
Maltreatment is only considered to exist when the person who commits it is aware of what he/she is doing	False	210 (92.1%)
Maltreatment always occurs in the family setting	False	206 (90.4%)
Child maltreatment can sometimes be justified by children's behavior	False	207 (90.8%)
The identification of situations of child maltreatment in Spain is an exclusive obligation of the Social Services	False	204 (89.5%)
The rehabilitation of abusers is possible through continuous and specialized work	True	197 (86.4%)
Adolescents are potential victims of maltreatment, just like boys and girls	True	192 (84.2%)
All people who are abused in childhood will be abusers in the future	False	188 (82.5%)
Neglect (i.e., maltreatment by abandoning the basic needs of children) is more frequent than physical abuse	True	159 (69.7%)
People who mistreat children are perverse, mentally ill or drug addicts	False	155 (68%)
Violence and love can occur at the same time within the same family	True	122 (53.5%)
When there are signs of a situation of maltreatment, we should only report it if we are sure about it	False	105 (46.1%)
People who mistreat children should be removed from society and placed in correctional or mental health facilities	False	93 (40.8%)
It is easy to identify maltreatment if it occurs in our immediate surroundings	False	91 (39.9%)

Table 4.*Knowledge about the school-based action protocol in situations of CM.*

	Correct answer	<i>n</i> (%)
Talking to the child directly is one of the initial assessment options included in the detection and action protocol	True	187 (88.2%)
The submission of the Detection and Notification Sheet to the corresponding service exempts the school from any possible action or intervention with the child	False	183 (87.1%)
Notifying a situation of maltreatment is the same as reporting it	False	168 (78.1%)
I should act straightaway on suspicion of abuse, without having to consult with anyone beforehand	False	155 (68.6%)
If the child presented injuries, I would first take him/her to the health center for a clinical evaluation and then inform the family.	True	102 (48.8%)
At school, the reporting of a situation of child maltreatment is the responsibility of the school's principals	False	105 (47.3%)
Cases of maltreatment are always reported to the same service, regardless of the severity of the maltreatment detected	False	88 (44.9%)

Table 5.

Characterization of the three clusters formed by the TCA: Bivariate contrasts.

	C1 (yTnR) (<i>n</i> = 42, 25.5%)	C2 (nTnR) (<i>n</i> = 86, 52.1%)	C3 (nTyR) (<i>n</i> = 37, 22.4%)	Contingency tables	
	<i>n</i> (%) <i>r_z</i>	<i>n</i> (%) <i>r_z</i>	<i>n</i> (%) <i>r_z</i>		
Reported of CM					
Yes	25 (40.3%) 3.4	0 (0%) -10.4	37 (59.7%) 8.9	$\chi^2(2) = 121.86, p < .001,$	
No	17 (16.5%) -3.4	86 (83.5%) 10.4	0 (0%) -8.9	$V_{\text{Cramer}} = 0.86$	
Training in CM					
Yes	42 (100%) 12.8	0 (0%) -7.8	0 (0%) -4.0	$\chi^2(2) = 165, p < .001,$	
No	0 (0%) -12.8	86 (69.9%) 7.8	37 (30.1%) 4.0	$V_{\text{Cramer}} = 1$	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	ANOVA	
				<i>F</i> _{Snedecor}	Bonferroni
				$F(2,162) = C1-C2^*$	
Knowledge about CM	12.50 (1.65)	11.21 (1.87)	9.70 (4.05)	12.49, $p < .001$	$< C1-C3^{****}$ $C2-C3^{**}$
Knowledge about the					
school-based action	4.43 (1.08)	4.67 (1.12)	4.32 (1.13)	ns	-
protocol					

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

ns = not significant, * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 6.

Teacher profiles: relation between knowledge and background dealing with CM.

	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	Contingency tables
	<i>n (%) r_z</i>	<i>n (%) r_z</i>	<i>n (%) r_z</i>	
Knowledge about CM				
(groups)				
Uninformed of CM	4 (8.55%) -3.2	28 (59.6%) 1.2	15 (31.9%) 1.8	$\chi^2(2) = 10.75, p = .005,$ $V_{\text{Cramer}} = 0.25$
Informed of CM	38 (32.2%) 3.2	58 (49.2%) -1.2	22 (18.6%) -1.8	
Knowledge about the				
school-based action				
protocol (groups)				
Protocol-uninformed	18 (26.1%) 0.2	34 (49.3%) -0.6	17 (24.6%) 0.6	ns
Protocol-informed	24 (25%) -0.2	52 (54.2%) 0.6	20 (20.8%) -0.6	
	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	<i>t_{Student}</i>
Number of different CM cases reported	2.72 (1.24)	-	1.94 (0.88)	$t(60) = 2.87, p = .006$
Average emotional impact ^a	7.71 (1.51)	-	6.57 (1.90)	$t(59) = 2.50, p = .016$
Average personal involvement ^a	7.85 (1.46)	-	7.10 (1.80)	ns
Average school involvement ^a	7.40 (1.74)	-	7.20 (1.97)	ns

^aThree means were computed for emotional impact and personal involvement about CM cases reported, and for school involvement in the CM cases.

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7.

Teacher profiles: relation between sociodemographic and professional characteristics.

	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	Contingency tables	
	<i>n (%) r_z</i>	<i>n (%) r_z</i>	<i>n (%) r_z</i>		
Gender					
Females	27 (21.3%) -2.3	77 (60.6%) 4.0	23 (18.1%) -2.4	$\chi^2(2) = 16.01, p < .001,$	
Males	15 (39.5%) 2.3	9 (23.7%) -4.0	14 (36.8%) 2.4	$V_{\text{Cramer}} = 0.31$	
	C1(yTnR)	C2(nTnR)	C3(nTyR)	ANOVA	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i> _{Snedecor}	Bonferroni
Age	40.17 (8.32)	42.22 (9.81)	47.11 (8.95)	$F(2,161) = 5.86, p = .003$	C1-C3** C2-C3*
Years of seniority	14.17 (8.81)	16.51 (9.79)	21.38 (8.86)	$F(2,162) = 6.11, p = .003$	C1-C3** C2-C3*

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

* $p < .05$, ** $p < .01$, *** $p < .001$.

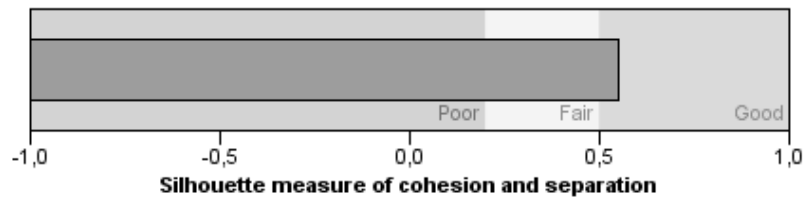
Figure 1.

Results of the TCA.

Model Summary

Algorithm	TwoStep
Inputs	4
Clusters	3

Cluster Quality



Title: Pre-school and primary teachers in the process of detecting child maltreatment in Andalusia (Spain).

Running head: Spanish teachers detecting child maltreatment

Abstract:

This study analyzes teachers' knowledge about child maltreatment in the family and explores their professional background in dealing with this problem. 227 pre-school and primary teachers of Andalusia (Spain) participated in the study. The majority of the teachers had never reported a case of child maltreatment during their professional background. These situations were experienced by the teachers with high levels of emotional impact, and both they and their schools showed high levels of involvement in cases identified. Three teacher profiles were categorized, being the group of trained teachers was the most capable of identifying more complex signs of child maltreatment, followed by those with more years of seniority. The process of detection of child maltreatment in the school setting is complex, and a wide range of elements need to be analyzed conjointly.

Keywords: Teacher, child maltreatment, knowledge, detection.

Child maltreatment: the role of school context

Child maltreatment (hereafter CM) is a global problem with serious life-long consequences (World Health Organization [WHO], 2006). Despite the slight decrease observed in CM rates in the 2015-2019 period (4.0%), statistics continue to report high global incidence (Children's Bureau, 2021). In Spain, according to the notifications collected in the Unified Registry of Child Maltreatment (RUMI in its Spanish acronym), a total of 15,688 situations of suspected CM were recorded in 2020, representing a rate of 242.9 cases per 100,000 minors (Children's Observatory [OI], 2021). The most frequent situations were neglect (149.6 cases per 100,000 minors), emotional maltreatment (109.2/100,000) and physical maltreatment (53.6/100,000), with a very low incidence of sexual abuse. However, it is possible that these cases are just "the tip of the iceberg" (Gilbert et al., 2009), according to data provided by different retrospective studies showing that the real incidence of CM tends to be higher than that detected (Pereda, 2016).

Early detection and response to CM can prevent ongoing harm and adverse health outcomes (WHO, 2006). Schools play an important role, not just in preventing child abuse and neglect from occurring, but also in detecting CM (Lago et al., 2021). Education is compulsory in Spain for all children and young people between the ages of 6 and 16 years. School is a privileged setting for detecting and reporting CM because children spend a large portion of their time there, there are professionals with specialized training in childhood, and the close teacher-student interpersonal relationships favor the identification of changes in child development or the uncovering of a problem (Díaz-Aguado, 2001; Soriano, 2008). In accordance with the recent *Organic Law for the comprehensive protection of children and adolescents against violence* in Spain (Spanish acronym LOPIVI; Spanish Government, 2021), it is important to highlight the duty to inform authorities of any situations of violence that may arise, and this duty is particularly applicable to those persons who (by reason of their position, profession, trade or activity) are entrusted with the assistance, care, education or protection of minors (arts. 15 and 16), such as teachers. These professionals are in a unique position

to identify CM and, eventually, to report cases to the appropriate services. However, and although there has been an increase in the number of CM cases reported in recent years from the school setting (Greco & Pereda, 2021), official data continue to show a low level of annual detection of CM in schools (around 11.92% of total notifications in Spain, dropping to 3.3% in Andalusia) compared to cases reported by other institutions or services (OI, 2020; OIA, 2020).

Theoretical background

According to the ecological model, Belsky (1980) pointed out that cultural values and belief systems could influence how people perceive CM. In this way, the sociocultural approach asserts that each person manages to construct their ideas based on their experiences in a world full of meanings, languages, and discourses (Wertsch, 1985). Thus, cultural beliefs can promote processes of signification that the individual acquires at the psychological level and that ultimately regulate their social behavior (Vygostky, 1978). However, this internalization processes can also incorporate misconceptions, forming internal representations that ultimately influence the interpretation and explanation of what happens in their context (Raman & Hodes, 2012).

Lack of knowledge and misconceptions about CM have been shown to influence the detection of these situations (Gonzalez-Sánchez et al., 2021; Pérez de Albeniz et al., 2011; Schols et al., 2013; Weegar & Romano, 2019). Simply observing students is sometimes not enough to detect CM. Liébana et al. (2015) point out that it may be difficult to detect the different physical and behavioral signs presented by students who are experiencing maltreatment. However, Farcas & Roth (2011) report that teachers do recognize physical indicators, but find it more difficult to identify emotional and, again, behavioral indicators. In this sense, several authors have indicated that teacher training in CM is important both to eliminate misconceptions and to help recognize indicators of the different types of maltreatment. In fact, LOPIVI incorporates the obligation for professionals working with children to receive specific training to improve the detection of situations of violence and the response to these situations.

The effects of training in CM detection

The deliberate intervention of other members of the culture, who provide valid and contrasted knowledge, can influence the detection (and reporting) of CM. In this way, the person puts previously acquired knowledge into action in order to restructure it, which becomes a new, more adjusted, valid and reliable internal representation of reality. In this sense, teachers with more training are better at detecting CM without physical violence (Kenny, 2001; Vila et al., 2019), more confident in their ability to recognize indicators of abuse, have a more developed sense of responsibility, and a better understanding of what constitutes reasonable cause for reporting and how to respond appropriately to a child's disclosure of abuse (Hawkins & McCallum, 2001; Sainz et al., 2020). Cerezo and Pons (2004) developed a training plan with 251 education professionals which, after the intervention, led to an increase of 24.5% in the total number of cases reported by schools.

Due to the prominent role of teachers in the detection of CM, the inclusion of specific subjects dealing with this phenomenon in the training of future professionals in higher education seems a relevant topic. Nevertheless, the basic training of primary and pre-school teachers in this area is therefore clearly insufficient. The current regulations about Primary and Pre-school Education University Degrees in Spain (Order ECI/3857/2007 and Order ECI/3854/2007) do not include specific contents about CM; until LOPIVI, the decision about whether to cover or not these issues lies in each university lecturer. Beyond the basic university degree, there are a relevant postgraduate training (e.g. Master's degrees or specific courses) which can be voluntarily chosen by teachers for the exercise of their profession. Anyway, it seems essential that teachers have the opportunity to receive up-to-date and ongoing training in the core aspects of their profession.

There has been little research in Spain focusing on the training and knowledge about CM involving future education professionals or active teachers. Starting with the former, a longitudinal study with 241 pre-school and primary undergraduate students (Author et al., 2018), found that knowledge increased appreciably over the four years of training, although only 2% of the students

correctly completed the entire knowledge assessment questionnaire about CM on completing their degree. In addition, final-year undergraduates in primary and pre-school education showed less knowledge about CM than other final-year students completing degrees in nursing or social work (Author et al., 2018). Once their university studies are complete and teachers take up their posts at schools, they do not have much opportunity to receive any further specialized training that they may require (Schols et al., 2013). This, together with the insufficient training received in higher education, may explain the level of knowledge shown by Spanish teachers regarding CM (Greco et al., 2017; Villa et al., 2019).

As for professional training, theoretical understanding of CM has to be complemented with practical knowledge about the reporting process on the ground (Sainz et al., 2020; Schols et al., 2013). Particularly, there is a single school-based action protocol for all teachers in southern Spain to follow in the event of suspected cases of CM (Andalusian Government, 2011). It is a clear guide outlining signs, procedures, steps to be taken, and persons to be contacted depending on the severity of the case. Nevertheless, teachers are generally unaware of these action guidelines (Real & Jolluskin, 2002; Real & Mohamed, 2011), and attribute it to their lack of training (Liébana et al., 2015). Teachers tend to be unaware and/or feel unsure about where and how they should make the reporting (González & Guinart, 2011; Pérez de Albéniz et al., 2011), and evidence uncertainty regarding the effectiveness of the protocol (González & Guinart, 2011). Thus, García (2005) indicates that, in the absence of training on this subject, teachers may feel confused and very insecure when facing these situations.

Variability in detecting and reporting CM

Some studies have investigated possible variability in detecting and reporting cases of CM, mainly as a function of sociodemographic and professional indicators. Regarding the former, contradictory results have been found as to whether male or female teachers detect and report more frequently (Crenshaw et al., 1995, Kenny, 2001, 2004). As for the professional profile, teachers with greater seniority tend to report a higher number of suspected cases of CM (Goebbels et al., 2008; Greco

et al., 2017). Finally, teachers report both internal barriers (teachers' feeling of guilt towards children, fear of false positives, hesitation about interfering in family life) and external barriers (privacy laws, lack of parental cooperation, lack of support from school management) to reporting cases of CM (Díaz-Aguado, 2001; Farcas & Roth, 2011; González & Guinart, 2001; Pérez de Albéniz et al., 2011; Schols et al., 2013).

Objectives of the study

There is a lack of research investigating teachers' knowledge and background in dealing with CM in Spain. This research aims to address three key objectives:

1. To analyze the degree of reporting of CM (number of different detected cases and notified) from school, as well as the emotional impact of teachers, their personal involvement, and the involvement of the school.
2. To describe teachers' knowledge about CM, in general and specifically in relation to school protocol, and how these may relate to specialized training received about CM.
3. To identify teacher profiles according to their knowledge, training, and experience in dealing with CM, examining differences associated with sociodemographic characteristics.

METHOD

Participants

The sample consisted of 227 pre-school ($n = 99$, 43.6%) and primary ($n = 128$, 56.4%) teachers from schools throughout Andalusia (southern Spain): 33% ($n = 75$) were from the province of Huelva; 26.4% ($n = 60$) from Seville; 24.7% ($n = 56$) from Cadiz; and 15.9% from Jaen ($n = 36$). Of these 78% ($n = 177$) were women and 22% ($n = 50$) men, with a mean age of approximately 43 years ($M = 43.01$, $SD = 9.57$). On average, participants had a seniority (had been in their profession) of 17 years ($M = 17.30$, $SD = 9.61$).

Instruments

The information was collected through a questionnaire that addressed the following dimensions:

- Sociodemographic (age and sex) and professional data (educational stage, years of seniority, of the participants. In addition, the teachers answered whether they considered specialized training in CM important for their teaching profession (yes or no) and whether they had received it or not. Teachers' experience/background in dealing with CM. Five *ad hoc* questions addressed whether each teacher had notified (whereby detection/identify means that the CM has been both recognized and notified) any case of CM in his or her professional career; if so, the type/s of different CM notified (neglect, physical maltreatment, emotional maltreatment, labor exploitation, sexual abuse, and Münchausen syndrome by proxy); the level of emotional impact experienced by the teacher; his/her degree of personal involvement in these cases; and the level of participation and collaboration of the school (school involvement) in the notified cases of CM. The last three questions were asked with a response scale from 1 (minimum involvement or impact) to 10 (maximum involvement or impact).
- Knowledge about CM. This instrument assesses the level of knowledge about CM. Based on the material published by the Federation of Associations for the Prevention of Child Maltreatment (FAPMI, 2010) and Queen Sofia Center (Sanmartin, 2001), we developed a scale of 15 *ad hoc* statements (11 false and 4 true) on the origin, incidence, characteristics and consequences of CM. Each statement is answered *agree or disagree* according to the own knowledge. Each correct answer is scored with 1, and the sum of them gave a final score (range 0-15); the higher the score, the greater the knowledge about CM. Internal consistency of this scale was $KR20 = .70$.
- Knowledge about the school-based action protocol in cases of CM. This *ad hoc* scale assesses the level of knowledge about school-based protocol in cases of CM. Based on the

guidelines laid down by the competent authorities in the context of this study (Andalusian Government, 2011), seven statements (2 false and 5 true) on the procedure to be followed by the school in situations of suspected CM were developed). Each statement is answered *agree* or *disagree* according to the knowledge about this protocol. Each correct answer is scored with 1, and the sum of them gave a final score (range 0-7); the higher the score, the greater the knowledge about the school-based action protocol in cases of CM. Internal consistency was $KR20 = .72$.

- Training in CM. Two *ad hoc* questions, with a dichotomous response scale (*yes/no*), on whether the teacher had received any type of training in CM and whether they believed that such training was necessary.

Procedure

The study design was descriptive, quantitative, transversal, and integrating non probability (convenience sample, for the selection of the schools; and volunteer sample, for the selection of the teachers from each school). The sample of schools that participated in this study were selected from a list of pre- and primary centers with which the research team had previous contact for teaching and/or research purposes ($n = 79$); the management teams of 41 of these 79 schools (51.9%) agreed to participate. After the school management agreed to participate, teachers were personally informed of the details of the research and asked to voluntarily participate. Those who were interested completed and signed an Informed Consent Form, in which they stated that they had received all the information about the research, agreed to voluntarily collaborate, and gave permission to analyze and publish the resulting data. The participating teachers subsequently completed the evaluation instruments (see Appendix) after receiving them by mail or after making an appointment with one of the members of the research team. This non-interventional study (based by surveys) complies with the Declaration of Helsinki and current Spanish legislation on research involving human subjects. Ethical approval by ethics committee was not required.

Plan of Analysis

Data were processed and analyzed mainly with SPSS-25 (IBM Copr. Released, 2017). The analyses were computed with the full study sample, as there were no statistically significant differences between pre-school and primary school teachers in any of the variables included in the study. Previously, the absence of both univariate and multivariate outliers was checked (by examining box-and-whisker plots and calculating the Mahalanobis distance, respectively), as well as the requirements for the use of parametric tests (Hair et al., 2019).

For the descriptive analyses of quantitative variables means and standard deviations were calculated, and for qualitative variables frequencies and percentages were computed. Likewise, regarding to bivariate analyses, Student's t and Snedecor's F statistics were used for means comparison, and Chi-Square were computed for the study of the distribution of frequencies. With regard to correlations Cohen's r statistic was used, and the effect size was estimated according to: $r = .00 \leq .10$, null correlation; $0.10 \leq 0.30$, weak; $.30 \leq .50$, moderate; $.50 \leq 1$, strong.

Some indicators were transformed beforehand, specifically those referring to general knowledge about CM and school-based action protocol. Since the response scale is dichotomous in both cases, internal consistency was assessed with the KR20 index (Zaidi et al., 2018; Zubairi and Kassim, 2016) using TAP software (Brooks and Johanson, 2003). In accordance with recommendations for item difficulty analysis (e.g., Carr, 2011; Mahjabeen et al., 2017), participants with at least 70% correct answers to the items of each test (> 10 in knowledge about CM, > 4 in knowledge about the school-based action protocol) were considered in each case as *informed*; the rest were classified as *uninformed* about CM (≤ 10 correct answers) or about the school-based action protocol (≤ 4 correct answers).

To address Objective 3 a multivariate analysis were computed, specifically a Two-Step Cluster Analysis (hereafter TCA). TCA allows the identification of the grouping of similar cases according to

a set of both continuous and categorical variables, and automatically (exclusively based on statistical criteria, without the intervention of the researcher) provides the optimal number of clusters (Kaufman & Rousseeuw, 2009; Rubio-Hurtado & Vilà-Baños, 2017). The specific characterization of each cluster is examined in a second step of TCA, through bivariate contrasts considering the membership group as dependent variable and the scores introduced in the analysis as independent variables. The TCA was computed with the log-likelihood statistic as distance measure, and with *Bayes Information Criterion* (BIC) as the criterion for the algorithm to determine the optimal number of clusters (specifically, the solution with lower BIC values and higher BIC Change Ratio values). The goodness of the grouping established by the TCA was considered *poor*, *correct* or *good* based on the quality coefficient or silhouette measure.

RESULTS

1. Teachers' background in dealing with child maltreatment.

The majority (67.4% ($n = 153$)) of the sample had never reported cases of CM during their teaching career, while 32.6% ($n = 74$) had done it at least one case. Of the latter, 39.2% ($n = 29$) had reported one type of CM, 25.7% ($n = 19$) two, 23% ($n = 17$) three, and the rest ($n = 9$; 12.2%) four or more types of maltreatment. In general (see Table 1), these situations were experienced by the participants with high levels of emotional impact and their personal involvement was high, as was that of the school from their perspective. These three scores were positively and statistically significantly related to each other (see Table 1), reached strong correlations.

[INSERT TABLE 1 HERE]

The types of CM most frequently notified were neglect, physical and emotional maltreatment (see Table 2). In general, teachers reported high levels of both emotional impact and personal involvement related to the cases and, for all types of CM, school involvement was on average high. Correlation analyses showed that emotional impact, personal involvement, and school involvement

were positively and statistically significantly related (see Table 2). Specifically, the relationships between emotional impact and school involvement and the different types of maltreatment reported, reached a strong correlation. Personal involvement, on the other hand, correlated weakly with the detection of neglect and moderately with emotional maltreatment (see Table 2).

[INSERT TABLE 2 HERE]

2. Knowledge regarding child maltreatment.

2.1. General knowledge about CM.

Table 3 presents results of the 15 statements in the questionnaire on general knowledge about CM in decreasing order according to the percentage of correct answers. The mean number of correct answers was 11.23 ($SD = 2.46$), with a minimum of 3 ($n = 5, 2.2\%$) and a maximum of 15 ($n = 6, 2.6\%$). To analyze the characteristics of the teachers in terms of their knowledge about CM, two groups were formed according to the number of correct answers following the guidelines above described (see Plan of analysis). A total of 71.1% ($n = 160$) of the teachers had a reasonably good knowledge about CM (*informed* CM group), while 28.9% ($n = 65$) belonged to the *uninformed* CM group because they answered fewer than 10 of the statements correctly.

[INSERT TABLE 3 HERE]

2.2. Specific knowledge of the school-based action protocol in cases of CM.

Table 4 shows the descriptive data for each of the questionnaire's statements. The correct answers ranged around a mean of 4.55 ($SD = 1.10$), with a minimum of 2 and a maximum of 7 ($n = 6, 3.3\%$ in both cases). Results of the 7 statements of the questionnaire are presented in decreasing order, according to the percentage of correct answers. Using the procedure described in the Plan of Analysis, two groups were formed according to their degree of knowledge about the guidelines for action in the school in cases of CM. Specifically, 58.4% of the sample ($n = 118$) was included in the *protocol-informed* group and 41.6% ($n = 84$) in the *protocol-uninformed* group.

[INSERT TABLE 4 HERE]

The results on both types of knowledge were correlated. The analysis showed that the number of correct answers in both questionnaires was positively and statistically significantly related ($r = .331$, $p < .001$).

3. Teacher training in child maltreatment.

The majority ($n = 208$, 91.6%) of the sample considered that specialized training in CM is fundamental for improving the identification of and response to these cases in the school setting. However, 74% ($n = 168$) of the participants had no specific training in CM.

No relationship was found between having training in CM and the degree of specific knowledge about the school-based action protocol, but there was a relationship with general knowledge of CM. Thus, teachers with training gave a greater number of correct answers ($M = 12.14$, $SD = 1.76$) than untrained teachers ($M = 10.91$, $SD = 2.59$) ($t(223) = 3.33$, $p = .001$), and they mostly belonged to the *CM informed* group (82.2%, $\chi^2(226) = 4.32$, $p = .032$, $Phi = .150$). In addition, teachers with training had reported more cases of CM in their years of seniority ($\chi^2(201) = 6.81$, $p = .009$, $Phi = .182$), and more diverse cases in terms of their typology ($t(72) = 2.33$, $p = .022$). In turn, these situations had affected to a greater degree ($t(71) = 2.12$, $p = .037$) teachers with training ($M = 7.74$, $SD = 1.50$) than those who had not received training ($M = 6.78$, $SD = 2.07$). Differences in personal involvement in these cases between trained ($M = 7.97$, $SD = 1.45$) and untrained ($M = 6.97$, $SD = 2.07$) participants were also statistically different ($t(71) = 2.34$, $p = .022$).

4. Teacher profiles on the basis of training, knowledge and experience in dealing with child maltreatment.

4.1. Typology of teachers.

To jointly analyze the results on training, knowledge, and experience in dealing with CM at school, a TCA was computed with four indicators, two of which were ordinal (reported cases and specialized training) and two continuous (knowledge about CM and about the school-based action protocol). The results found three clusters, with a measure of good quality according to the silhouette analysis (see

Figure 1). Specifically, this solution (log-likelihood = 2.66) shows both the lowest BIC value (352.49) and the highest BIC Change Ratio value (-120.71).

[INSERT FIGURE 1 HERE]

To examine the characterization of each of these three clusters, in a second phase, we performed bivariate contrasts between the membership cluster and the four indicators introduced in the TCA (see Table 5).

[INSERT TABLE 5 HERE]

As can be seen, C1 ($n = 42$, 25.5%) included all teachers with training in CM, most ($n = 25$, 59.5%) of whom had reported cases of maltreatment at some point in their years of seniority, and were characterized by a high level of knowledge about CM. On the other hand, C2 ($n = 86$, 52.1%) was defined by not having received specialized training, not having reported cases of maltreatment in their professional career, and having moderate levels of knowledge about CM. Finally, C3 ($n = 37$, 22.4%) was characterized by the fact that none of its members had received specialized training in CM, all had reported cases of maltreatment, and their knowledge about this problem was limited. No differences were observed among the three clusters in terms of specific knowledge about the school-based action protocol.

Bivariate analyses were computed relating the teachers' experience with CM (different types reported, emotional impact, and personal and school involvement) and their degree of knowledge (*informed - uninformed of CM, informed – uninformed of protocol*) (see Table 6). The members of C1 were characterized by being informed about the phenomenon of CM, by having reported more different types of maltreatment, and by having experienced these situations with a high emotional impact. On the other hand, the teachers in C3 showed low variability in the type of maltreatment detected. Finally, C2 was not defined in a statistically relevant way by any of the indicators.

[INSERT TABLE 6 HERE]

4.2. Sociodemographic characterization of the teaching profiles.

As Table 7 illustrates, women were the majority in C2, while C1 and C3 were mainly men. The results regarding age and years of seniority offered a similar profile: both indicators were lower in C1, intermediate in C2 and statistically high in C3.

[INSERT TABLE 7 HERE]

DISCUSSION

The purpose of this work was to analyze the phenomenon of CM at school from the teachers' perspective. Most teachers have not detected cases of CM in their students over the course of their teaching career (whereby detection means that the CM has been both recognize and notified). These results coincide with population-based evidence (OI, 2020; OIA, 2020) and research with specific samples (Liébana et al., 2015; Pérez de Albéniz et al., 2011), which highlight the very modest role played by schools in the detection of CM. Taking into account that in Spain the approximate incidence rate is just over 200 cases per 100,000 minors (OI, 2020), and that in our country all minors are or should be at school, despite its privileged position (Díaz-Aguado, 2001; Soriano, 2008; WHO, 2006), school in this country is proving incapable of playing an effective role in reporting situations in which minors are victims of CM.

As for the teachers' experience in dealing with these situations, the results show that they tend to become quite involved in the cases of CM, and these situations affect them considerably at an emotional level, and in general they perceive significant levels of support from the school. These indicators have also been shown to be interrelated, in such a way that, in cases of CM, the teachers who are most involved tend to be those who feel most affected by the situation, but they are also the ones who receive the most support from the school. These issues have scarcely been addressed in previous research, so that, as far as is known, we have no data in our country on the personal experience of teachers when reporting abuse. However, the high emotional impact that teachers experience when facing this situation is evident, so that doubts about the consequences and implications of detection, as

well as fear of the process itself, may become barriers to be taken into consideration when explaining the low incidence of CM detection at school (Díaz-Aguado, 2001; Farcas & Roth, 2011; González & Guinart, 2001; Pérez de Albéniz, et al., 2011; Schols et al., 2013). In any case, we find the results obtained regarding the high involvement of schools noteworthy, especially in cases that are more intensely experienced by teachers. These results would appear to contradict possible lack of support from the school as a barrier to notify (Díaz-Aguado, 2001; González & Guinart, 2001; Pérez de Albéniz, et al., 2011).

Likewise, previous studies have specifically pointed out how poor or erroneous knowledge can be an impediment to detect cases from school (Goebbels et al., 2008; Gonzalez-Sánchez et al., 2021). In accordance with other authors (Greco et al., 2017; Vila et al., 2019), teachers' general knowledge about this problem is, on average, not low, but moderate. However, it is worth noting that approximately 3 out of 10 teachers with specialized training in childhood, and whose work involves frequent and close contact with minors, had little or erroneous knowledge about what CM is, what it consists of, and/or the way it manifests, along the same lines as other studies in our country (e.g., Liébana et al., 2011). With respect to knowledge about school-based action protocol (Andalusian Government, 2011), only around 5 out of 10 participants in this study were clear about what to do in these situations, a result that is consistent with the lack of knowledge found in other studies (González & Guinart, 2011; Farcas and Roth, 2011; Liébana et al., 2015; Pérez de Albéniz et al., 2011; Real & Jolluskin, 2002).

Regarding the extent of training in CM, previous evidence shows how most teachers feel unprepared to tackle CM in schools and consider that such preparation is very necessary (Gonzalez-Sánchez et al., 2021; Greco et al., 2017; Vila et al., 2019). On this point, we would like to draw attention to the scarcity of training available to teachers in CM, training that the vast majority see as fundamental. This is no surprise given that one is unlikely to receive courses on this subject in either higher education or continuing professional development. The lack of training possibilities in this area

is particularly worrying, given the available evidence on how training favors knowledge about CM and optimizes its detection (Cerezo & Pons, 2004; Goebbels et al., 2008; Greco et al., 2017; Hawkins & McCallum, 2001; Sethi et al., 2018). The results of this study point in the same direction: teachers with specialized training had better general knowledge about CM, had identified more cases and types of maltreatment, and were more involved than those without training. It would have been interesting to know the type of training that the teachers in our sample have received (e.g. in the framework of a master's degree or specific courses offered by the continuing professional development plans) in order to detect which of them improve the process of detection of CM.

However, analyses showed that general training in CM was not associated with better applied knowledge about the school-based action protocol. This is probably at least partly related to the fact that each management team is in charge of activating and monitoring the protocol and, therefore, a teacher who has not held management positions has probably not received this training. Once again, we are observing the discretionary nature of training teachers in both general and applied issues related to CM. These results confirm LOPIVI's recommendation that higher education institutions incorporate specific content on prevention, early detection and intervention in cases of violence in childhood and adolescence into the curricula of those professions that have regular contact with children and adolescents (articles 36 and 37). This research also invite reflection on the content of such training and the way it is provided. Furthermore, it would be advisable to create spaces for reflection and debate in schools in which all members of the educational community participate (Greco & Pereda, 2021). According to the sociocultural perspective, these interpersonal spaces would allow the construction of a common framework, at the level of meanings, languages and discourses, which would favour the process of detecting CM in each school. Likewise, these spaces for the construction of shared knowledge could reduce the levels of unaware detected in the teaching staff (González & Guinart, 2011; Pérez de Albéniz et al., 2011).

In this study, the indicators mentioned earlier have been examined jointly, enabling the identification of three distinct profiles. The C1 underlined the importance of training and having a high level of knowledge about CM. This cluster of younger teachers had not only notified a high number of CM but had also detected a greater variability of types of maltreatment. Thus, while it may be difficult to detect different signs of maltreatment, especially emotional and behavioral signs (Farcas & Roth, 2015; Liébana et al., 2011), teachers who have received more training may be capable of identifying more varied and complex signs of the phenomenon (Kenny, 2001). Thus, the identification of CM is more feasible when there is previous training and knowledge; spending many hours accompanying students is not enough (Soriano, 2008). These results clearly indicate that the improvement required in training on CM is not solely to do with quantity (more content on the subject, both in university studies and in subsequent continuing professional development plans) but also content (subjects and courses that facilitate specialized knowledge about this phenomenon, but also of the specific mechanisms and resources to address it from the school). Studies that have focused on the results of training interventions have emphasized the need to address the more procedural aspects of the reality of CM at school (Cerezo & Pons, 2004; Hawkins & McCallum, 2001; Kenny, 2001) to improve the effectiveness of the school context in detecting cases.

The other cluster with higher reports of this phenomenon was C3. These teachers, with many years of seniority, were not noted for either previous training or their knowledge about the subject. The results show the important role that seniority can play and the value that professional experience can have for teachers who have not had the opportunity of training in CM. These contents were probably not part of the curriculum when they studied at university and the lack of continuing professional development opportunities has since meant they were unable to receive training in this area. However, in line with other research, we observed that teachers with more seniority reported a greater number of cases of abuse (Goebbels et al., 2008; Gonzalez-Sánchez et al., 2021; Greco et al., 2017); however, we did not find in this cluster the high variability of CM typologies found in those

teachers with training and knowledge. In any case, it is possible that their years of seniority and professional roles —perhaps in management positions—, compensated for the lack of training, and gave them greater security and confidence when tackling these situations (García, 2005). In this line, we would like to highlight that detecting CM is a sensitive process, and that it will be the Child Protection Service who will determine the existence or not of maltreatment. However, the fact that senior teachers accumulate a higher frequency of reports may be related to the schools' satisfactory accompaniment of teachers in dealing with CM. It may be these senior teachers who, from management positions, accompany those with less professional background in the process of detection CM.

Finally, C2 was characterized by low reports and training compared to the other teacher profiles. This cluster included slightly over half of the sample, i.e., it represented the majority of teachers in this study. C2 consisted mainly of female teachers, a result that contradicts the bivariate analyses in this same paper regarding detection according to the gender of the teacher. Once again, and in line with the existing literature, we have met with contradictions as to whether female or male teachers detect CM more frequently (Crenshaw et al., 1995; Kenny, 2001, 2004).

In the examination of teacher profiles, we found that the only indicator for which no statistical differences were found between clusters was specific knowledge about the school-based action protocol. Thus, regardless of general knowledge about CM, specialized training on this phenomenon, and even experience in reporting cases of CM, there was little difference over the more practical and procedural issues among the three teacher profiles. In our opinion, the typology identified shows that CM in the school context is a complex reality involving very diverse issues that should be analyzed both as a whole and separately.

This work has a series of limitations that should be noted. On the one hand, we used non-standardized instruments designed *ad hoc* based on materials from other authors because we could not find any instruments to assess these subjects with greater psychometric validity. On the other hand, while the sample could be considered large, it was limited to southern Spain. Nevertheless, this study

offers interesting results, which are in line with studies carried out in different parts of Spain and in other countries. These findings allow us to highlight key aspects related to CM in terms of both research and professional practice.

We believe future research should address CM in schools in greater detail, covering specific types of maltreatment, and including other forms of maltreatment that have been recognized and conceptualized more recently. In addition, the experience of teachers in dealing with these cases should be addressed in greater depth, as there is very little information on this subject in the literature. It would also be interesting to gauge the extent to which schools follow up cases once the competent authority has been notified, given that the lack of training detected among the teaching staff may also limit the fulfillment of this task.

In short, we have found in this study sample that the reporting of CM by schools is poor. In addition, the findings have also underlined the connection between training and knowledge about the phenomenon of CM and its detection and reporting. Fortunately, in Spain there is a school protocol for action when a case of CM is suspected; however, it is essentially rendered worthless as teachers are unaware of its existence and procedures. For teachers to be able to detect and intervene promptly they require special training that covers misconceptions about CM, physical and behavioral indicators of maltreatment and how to respond to signs of possible abuse, and protocols for action upon identification (WHO, 2006). Likewise, we are aware of how important it is for teachers to have the backing and support of their educational institution and society in general for them to feel secure, this is one of the main external barriers detected in other studies (Mactavish et al., 2017; Schols et al., 2013). According to WHO (2022), the prevention of CM requires a multisector approach, with the school being a key social sector in the early recognition of cases, and this needs to be recognized with a coherent, integrated system of policies. The more effective the collaboration between services, the more likely it is that satisfactory results for preventing and responding to CM will be obtained, and the greater the benefits to the child and the society (Greco & Pereda, 2021; WHO 2022). Therefore, the

creation of intersectoral networks should be promoted and the school's relationships with other health, social and legal sectors should be strengthened. The work of the school in the area of CM does not end with the notification of the case: networking between different sectors, the joint approach (health, legal, social, and school) and continuing attention for child victims and their families are all decisive for the effective protection of the child (WHO, 2006, 2022).

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Table 1*Teacher's background in dealing with CM.*

	<i>M (SD)</i>	<i>r</i> ₁₂	<i>r</i> ₁₃	<i>r</i> ₂₃
1. Emotional impact	7.15 (1.92)	.539****	.294***	.611****
2. Personal involvement	7.37 (1.83)			
3. School involvement	7.10 (2.01)			

*** $p < .005$ **** $p < .001$

Table 2*Teacher's background in dealing with the different types of CM.*

Types of maltreatment (<i>n</i> , %)	1. Emotional impact <i>M</i> (<i>SD</i>)	2. Personal involvement <i>M</i> (<i>SD</i>)	3. School involvement <i>M</i> (<i>SD</i>)	<i>r</i> ₁₂	<i>r</i> ₁₃	<i>r</i> ₂₃
Neglect (54, 25.8%)	7.53 (1.62)	7.69 (1.90)	7.24 (2.06)	.642****	.283*	.575****
Physical maltreatment (37, 17.7%)	6.75 (1.88)	7 (1.91)	6.83 (2.16)	.627****	ns	.476****
Emotional maltreatment (34, 16.3%)	7.78 (1.62)	7.94 (1.74)	6.58 (1.82)	.591****	.415**	.763****
Labor exploitation (14, 6.7%)	6.31 (2.02)	6.77 (2.01)	7.31 (1.38)	na	na	na
Sexual abuse (6, 2.9%)	10 (0)	8.20 (2.17)	10 (0)	na	na	na
Munchausen Syndrome by proxy (7, 3.4%)	6.29 (1.11)	6.75 (1.67)	6.63 (1.85)	na	na	na
Begging (6, 2.9%)	6 (3.24)	7.20 (1.64)	6.80 (2.28)	na	na	na

na = not applicable (*n* insufficient), ns = not significant, * $p < .05$ ** $p < .01$, *** $p < .005$, **** $p < .001$.

Table 3.*General knowledge about CM.*

	Correct answer	n (%)
Maltreatment only affects low or disadvantaged social classes	False	216 (94.7%)
Boys do not suffer sexual abuse, as this only affects girls	False	214 (93.9%)
Maltreatment is only considered to exist when the person who commits it is aware of what he/she is doing	False	210 (92.1%)
Maltreatment always occurs in the family setting	False	206 (90.4%)
Child maltreatment can sometimes be justified by children's behavior	False	207 (90.8%)
The identification of situations of child maltreatment in Spain is an exclusive obligation of the Social Services	False	204 (89.5%)
The rehabilitation of abusers is possible through continuous and specialized work	True	197 (86.4%)
Adolescents are potential victims of maltreatment, just like boys and girls	True	192 (84.2%)
All people who are abused in childhood will be abusers in the future	False	188 (82.5%)
Neglect (i.e., maltreatment by abandoning the basic needs of children) is more frequent than physical abuse	True	159 (69.7%)
People who mistreat children are perverse, mentally ill or drug addicts	False	155 (68%)
Violence and love can occur at the same time within the same family	True	122 (53.5%)
When there are signs of a situation of maltreatment, we should only report it if we are sure about it	False	105 (46.1%)
People who mistreat children should be removed from society and placed in correctional or mental health facilities	False	93 (40.8%)
It is easy to identify maltreatment if it occurs in our immediate surroundings	False	91 (39.9%)

Table 4.*Knowledge about the school-based action protocol in situations of CM.*

	Correct answer	<i>n</i> (%)
Talking to the child directly is one of the initial assessment options included in the detection and action protocol	True	187 (88.2%)
The submission of the Detection and Notification Sheet to the corresponding service exempts the school from any possible action or intervention with the child	False	183 (87.1%)
Notifying a situation of maltreatment is the same as reporting it	False	168 (78.1%)
I should act straightaway on suspicion of abuse, without having to consult with anyone beforehand	False	155 (68.6%)
If the child presented injuries, I would first take him/her to the health center for a clinical evaluation and then inform the family.	True	102 (48.8%)
At school, the reporting of a situation of child maltreatment is the responsibility of the school's principals	False	105 (47.3%)
Cases of maltreatment are always reported to the same service, regardless of the severity of the maltreatment detected	False	88 (44.9%)

Table 5.

Characterization of the three clusters formed by the TCA: Bivariate contrasts.

	C1 (yTnR) (<i>n</i> = 42, 25.5%)	C2 (nTnR) (<i>n</i> = 86, 52.1%)	C3 (nTyR) (<i>n</i> = 37, 22.4%)	Contingency tables	
	<i>n</i> (%) <i>r_z</i>	<i>n</i> (%) <i>r_z</i>	<i>n</i> (%) <i>r_z</i>		
Reported of CM					
Yes	25 (40.3%) 3.4	0 (0%) -10.4	37 (59.7%) 8.9	$\chi^2(2) = 121.86, p < .001,$	
No	17 (16.5%) -3.4	86 (83.5%) 10.4	0 (0%) -8.9	$V_{\text{Cramer}} = 0.86$	
Training in CM					
Yes	42 (100%) 12.8	0 (0%) -7.8	0 (0%) -4.0	$\chi^2(2) = 165, p < .001,$	
No	0 (0%) -12.8	86 (69.9%) 7.8	37 (30.1%) 4.0	$V_{\text{Cramer}} = 1$	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	ANOVA	
				<i>F</i> _{Snedecor}	Bonferroni
				$F(2,162)$	= C1-C2*
Knowledge about CM	12.50 (1.65)	11.21 (1.87)	9.70 (4.05)	12.49, <i>p</i> < .001	< C1-C3**** C2-C3**
Knowledge about the school-based action protocol	4.43 (1.08)	4.67 (1.12)	4.32 (1.13)	ns	-

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

ns = not significant, * *p* < .05, ** *p* < .01, *** *p* < .005, **** *p* < .001.

Table 6.

Teacher profiles: relation between knowledge and background dealing with CM.

	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	Contingency tables
	<i>n (%) r_z</i>	<i>n (%) r_z</i>	<i>n (%) r_z</i>	
Knowledge about CM				
(groups)				
Uninformed of CM	4 (8.55%) -3.2	28 (59.6%) 1.2	15 (31.9%) 1.8	$\chi^2(2) = 10.75, p = .005,$ $V_{\text{Cramer}} = 0.25$
Informed of CM	38 (32.2%) 3.2	58 (49.2%) -1.2	22 (18.6%) -1.8	
Knowledge about the				
school-based action				
protocol (groups)				
Protocol-uninformed	18 (26.1%) 0.2	34 (49.3%) -0.6	17 (24.6%) 0.6	ns
Protocol-informed	24 (25%) -0.2	52 (54.2%) 0.6	20 (20.8%) -0.6	
	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	<i>t_{Student}</i>
Number of different	2.72 (1.24)	-	1.94 (0.88)	$t(60) = 2.87, p = .006$
CM cases reported				
Average emotional	7.71 (1.51)	-	6.57 (1.90)	$t(59) = 2.50, p = .016$
impact ^a				
Average personal	7.85 (1.46)	-	7.10 (1.80)	ns
involvement ^a				
Average school	7.40 (1.74)	-	7.20 (1.97)	ns
involvement ^a				

^aThree means were computed for emotional impact and personal involvement about CM cases reported, and for school involvement in the CM cases.

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7.

Teacher profiles: relation between sociodemographic and professional characteristics.

	C1 (yTnR)	C2 (nTnR)	C3 (nTyR)	Contingency tables	
	<i>n (%) r_z</i>	<i>n (%) r_z</i>	<i>n (%) r_z</i>		
Gender					
Females	27 (21.3%) -2.3	77 (60.6%) 4.0	23 (18.1%) -2.4	$\chi^2(2) = 16.01, p < .001,$	
Males	15 (39.5%) 2.3	9 (23.7%) -4.0	14 (36.8%) 2.4	$V_{\text{Cramer}} = 0.31$	
	C1(yTnR)	C2(nTnR)	C3(nTyR)	ANOVA	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i> _{Snedecor}	Bonferroni
Age	40.17 (8.32)	42.22 (9.81)	47.11 (8.95)	$F(2,161) = 5.86, p = .003$	C1-C3** C2-C3*
Years of seniority	14.17 (8.81)	16.51 (9.79)	21.38 (8.86)	$F(2,162) = 6.11, p = .003$	C1-C3** C2-C3*

C1 (yTnR): Cluster 1 (yes training and not reporting); C2 (nTnR): Cluster 2 (not training and not reporting); C3 (nTyR): Cluster 3 (not training and yes reporting).

* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 1.

Results of the TCA.

Model Summary

Algorithm	TwoStep
Inputs	4
Clusters	3

Cluster Quality

