Parents' and teachers' perceptions of quality in Portuguese childcare classrooms

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Abstract The main goal of this study was to examine parents' and teachers' perceptions of quality in early childhood education for toddlers in Portugal. A total of 110 parents and 110 teachers participated in the study, rating the importance of specific quality criteria and assessing childcare classrooms, based on the Infant/Toddler Environment Rating Scale Parent Questionnaire (ITERS-RPQ) and on the Infant/Toddler Environment Rating Scale Teacher Questionnaire (ITERS-RTQ), respectively. The same quality items were used by external observers to evaluate the same classrooms with the Infant/Toddler Environment Rating Scale (ITERS-R; Harms et al. 2003). Results suggest that parents and teachers give high importance scores to the quality criteria included in the ITERS-R, substantiating the use of this instrument in Portugal. Although correlations were found between observers' and parents' ratings of quality, and between observers' and teachers' ratings of quality, results suggest that teachers and parents consider education and care in toddler classrooms to be substantially more adequate than the researchers observed.

Keywords Childcare quality · Early childhood education · Parents' perceptions · Teachers' perceptions · Portugal

Research has been showing the importance of quality of early childhood education (ECE) for children's short-term and long-term outcomes (e.g., Vandell et al. 2010). In Portugal, in the last

decades, a public investment has been made in order to increase the coverage rate of childcare services for infants and toddlers, dependent on the Ministry of Solidarity, Employment and Social Security, and the coverage rate of preschools (children between 3 and 6 years old), dependent on the Ministry of Education (Abreu-Lima et al. 2013; Pinto et al. 2013). However, research projects on ECE services for infants and toddlers, and initiatives to improve their quality, are still necessary (Barros and Aguiar 2010). Furthermore, quality of ECE has been considered a relative concept (e.g., Dahlberg et al. 1999), differing from country to country and depending on individual and/or group priorities, expectations, values, beliefs, social perceptions, and culture (e.g., Dahlberg et al. 1999; European Commission Childcare Network 1990). In this context, Bairrão (1998) highlighted that quality is related to objective criteria (associated with physical, material, and social well-being) but also related to subjective aspects, such as representations people have about quality. Therefore, parents' and teachers' perceptions should be considered in research and policies, as they often differ from official priorities and objectives.

Fifteen years ago, Katz (1998) argued that the concept of quality should be considered from several perspectives: (a) top-down perspective on quality, (b) bottom-up perspective, (c) outside-inside perspective, (d) inside perspective, and (e) outside perspective. The top-down approach is more prevalent in research, consisting in identifying features of the program related to licensing guidelines and including aspects such as adult-child ratio, staff qualifications and stability, characteristics of interactions between adults and children, quality and quantity of equipment and materials, quality and quantity of space per child, aspects of working conditions for professionals, health and safety conditions. The bottom-up perspective aims to determine how the program is experienced by children. The outside-inside perspective consists in the evaluation of programs as experienced by children's families, including characteristics of parent-teachers' relationships. The inside perspective considers how the program is experienced by staff and includes dimensions such as relationships between professionals, relationships between staff and families, and relationships between staff and the institution sponsoring the program. The outside perspective considers how the program serves the community and society in general. Studying parents' and teachers' perceptions of quality together with researchers' evaluations combines top-down, outside-inside, and inside perspectives of childcare quality.

Parents' and teachers' perceptions can be approached from different perspectives, depending on the aims of the research projects. Studies have been analyzing several dimensions, such as reasons for parents to choose ECE services (e.g., Early and Burchinal 2001; Folque and Siraj-Blatchford 1996; Ojala and Opper 1994), what parents/teachers value in ECE services (e.g., Coelho 2004; European Child Care and Education Study Group 1997; Folque and Siraj-Blatchford 1996), how they value specific features of childcare and preschool used by researchers to assess quality (e.g., Cryer and Burchinal 1997; Grammatikopoulos et al. 2012), parents' global satisfaction with ECE services (e.g., Kim and Smith 2007; Scopelliti and Musatti 2013), and how parents and teachers assess ECE quality (e.g., Cryer and Burchinal 1997; Grammatikopoulos et al. 2012; Sheridan 2000). This study aims at analyzing how parents and teachers value specific aspects of quality that are widely used in research and to determine how they assess quality using the same quality framework.

Parents' and teachers' perceptions of ECE quality criteria

In the USA, Cryer and Burchinal (1997) conducted a pioneer study with 2407 parents whose children attended preschool classrooms and 727 parents with children who attended infant/

toddler classrooms, where the main goal was investigating how parents valued aspects of education and care considered important by professionals. Specifically, they studied the extent to which parents valued the items included in two widely used scales—the Infant/Toddler Environment Rating Scale (ITERS) and the Early Childhood Environment Rating Scale (ECERS). Cryer and Burchinal (1997) concluded that parents gave high importance rates to all items included in the scales. For data analysis, items were grouped into four subscales: health, safety, interaction, and other (i.e., items related to staff needs and curriculum aspects that did not fit in interaction). Parents with children in infant/toddler classrooms placed a higher value on health and interaction related items, followed by safety-related items and the other issues; parents with children in preschool classrooms placed a higher value on safety-related items, immediately followed by interaction items, and then by health and the other aspects. A similar study, with mothers who had also attributed high importance scores to the aspects included in the ECERS, was developed in Germany (Cryer et al. 2002; Tietze and Cryer 2004). Data collected in Germany were compared to data collected in the USA (Cryer et al. 2002) with the following results: (a) parents from USA attributed higher importance scores than mothers from Germany; (b) there was much similarity between the characteristics parents from the two countries valued the most, and there was a strong association between those importance scores; and (c) in both countries, parents of lower educational level assigned higher importance scores than parents of higher educational level. A similar procedure was followed in Greece by Grammatikopoulos et al. (2012), who found that parents rated all items of the ECERS extremely high, and no variation could be found.

Cultural differences and/or similarities in parents' definitions of high-quality settings have been studied in other settings (e.g., Yamamoto and Li 2012). In Portugal, however, few studies have explored this subject. Folque (1995), in a research with parents of children between 2 and 6 years old, found the following most important characteristics in childcare and preschool (out of a given list of 18): healthy environment, intellectual stimulation, promoting sociability, staff training, safety, and human quality of adults. Also in Portugal, Nunes and Melo (2006) followed the same procedure as the above-mentioned studies (e.g., Cryer and Burchinal 1997) with the aim of understanding how parents of children attending preschool in the district of Évora valued ECERS' items. These researchers concluded that parents considered the items extremely important, although it was possible to identify some items they considered less important, such as space for the child to be alone, sand and water play, and creative activities.

If parents' perceptions have been studied in several countries, to our knowledge, studies about teachers' ideas on childcare quality are relatively rare. In Australia, Brownlee et al. (2000) found that teachers' explanations about their practices were more frequently naïve than conceptual or theoretically informed. Moreover, routine practices (e.g., meal time, departure) seemed to be more linked to naïve explanations than non-routine practices, such as interactions. In Portugal, Coelho (2004) interviewed preschool teachers to explore their beliefs and theories about childcare, children, and the educational process. All educators believed that they should, first of all, consider the child's emotional needs as a guide for their actions, and promotion of child development should likewise occupy a prominent place. Coelho highlighted that teachers' answers revealed lack of a consistent theoretical framework, showing that they based their practice mostly on intuition and affection.

Some studies have been analyzing both the ideas of parents and ECE professionals about the quality of such contexts. The European Childcare and Education (ECCE) Study Group (1997), in a research with mothers and teachers from Austria, Germany, Portugal, and Spain, concluded that mothers and teachers assumed that the most important aspect of a program was staff training and competence, followed by appropriate educational materials and, finally, by organizational aspects related to care (e.g., schedule). The comparison between teachers and

mothers established the following: (a) teachers tended to consider themselves more important for child development than mothers did; (b) teachers tended to show less directive and less academically oriented attitudes towards the education of children than mothers, placing more emphasis on social development; (c) teachers tended to place a higher value on tasks promoting children's development, while mothers placed a higher value on tasks related to social rules, health, and safety (ECCE Study Group 1997).

In a study developed in Switzerland by Pierrehumbert et al. (2002), parents' and daycare providers' perceptions were compared. The authors emphasized that childcare providers seemed to place a higher value on the "professional" aspects of care, such as the availability (i.e., being patient, available, competent, attentive) and organization (i.e., a safe and healthy environment and caregiver sensitiveness to child's physical well-being), while mothers placed a higher value on relational aspects of care, such as warmth (i.e., caregiver responsiveness and joyful, positive interactions). Similarly, in USA, Harrist et al. (2007) examined several stakeholder groups' perspectives on childcare quality, including parents and caregivers. Parents tended to be more child-focused and highlighted child outcomes as a way of assessing quality, while teachers tended to focus more than parents on caregiver practices, highlighting the importance of interactions and the implementation of appropriate curricula. Similar results were found in Australia by Weaven and Grace (2010); parents and staff attributed importance to process variables of childcare services (e.g., interactions), but whereas childcare staff also valued structural/regulated variables of childcare services; only a small minority of parents rated these criteria as important. Harris and Tinning (2012) also verified that process variables were emphasized by Australian parents and caregivers.

Parents' and teachers' assessments of ECE environment

Research has been showing parents and teachers to be generally satisfied with ECE services and to positively evaluate childcare classrooms. Cryer and Burchinal (1997) compared external observers' and parents' assessments of the same classrooms. External observers rated classroom quality using the ITERS, and parents rated quality using a questionnaire developed based on the ITERS (i.e., with similar quality aspects). Results showed parents' scores were significantly higher than trained observers' scores, and the difference between parents' and observers' ratings was larger for criteria most valued by parents. These authors argued that parents may assess quality of daycare based on what they expect and want to be happening in their children's childcare services, rather than on reality. A recent study based on the ECERS reached similar results in Greece, suggesting parents overestimated the quality of ECE, although both parents' and observers' ratings appeared to have a constant variance (Grammatikopoulos et al. 2012).

In Portugal, in the International Association for the Evaluation of Educational Achievement Pre-Primary Project, the majority of families were very satisfied or satisfied with the services they had chosen, and parents seemed to find few problems in their children's programs (Ojala and Opper 1994). One year later, Folque (1995) also found that, in general, parents were very satisfied with the services attended by their children, although they were critical about some specific aspects of quality, including the activities, contact with the community, individualized attention, and monitoring of child development and progress. More recently, in the above-mentioned study by Nunes and Melo (2006), and following the same tendency, parents generally gave high-quality scores to their children's preschools.

In contrast to most research, and in a context of public discussion motivated by an incident that occurred in a childcare center, parents who participated in a study in northern Australia

perceived services as unresponsive to their unique needs, and a high percentage of them were not satisfied with the services available for their children (Harris and Tinning 2012).

Although there are few studies on teachers' assessments of ECE quality, results show a tendency to find differences between teachers' and external observers' assessments. In Sweden, Sheridan (2000) found that, on average, educators gave their classrooms scores close to good quality, as defined by the ECERS. Furthermore, Sheridan found discrepancies between teachers' and external observers' scores: teachers who worked in classrooms with lower quality scores given by external observers tended to give higher quality scores, while teachers in classrooms with higher external evaluations gave lower scores than the observers.

Even though international research projects have been studying parents' perceptions of ECE quality, and comparing parents' and external observers' perceptions on quality assessments, studies on teachers' perceptions are scarce, especially in Portugal. Additionally, studies have not combined teachers', parents', and external observers' perceptions and assessments of ECE, particularly for toddlers' classrooms. Assuming the influence of contexts of education and care on children's short-term and long-term outcomes, studies on quality of ECE have been developed in the last years in Portugal (e.g., Pinto et al. 2013; Abreu-Lima et al. 2013). This research context substantiates the need to understand Portuguese parents' and teachers' perceptions of quality, features usually accepted by researchers. As the Infant/Toddler Environment Rating Scale (ITERS; Harms et al. 1990), and more recently the Infant/Toddler Environment Rating Scale-Revised (ITERS-R; Harms et al. 2003, 2006), is one of the frequently used instruments to assess quality in Portuguese research projects (e.g., Barros et al. 2013), the aims of the present study were to analyze the importance of the ITERS-R items to parents and teachers and, using the ITERS-R criteria, to determine how parents and teachers perceive the quality of childcare centers.

Method

Participants

Classrooms

One hundred and ten classrooms for children between 1 and 3 years old, randomly selected from a list of childcare centers in the district of Porto, participated in this study. Stratified random sampling was used in order to select 55 non-profit private centers and 55 for-profit private centers. In each type of center, 28 classrooms for children between 1 and 2 years old and 27 classrooms for children between 2 and 3 years old were observed. Only one classroom was observed in each center. The number of children in each classroom varied between 4 and 24 (M=12.48, SD=4.06), the number of adults varied between 1 and 5 (M=2.06, SD=0.75), and the adult-child ratio ranged from 2:1 to 15:1 (M=6.61:1, SD=2.63:1). These classrooms included a total of 1373 children and 227 adults.

Parents

In each classroom, one child was randomly selected, and their parents were invited to participate in the study. The majority of parents' questionnaires was completed by mothers (n=98), and only 12 were completed by fathers. The age of parents varied between 18 and 43 years (M=32.31, SD=5.04). Parents had between 4 and 22 years of formal education

(*M*=12.78, *SD*=4.41): 47.3 % of them had university degrees, 40 % had between 7 and 12 years of education, and 12.7 % less than 7 years of education.

Teachers

The lead teacher (i.e., adult responsible for providing all or most of the direct work with children) from each classroom completed the questionnaire. In 89 classrooms, the lead teacher was a trained teacher (i.e., a teacher with a college degree in ECE), and in 21 classrooms, the lead adult was an untrained teacher (i.e., a teacher without a college degree). Untrained teachers reported having between 5 and 13 years of education (*M*=9.57, *SD*=2.44), and trained teachers reported having a bachelors' degree (*n*=24), a licentiate degree (*n*=63), or a post-graduate degree (*n*=2). All lead adults will be named "teachers" throughout this paper. The age of teachers varied between 21 and 52 years (*M*=32.27, *SD*=6.93), and teachers' experience varied between 2 months and 32 years (*M*=8.09, *SD*=6.66).

Measures

ITERS-R

The Portuguese translation of the *Infant/Toddler Environment Rating Scale - Revised Edition* (ITERS-R; Harms et al. 2003, 2004) was used by external observers to assess classrooms' global quality. The ITERS-R consists of 39 items organized under seven subscales: space and furnishings, personal care routines, listening and talking, activities, interaction, program structure, and parents and staff. Scores on the ITERS-R range from 1 to 7, with indicators for 1 (*inadequate*), 3 (*minimal*), 5 (*good*), and 7 (*excellent*). For most of the analyses, and following the same procedure as other studies, only 34 items were used (e.g., Grammatikopoulos et al. 2012; Tietze et al. 1996). To explore the validity of this measure, namely because ITERS-R was not developed in Portugal, a factor analysis was conducted (see Barros and Leal 2011).

Although the ITERS, and also the ECERS, have seven conceptual subscales, validity analyses conducted in other studies have pointed out only one to four dimensions (e.g., Bisceglia et al. 2009; Hestenes et al. 2007; Tietze and Cryer 2004). Using Portuguese data, Barros and Leal (2011) found three dimensions of quality, which will be used in this study: (a) Interaction-Language (items 12, 13, 2, 26, 27, and 28; α=0.86), (b) Activities-Routines (items 2, 5, 7, 10, 14, 15, 16, 17, 19, 20, 22, 24, 29, 30; α=0.77), and (c) Space-Adults (items 1, 3, 6, 8, 11, 33, 34, 35, 37, 39; α=0.62). Interaction-Language includes items related to the promotion of language development and to interactions; Activities-Routines includes items related to activities, materials, and some personal care routines; and Space-Adults includes items related to the institution's physical conditions as well as provisions for parents and staff. More information can be found in Barros and Leal (2011).

ITERS-RPQ and ITERS-RTQ

The questionnaires used in the present study were the Infant/Toddler Environment Rating Scale—Revised Parent Questionnaire (ITERS-RPQ) and the Infant/Toddler Environment Rating Scale—Revised Teacher Questionnaire (ITERS-RTQ). These questionnaires were based on the ITERS-R and followed the structure of the questionnaires developed by Cryer and Burchinal (1997). These questionnaires were designed to assess the degree of importance assigned by parents/teachers to the 39 ITERS-R items, and the extent to which parents/teachers

believed those quality criteria were present in their children's classrooms or classrooms where they worked in, respectively. Some indicators were selected to illustrate each of the 39 ITERS-R items. For the sake of greater clarity for parents and teachers, some small changes were made to the names of the items and some of the indicators. Parents and teachers were invited to indicate the importance of each of the 39 items in a 5-point scale (1=*not important*; 5=*very important*) and how well the classroom performed in each item in a 7-point scale (1=*not well*; 7=*very well*). The three aforementioned dimensions (i.e., Interaction-Language, Activities-Routines, and Space-Adults) were used to analyze parents' and teachers' quality and importance scores. The internal consistency values for the global scores (34 items) and for dimensions' scores are reported in Table 1.

Procedure

The first author participated in an intensive training led by the authors of the ITERS-R. Two other observers were trained by the first researcher using the materials recommended by the authors (Harms and Cryer 2003). Later on, the three observers conducted training sessions in 16 toddler childcare classrooms reaching 88 % agreement, within one scale point (see Barros and Aguiar 2010 for further details).

For data collection purposes, each trained observer remained with the group of children for at least 3 h, between the children's arrival and nap. After the observation, observers conducted a small interview with the teacher, to collect further information to score the ITERS-R. Interobserver agreement checks were conducted across 27 % of the 110 classrooms. Interrater exact percent agreement was 78.77 on average (*SD*=15.28); interrater within one scale point percent agreement was 96.40 on average (*SD*=4.28); and weighted kappa was 0.72 on average (*SD*=0.22). All parents'/teachers' questionnaires were completed in the presence of the investigator in a space provided by the institution. Confidentiality was assured and their participation was completely voluntary. Data were collected during 13 months.

Results

Parents' and teachers' importance scores for the ITERS-R items

Parents' importance scores were, on average, high for all items included in the ITERS-R (see Table 2). On a 5-point scale (5=*very important*), the importance scores for the items varied between 3.71 and 4.95. In descending order of importance assigned by parents, the following were the highest ranked items (25 % of 39 items): helping children understand language, staff-child interaction, discipline, diapering/toileting and safety practices, supervision of play and

Table 1 Cronbach alphas for the ITERS-RPQ and ITERS-RTQ dimensions

	Number of items	Importance		Quality		
		Parents	Teachers	Parents	Teachers	Observers
Interaction-Language	6	0.78	0.56	0.90	0.91	0.86
Activities-Routines	14	0.86	0.82	0.93	0.92	0.77
Space-Adults	10	0.83	0.64	0.87	0.88	0.62
Global	34	0.93	0.86	0.94	0.94	0.82

learning and peer interaction, health practices, greeting/departing, and meals/snacks. In ascending order of importance, the following items were considered less important (25 % of 39 items): use of TV, video, and/or computer, sand and water play, blocks and provisions for professional needs of staff, supervision and evaluation of staff, nature/science, promoting acceptance of diversity, and opportunities for professional growth (see Table 2).

The average parents' importance scores on the total scale (see Table 3) varied between 3.44 and 5.00 (M=4.70, SD=0.33). Statistically, significant differences (cf., Cohen 1992) were found between parents' importance scores on the three dimensions of quality, $\chi^2(2)=90.51$, $p<0.001$. Parents' importance scores were higher in Interactions-Language than in Activities-Routines ($Z=-7.63$, $p<0.001$, $r=-0.51$) and Space-Adults ($Z=-6.78$, $p<0.001$, $r=-0.46$). Since the Kolmogorov-Smirnov test revealed the assumptions of normality of data distribution were not met, non-parametric tests were used. Effect sizes were calculated and interpreted following Field's (2005) recommendations. A small negative association was found between the years of education of the parents and their importance scores for global quality ($r_s=-0.19$, $p<0.05$) and Space-Adults ($r_s=-0.21$, $p<0.05$). Parents' importance scores did not vary depending on the type of institution (private for-profit or private non-profit) and children's age (1–2 or 2–3 years).

Teachers' importance scores were also high. The importance scores for the items varied between 3.69 and 4.97 (see Table 2). In descending order of importance, the following items were the most valued (25 % of 39 items): diapering/toileting and staff-child interaction; helping children understand language, safety practices and peers interaction; helping children use language and room arrangement; indoor space, health practices and discipline. In ascending order of importance, the following items were the least valued (25 % of 39 items): use of TV, video, and/or computer, sand and water play, promoting acceptance of diversity, supervision and evaluation of staff, nature/science, blocks, provisions for professional needs of staff, provision for relaxation and comfort, display for children and opportunities for professional growth.

The average teachers' importance scores for the total scale (see Table 3) varied between 4.18 and 5.00 (M=4.78, SD=0.22). Statistically significant differences were found between the three dimensions of quality, $\chi^2(2)=130.60$, $p<0.001$ (see Table 4). Teachers gave higher importance scores to Interactions-Language than to Activities-Routines ($Z=-6.70$, $p<0.001$, $r=-0.45$) and Space-Adults ($Z=-1.07$, $p=0.29$, $r=-0.07$). No statistically significant associations were found between the years of education of the teachers and their importance scores, and no differences were found between teachers' importance scores in private for-profit and private non-profit centers, or in 1–2 and 2–3 years-old classrooms.

Parents' and teachers' quality scores

Descriptive statistics for the items and dimensions of the ITERS-RPQ and ITERS-RTQ are presented in Tables 2 and 3. Using the ITERS-R classification for quality scores, on average, parents considered that their children were attending good-quality classrooms (M=5.33, SD=0.89). In fact, 2.7 % of parents rated their children's classrooms as excellent (mean scores equal to 7.00), 60.9 % as good-quality classrooms (mean scores between 5.00 and 6.99), and 36.4 % of classrooms were rated by parents as being of minimal quality (mean scores between 3.00 and 4.99). Statistically significant differences were found between the three dimensions of quality, $\chi 2(2)=124.36$, $p<0.001$: parents gave higher quality scores to classrooms in Interactions-Language than in Activities-Routines ($Z=-9.04$, $p<0.001$, $r=-0.61$) and Space-Adults ($Z=-8.73$, $p<0.001$, $r=-0.59$). Small to moderate negative associations were found between parents' quality scores and the years of education of the parents on global quality ($r_s=$

Table 2 Mean scores for the ITERS-RPQ, ITERS-RTQ, and ITERS-R items

	Importance		Quality		
	Parents	Teacher	Parents	Teacher	Observers
1. Indoor space	4.80	4.91	5.17	4.90	3.58
2. Furniture for routine care and play	4.65	4.78	5.24	4.72	3.05
3. Provision for relaxation and comfort	4.66	4.66	5.04	4.28	3.01
4. Room arrangement	4.72	4.94	5.43	5.13	3.18
5. Display for children	4.51	4.67	5.24	4.89	3.77
6. Greeting/departing	4.85	4.90	6.03	5.68	2.35
7. Meals/snacks	4.85	4.89	5.73	5.79	1.62
8. Nap	4.73	4.71	5.63	5.38	1.21
9. Diapering/toileting	4.88	4.97	5.94	5.79	1.06
10. Health practices	4.86	4.91	5.70	5.74	1.57
11. Safety practices	4.88	4.95	5.38	5.42	2.32
12. Helping children understand language	4.95	4.95	6.03	5.90	4.08
13. Helping children use language	4.84	4.94	5.87	5.90	4.00
14. Using books	4.63	4.75	5.09	4.59	1.56
15. Fine motor	4.65	4.83	5.26	4.93	4.00
16. Active physical play	4.73	4.77	4.92	4.71	1.91
17. Art	4.72	4.77	5.54	5.47	3.03
18. Music and movement	4.76	4.82	5.66	5.57	2.41
19. Blocks	4.36	4.49	4.44	3.84	1.81
20. Dramatic play	4.52	4.75	5.11	4.70	3.36
21. Sand and water play	3.75	4.15	2.98	2.55	1.08
22. Nature/science	4.42	4.47	4.49	4.25	1.52
23. Use of TV, video, and/or computer	3.71	3.69	4.25	4.23	1.52
24. Promoting acceptance of diversity	4.42	4.33	4.36	3.95	1.30
25. Supervision of play and learning	4.87	4.85	5.88	5.82	3.59
26. Peer interaction	4.87	4.95	5.94	5.91	4.28
27. Staff-child interaction	4.94	4.97	6.25	6.03	3.85
28. Discipline	4.93	4.91	5.90	5.80	3.07
29. Schedule	4.81	4.85	5.69	5.55	3.19
30. Free play	4.74	4.83	5.55	5.57	2.06
31. Group play activities	4.69	4.79	5.54	5.57	2.21
32. Provisions for children with disabilities	4.79	4.90	5.21	5.09	2.70
33. Provisions for parents	4.68	4.74	4.79	4.74	3.51
34. Provisions for personal needs of staff	4.52	4.75	4.79	4.75	3.78
35. Provisions for professional needs of staff	4.36	4.61	4.67	5.08	4.26
36. Staff interaction and cooperation	4.50	4.78	5.15	5.20	4.14
37. Staff continuity	4.68	4.75	5.37	5.37	4.41
38. Supervision and evaluation of staff	4.40	4.45	4.80	4.34	2.36
39. Opportunities for professional growth	4.47	4.67	4.53	4.03	2.04

Importance was rated between 1 (*not important*) and 5 (*very important*). Quality/performance was rated between 1 (*not well/inadequate*) and 7 (*very well/excellent*)

Table 3 Means and standard deviations for the ITERS-RPQ, ITERS-RTQ, and ITERS-R global scores and dimensions

	Number of items	Importance		Quality		
		Parents *M* (SD)	Teachers *M* (SD)	Parents *M* (SD)	Teachers *M* (SD)	Observers *M* (SD)
Interaction-Language	6	4.90 (0.21)	4.93 (0.15)	5.97 (0.82)	5.89 (0.79)	3.81 (1.09)
Activities-Routines	14	4.64 (0.37)	0.32 (4.72)	5.17 (0.99)	4.91 (1.01)	2.41 (0.54)
Space-Adults	10	4.66 (0.41)	4.76 (0.25)	5.13 (1.03)	4.97 (1.01)	3.05 (0.65)
Global	34	4.70 (0.33)	4.78 (0.22)	5.33 (0.89)	5.13 (0.90)	2.83 (0.47)

−0.23, $p<0.05$) and on Activities-Routines and Space-Adults ($r_s=-0.19$, $p<0.05$; $r_s=-0.30$, $p<0.01$). No statistically significant differences were found between parents who had their children attending private for-profit or private non-profit centers, and between parents who had their children attending 1–2 or 2–3 years-old classrooms.

On average, teachers gave their own classrooms good-quality scores ($M=5.13$, $SD=0.09$), with 1.8 % of classrooms receiving inadequate-quality scores, 41.8 % minimal-quality scores, and 56.4 % good-quality scores. Teachers gave higher ratings in Interactions-Language than Activities-Routines, $F(2218)=154.57$, $p<0.001$, $\eta^2=0.59$. No statistically significant associations were found between teachers' quality scores and the years of education of the teachers, and no statistically significant differences were found between teachers' quality scores in private for-profit and private non-profit centers and in 1–2 or 2–3 years-old classrooms.

Associations between importance and quality scores

Correlations between parents' quality scores and parents' importance scores were computed for both global and dimension scores. Spearman correlation coefficients were calculated due to violation of normality of distributions. Statistically significant associations were found, with

Table 4 Repeated measures ANOVA: observers', parents', and teachers' quality assessments

	M	SD	*F*(df)	*p*	η^2	Observer vs parents	Observer vs teachers	Parents vs teachers
Global scores								
Observers	2.83	0.47	433.81 (1.68, 253.73)	0.00	0.80	***	***	ns
Parents	5.33	0.89						
Teachers	5.13	0.90						
Activities-Routines								
Observers	2.41	0.54	393.67	0.00	0.78	***	***	ns
Parents	5.17	0.99	(1.68, 183.36)					
Teachers	4.91	1.01						
Space-Adults								
Observers	3.05	0.65	225.85	0.00	0.67	***	***	ns
Parents	5.13	1.03	(1.69, 184.19)					
Teachers	4.97	1.01						

***$p<0.001$

coefficients ranging from 0.34 to 0.45 ($p<0.001$). The same procedure was followed for teachers' quality and importance scores. Statistically significant associations were found, with coefficients ranging from 0.19 ($p<0.05$) to 0.29 ($p<0.01$). These results mean parents and teachers tend to evaluate classrooms more positively when they also attribute higher importance to the quality criteria that are being evaluated.

Parents', teachers', and observers' discrepancies

Average quality scores given by parents, teachers, and external observers were compared using repeated measures ANOVA (see Table 4). Since the sphericity assumption, checked through Mauchly's test, $\chi 2(2)=22.71$, $p<0.001$, was violated, Greenhouse-Geisser correction was used. Differences were statistically significant: the post hoc tests with the Bonferroni adjustment ($p=0.0167$) indicated the existence of differences between external observers' and parents' ratings and between external observers' and educators' ratings. Childcare classrooms were evaluated more negatively by external observers than by parents and teachers. The differences between parents' and educators' average quality scores were not statistically significant.

Parents', teachers', and external observers' ratings were also compared in the three dimensions of quality. Due to violation of the normality assumption of parents' ratings in the dimension Interactions-Language, Friedman's test was used. Repeated measures analysis of variance was used for the other two dimensions. Bonferroni adjustment ($p=0.0167$) was used due to multiple univariate tests. Statistically significant differences were found in the Interactions-Language quality scores, $\chi 2(2)=149.44$, $p<0.001$: external observers tended to score classrooms' quality lower than parents ($Z=-8.97$, $p<0.001$, $r=-0.60$) and lower than teachers, $t(109)=-18.42$, $p<0.001$, $r=0.87$. There were no statistically significant differences between parents' and teachers' quality average scores ($Z=-0.86$, $p=0.39$, $r=-0.06$).

Statistically significant differences were also found in the other two dimensions (see Table 4). Greenhouse-Geisser correction was used due to the violation of the sphericity assumption in Activities-Routines', $\chi 2(2)=22.62$, $p<0.001$, and Space-Adult's data, $\chi 2(2)=21.90$, $p<0.001$. Post hoc tests indicated differences between the external observers' ratings of quality and parents' and teachers' ratings of quality. There were no statistically significant differences between teachers' and parents' average scores (see Table 4). In both dimensions, external observers gave lower average ratings than parents and teachers.

Following Cryer and Burchinal's (1997) procedure, correlations between observers', parents', and teachers' mean scores were analyzed (Table 5). External observers' scores had a modest to moderate association with teachers' scores and parents' scores, with the exception, for parents, of Interactions-Language. Generally, associations were smaller between observers' and parents' scores than between observers' and teachers' scores.

Discussion

The quality criteria included in the ITERS-R are highly valued by Portuguese parents, matching the findings obtained in USA (e.g., Cryer and Burchinal 1997). An innovative aspect of the present study was the analysis of teachers' perspectives on these quality criteria, as previous studies focused on parents' perceptions only. The finding that all the ITERS-R quality criteria are also highly valued by teachers contributes to substantiate the use of this instrument in Portugal and to understand what parents and teachers value in childcare services for toddlers.

Table 5 Correlation coefficients between observers', parents', and teachers' quality scores

	1	2	3	4	5	6	7	8	9	10	11
1. Global observer											
2. Global parents	0.25**[a]										
3. Global teachers	0.34***[a]	0.12[a]									
4. Interaction-Language observer	0.71***[a]	0.20*[a]	0.19*[a]								
5. Interaction-Language parents	0.12[b]	0.86***[b]	0.03[b]	0.11[b]							
6. Interaction-Language teachers	0.31**[a]	0.26**[a]	0.83***[a]	0.24*[a]	0.18[a]						
7. Activities-Routines observer	0.78***[a]	0.26**[a]	0.17[a]	0.34***[a]	0.19*[b]	0.16[a]					
8. Activities-Routines parents	0.24*[a]	0.96***[a]	0.12[a]	0.16[a]	0.75***[b]	0.25*[a]	0.28**[a]				
9. Activities-Routines teachers	0.36***[a]	0.07[a]	0.96***[a]	0.19*[a]	−0.01[a]	0.76***[a]	0.24*[a]	0.08[a]			
10. Space-Adults observer	0.72***[a]	0.17[a]	0.41***[a]	0.26**[a]	0.06[a]	0.29**[a]	0.38***[a]	0.16[a]	0.38***[a]		
11. Space-Adults parents	0.25**[a]	0.93***[a]	0.14[a]	0.21*[a]	0.75***[b]	0.26**[a]	0.21*[a]	0.80***[a]	0.09[a]	0.20*[a]	
12. Space-Adults teachers	0.29**[a]	0.10[a]	0.93***[a]	0.16[a]	0.04[b]	0.71***[a]	0.05[a]	0.09[a]	0.82***[a]	0.43***[a]	0.12[a]

[a] Pearson correlation coefficient

[b] Spearman correlation coefficient

*$p<0.05$; **$p<0.01$; ***$p<0.001$

On average, both groups placed a higher value on the dimension Interaction-Language than the dimensions Activities-Routines and Space-Adults. The high importance given to process variables, such as adult-child relations or peer relations in ECE, reinforces the conclusions of other studies (e.g., Harris and Tinning 2012; Weaven and Grace 2010). A more detailed analysis at the ITERS-R item level allowed for the recognition that, besides items related to interactions and language, some items related to personal care routines (i.e., diapering/toileting, safety practices, health practices) are also among the items most valued by parents and teachers. Several studies developed in Portugal and other countries (e.g., Folque 1995; Cryer and Burchinal 1997; Pierrehumbert et al. 2002), following the same or different methodologies, have obtained similar results: interactions between teachers and children as well as health-related practices are highly valued by parents.

Although all the ITERS-R items were considered important, sand and water play and promoting acceptance of diversity were among the items with lower mean scores for both parents and teachers. Those two items were also among the less valued by parents in the USA and Germany (Cryer and Burchinal 1997; Cryer et al. 2002). Nevertheless, Portuguese guidelines for childcare and preschool emphasize their importance (Ministério da Educação 1997; Rocha et al. 1996).

On average, and in terms of the assessment of childcare quality, parents and teachers gave the observed childcare classrooms good-quality scores, with statistically significant higher ratings in Interactions-Language than in the other two dimensions. Parents' quality scores tended to be lower for parents with higher levels of education, indicating those parents are possibly more demanding, critical, and informed. A similar trend was found by Kim and Smith (2007) for parents with children in childcare and by Cryer and Burchinal (1997) for parents with children in preschool but not in childcare.

As found in other countries (Cryer and Burchinal 1997; Grammatikopoulos et al. 2012; Sheridan 2000), parents' and teachers' ratings were substantially higher than external observers' ratings for the same classrooms, in both global and dimension scores. Despite the differences between observers' quality scores and parents' and teachers' scores, positive intercorrelations were found, revealing a tendency to find higher ratings given by parents and teachers in relatively higher quality classrooms as assessed by the external observer. It is interesting to notice that, for teachers, a stronger correlation was found for Space-Adults, indicating a tendency to have similar ratings on items more dependent on the institution and less dependent on the educator himself/herself. Since they are essentially structural, these items are easier to assess objectively. Furthermore, information for external observers' ratings on some of those items was provided by the teachers, which could contribute to a greater similarity between the scores. Notwithstanding, it is important to highlight parents and teachers as a whole considered that, at the very least, minimal quality standards were achieved in the classrooms. A high percentage of classrooms was rated as good quality by both groups, while external observers rated 61 % of classrooms as having inadequate quality and the other 31 % of classrooms as having minimal quality (as explored by Barros and Leal 2011).

Teachers' and parents' quality ratings seem to be influenced by the importance they attribute to quality criteria, as indicated by small to moderate correlations between quality scores and importance scores: parents and teachers gave higher quality scores when they also strongly valued the quality criteria. These associations are in accordance with the findings of Cryer and Burchinal (1997) and Cryer et al. (2002). Therefore, parents and teachers may be assessing quality based on what they would like to be happening, rather than on what is actually happening, as hypothesized by Cryer and Burchinal (1997). These differences can also be due to the parents' lack of childcare information and knowledge. The involvement of parents in childcare routines and activities, which is generally low, does not offer them many

opportunities to fully observe. For instance, in a study developed in the district of Porto, Portugal, only 22 % of the mothers had visited childcare during the daily activities (Barros and Cruz 2012). Other reasons may also contribute to Portuguese parents' high scores, such as the limited options they have for their children's education. Although the coverage rate for childcare services has been increasing, it is still below the requirements, especially in some areas of the country. Additionally, with a homogeneously low quality of services, parents cannot have high-quality institutions as a reference, or the possibility of choosing a childcare center based on high-quality standards. Previous studies had found that quality of care is not the most important criterion when choosing the childcare center. Pessanha (2008), in a study developed in Portugal with 120 parents with children attending childcare, found that 39 % of parents pointed out location (proximity from home, 26 %, or from work, 13 %) as the main reason to choose a childcare center. Among other motives were friends and family recommendations (30 %) and cost (5 %). Other studies concluded that convenience factors are especially important for parents with lower family incomes (e.g., Early and Burchinal 2001; Peyton et al. 2001), given their material constraints. Finally, as stated by Cryer et al. (2002), requirements for the education and care of children in centers are different from requirements for the education and care of children at home (e.g., the supervision of a group of children in the childcare playground is more demanding than the supervision parents usually provide at home), which can cause parents and observers to assess differently the same reality, despite the use of the same indicators. This situation can also apply to teachers without training in ECE. Although the majority of teachers have a college degree in ECE, their degrees are predominantly oriented to preschool and not to the education and care of younger children. Additionally, as highlighted by Grammatikopoulos et al. (2012), observers are less emotionally involved than parents, and the same can be argued for teachers when compared to external observers.

The aforementioned specific situation, reported by Harris and Tinning (2012) in Australia, motivates the discussion of one last point. Public awareness about childcare services can empower parents and communities to advocate for higher quality services, compelling the government to support developmental appropriate practices. The increase of coverage rate in Portugal was an important step to improve the education and care of infants and toddlers. However, other initiatives are needed to support institutions to improve their practices, in order to positively influence child outcomes. As the literature has been showing, only high-quality education and care can have a positive impact in child development and learning (e.g., Vandell et al. 2010). Additionally, several national and international researchers and committees have been advocating for the importance of the early years of life. Recently, the European Commission published some recommendations on how to break the cycle of disadvantage through investment in children (2013/112/UE, February 2013). Some of these recommendations refer specifically to the importance of providing affordable high-quality education and care, especially for children in vulnerable situations and living in disadvantaged areas, and the need to work closely with families. In a country where poverty rate has been increasing, where fertility rate has been decreasing dramatically, and where a high percentage of parents with children younger than 3 years old work full time (e.g., EURYDICE 2009; Organisation for Economic Cooperation and Development 2011), these recommendations should be urgently considered. More specifically, as Mills et al. (2014) discuss, it is also crucial to consider the eligibility criteria for childcare, because in some European countries, such as Portugal, priority of access is given to employed parents over those who are inactive or not employed, which further intensifies inequalities.

This study contributed to the understanding of parents' and teachers' ideas on childcare quality, while simultaneously providing the perception of an external observer. Future studies

may better apprehend teachers' and parents' perceptions, namely by using a different procedure. In this study, external observers were trained to assess classroom quality using the ITERS-R, a scale with 39 items that provides specific indicators of quality for each one of the items on the quality scores 1 (*inadequate quality*), 3 (*minimal quality*), 5 (*good quality*), and 7 (*excellent quality*). Parents' and teachers' questionnaires (i.e., ITERSPQ and ITERSTQ) have similar indicators, but those indicators are not specifically allocated to the scale points 1, 3, 5, and 7. Thus, based on a set of indicators, parents and teachers globally rate the importance of the item, between 1 and 5, and the quality of that classroom, between 1 and 7. Therefore, discrepancies between external observers', and parents', and teachers' scores, can be partially attributable to differences between the measures. Likewise, this issue should be further explored, namely by using the same measure of quality, such as the ITERS-R or the questionnaires used in this study, or even a new instrument allowing parents, teachers, and observers to score the specific indicators of the ITERS-R. Moreover, a qualitative study, before or after a quantitative study, could also clarify parents' and teachers' importance and quality scores. Despite the above-mentioned limitations, this study contributed to discuss and expand the definition of quality in ECE in Portugal, by understanding teachers' and parents' perspectives about quality and, specifically, by providing information on the applicability to Portuguese toddler classrooms of an instrument used worldwide, the ITERS-R.

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