

How do children with Cochlear Implant and their families perceive school and school life?

A comparison study between an Italian and a Swedish sample

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Contents

Introduction	pg. 3
Aims and Method	pg. 4
Results	pg. 4
Discussion	pg. 5
Conclusion	pg. 5
References	pg. 6
Data and Figures	pg. 7

Introduction

The number of children with Cochlear Implant (CI) is increasing every year. Both in Italy and in Sweden there are about 1-2 deaf born per 1000 newborns, which means about 500 – 1000 children in a country like Italy every year. No wonder the miracle of CI is expanding. It is not easy to understand why the process of introducing CI as a routine has been so slow. It has taken decades, as Archbold describes, to overcome misunderstandings convincing professionals and parents involved of the advantages for children born deaf to live with CI (Archbold, 2008).

The controversies in the field of education are still alive. In Italy the oral method in deaf education has been particularly strong, ever since the congress in 1880 in Milan when the oral tradition first was established. Some countries like Sweden have schools originally planned for deaf children that are still functioning. The sign language has also a particular story that differs between Italy and Sweden. In Sweden it is officially recognised since the seventies and in Italy it has still not been officially recognised and the last proposal discussed in Parliament in July 2012 was rejected. In some groups it is not “accepted” that CI children never use sign language, because they have had the opportunity to learn to hear, to listen and to speak.

CIs have a positive effect on the quality of life for children, especially if they get the implant during their first year (Cambell, 2012). The young age allows them to achieve age-appropriate spoken language. Several studies show a positive economic impact for society, educational and family costs decrease with a younger age at implantation, (Colletti, 2011).

In the past children born deaf attended special schools, dislocated in the country and often distant from home. Today the mainstream school is becoming a natural choice. Therefore teachers, parents and friends of CI children need more information and knowledge about CI children’s special needs at school (Flexer, 2009).

It is therefore a priority to investigate their special needs, to understand the support systems available in schools and what kind of readiness schools have to take care of CI children’s hearing situation.

During spring and summer 2011 two parent organizations, the Swedish association, *Barnplantorna*, and the Italian association, *Parlo io*, undertook a study among families who had a child at school with a cochlear implant.

It is important to take parents in consideration both regarding their central role as “experts” of their child and their need to get information or updated knowledge on CI and also regarding technical improvements and acoustics in different environments.

Aims and Method

The main aim of the present study is to investigate school life of CI-children, their well-being, friends, teacher’s availability, parents’ perception, collaboration between schools and specialised staff for children with CI, acoustics in classrooms.

Data were collected using a multi-structured questionnaire, written originally in Swedish and in a second moment translated into Italian by a professional translator.

Both in Sweden and in Italy 220 questionnaires were sent to families with a child with CI in their school age. All Participants received a prepaid envelope for sending it back to the responsible association once completed.

Results

Ninety-seven Swedish families and 115 Italian families answered and sent back the questionnaire. The percentage of respondents in both samples was around 50 %.

The results show some similarities and some interesting differences between the two countries. Special schools for deaf children or classes within mainstream schools seem more frequent in Sweden. In fact **nearly half of the Swedish children in the sample attend special schools** or special classes for hard-of-hearing students and only fifty-three percentages attend a mainstream public school. In Italy the oral tradition in the education of deaf children has been particularly strong and since the seventies mainstream schools have opened up for children with different handicaps. This historical and cultural background may explain why **nearly 100 % of Italian participants attend mainstream schools** and only two children participating in this study attend special school for deaf children.

No major differences were found concerning age and gender-distribution in both samples, the largest age group (64%) of participants was between 6 and 12 years. of age (figure 1).

One of the most striking differences between the Italian and the Swedish sample concerned the **number of participants with bilateral CI**. In the Italian sample only two girls and four boys had bilateral implants, while in the Swedish sample 29 girls and 39 boys had bilateral implants (figure 2). Among Italian participants **40% had their first implant before 3 years of age** while among the Swedish participants **70% had one implant before the age of 3 years** (Figure 3). For the first CI surgery three years of age is internationally recognised as **an upper limit for best results as to language acquisition**. Several authors report that children who receive their implant at a very young age have shown dramatic results in restoring normal levels of auditory function (Colletti, 2011).

School life seemed to be a **positive experience** for most children participating in the study, only 2 Italian children and 1 Swedish child answered they would have preferred not to go to school at all (Figure 4).

Friends were considered to be important and a sign of social integration. Most Italian, 101 children, and 67 Swedish children report they have **many friends at school and outside school**. Only 10 Italian and 26 Swedish children report they have few friends in school (Figure 5 and 6).

To improve CI-children's hearing capacity, other **hearing devices (FM or digital system) are often recommended**. The data show that most participants use supporting hearing devices except for 8 Italian and 16 Swedish children.

Almost all Italian parents reported that the **acoustics environment of the classroom were unsatisfying**, while in Sweden the results were opposite (figure 7).

Not all children have a supporting program at school in fact 47 Italian parents and 32 Swedish say they have not.

Both in Italy and in Sweden parents were satisfied or very satisfied with school. More than half of parents in both countries (60% of Italian and 70% of Swedish parents) reported that teachers had enough information about CI (Figure 8). More information and knowledge

especially about pedagogical methods but even about acoustics in different environments was a request by both Swedish and Italian parents .

Discussion

From the results of the present study it seems that the CI-children who participated in both Italy and Sweden are well adapted at school, appreciating school life and most of them have a considerable number of friends. Italian children reported to have more friends. The study didn't include questions on cultural differences between the two samples analysed. **The main differences regarded bilateral implants, children's age at first implant and perception of acoustics in classrooms.** During the last decade bilateral implants have become a routine in some countries. Binaural hearing gives a stereophonic hearing, a better auditory orientation especially in very loud surroundings. It also gives children an increased life quality, if one implant suddenly gets a technical problem then the second implant is there to guarantee the hearing function.

Similarities between the two samples concerned the perception of school and teachers information regarding CI. One of the differences the study show is the presence/absence of mainstream schools. In a future study it would be most interesting to approach the issues concerning sign language in Italy and Sweden. Another area of importance would be to investigate how CI children communicate their "CI-story" and how they inform friends about a CI.

Conclusion

Children with CI need a **good auditory environment** regardless which type of school they attend. There's a need to keep a **follow up in all kind of schools** considering individual needs. The collaboration between schools and audiological care needs to be improved. This study highlights the efforts needed to collaborate for a better school life for children with CI both in Italy and in Sweden. **School perception and organization have several similarities in Sweden and Italy.** It is essential to learn from experiences at national and international level to develop an optimal pre-school, school and rehabilitation for children and adolescents with hearing loss.

References

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DATA

Figure 1. Age and Gender distribution in the two samples

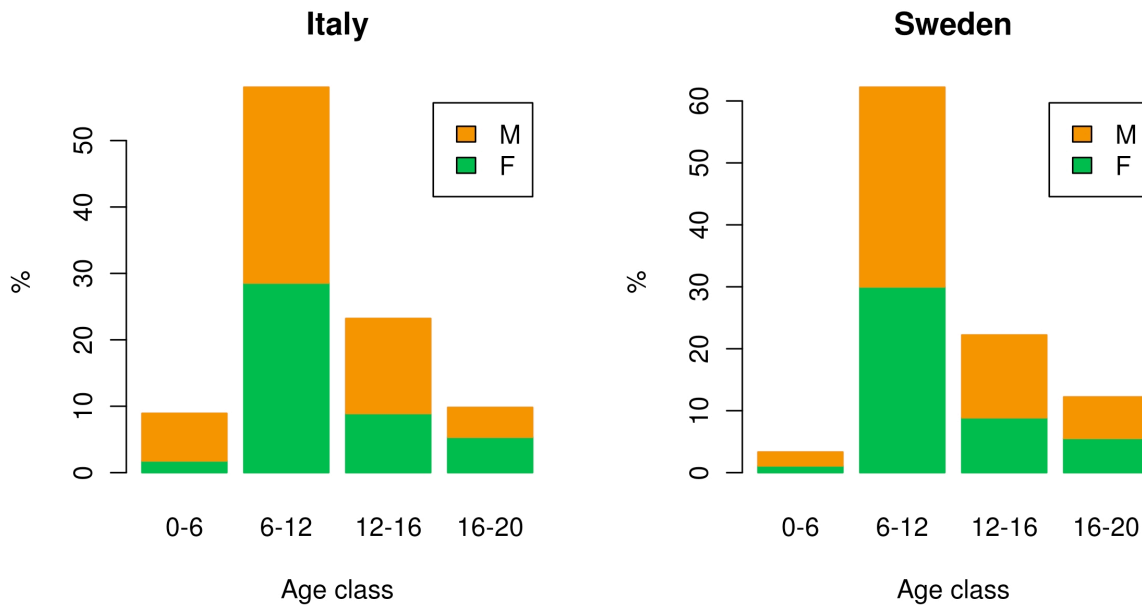


Figure 2. Age at first CI surgery

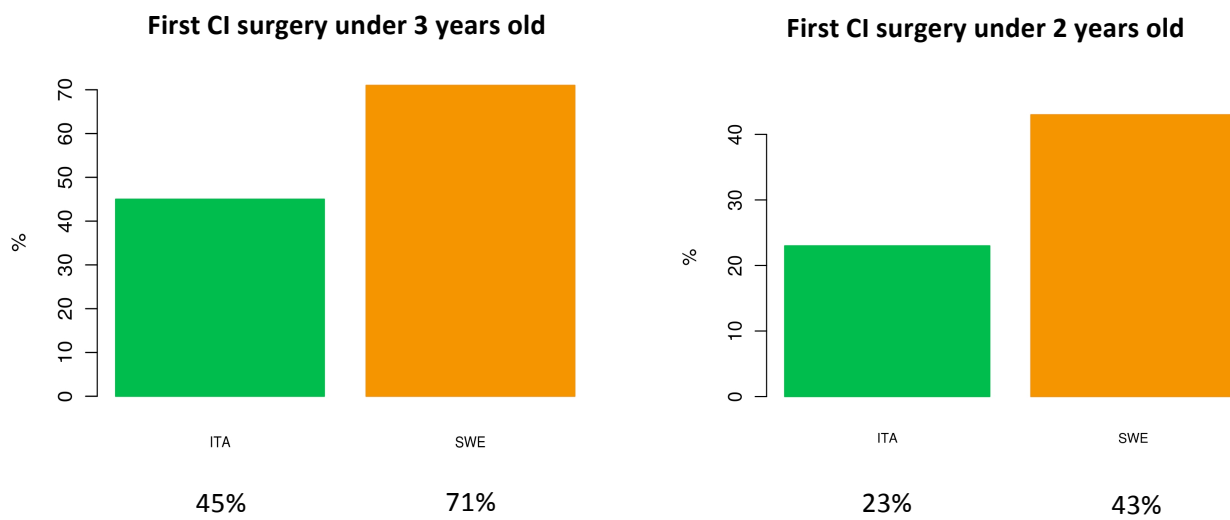
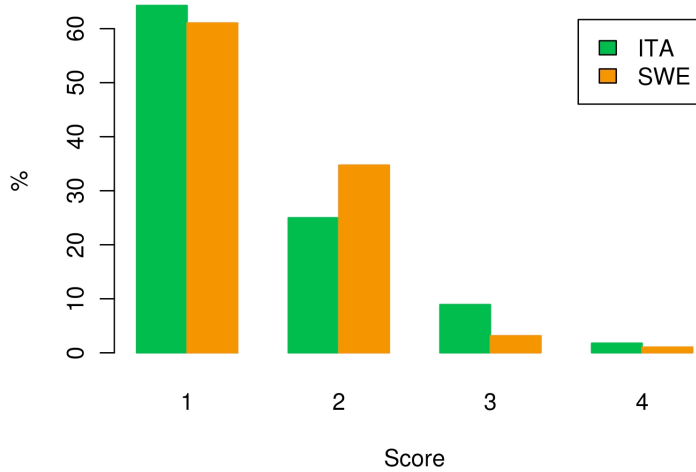


Figure 4. School experience



SCORE

Like it	1
Almost like it	2
Boring	3
Prefer to don't go to school	4

Figure 5. Friends at school

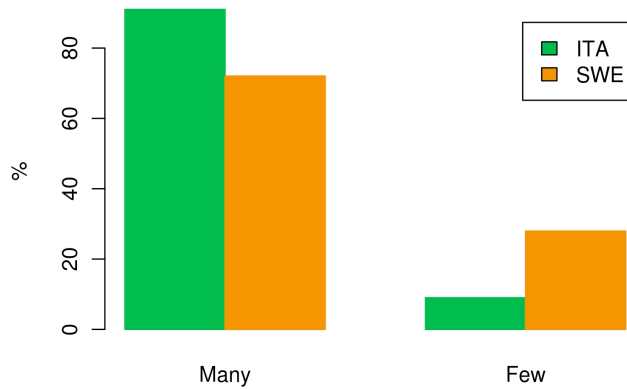


Figure 6. Friends outside school

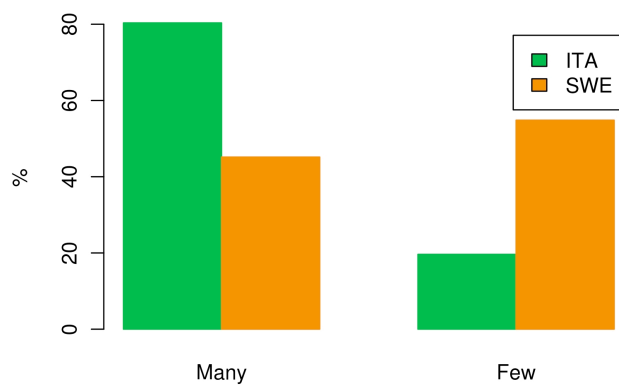
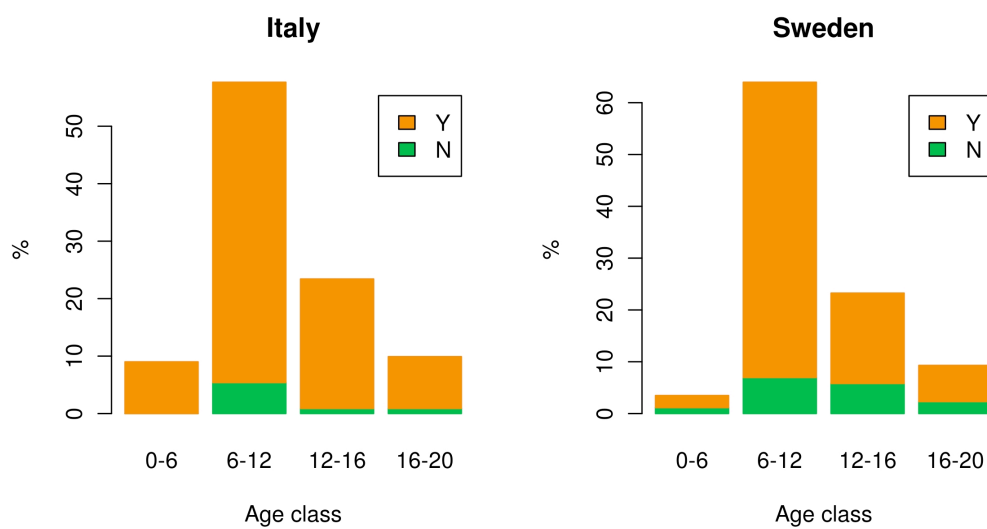
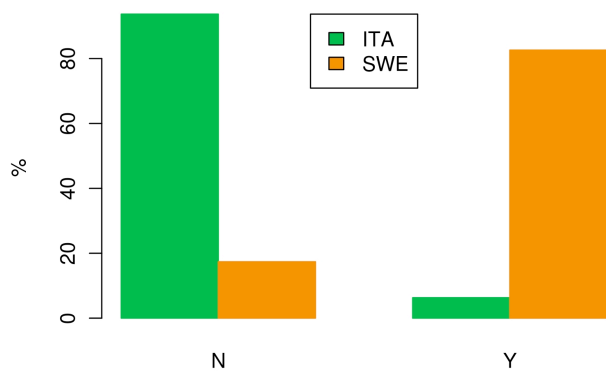


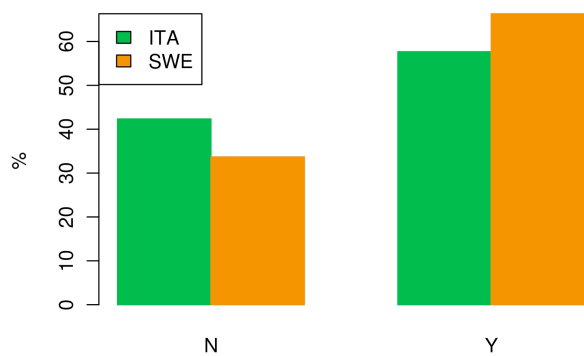
Figure 7. Use of other hearing device at school by age group.



Y= Yes / N =No

Figure 8. Acoustic adaptation of the classroom

Y= Yes / N =No

Figure 9. Does your child follow a “supporting program” at school?

Y= Yes / N =No

Figure 10. How often is the “supporting program” updated?

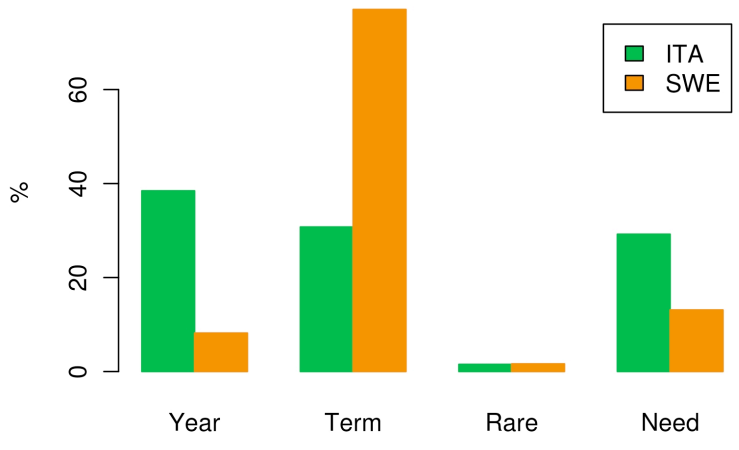
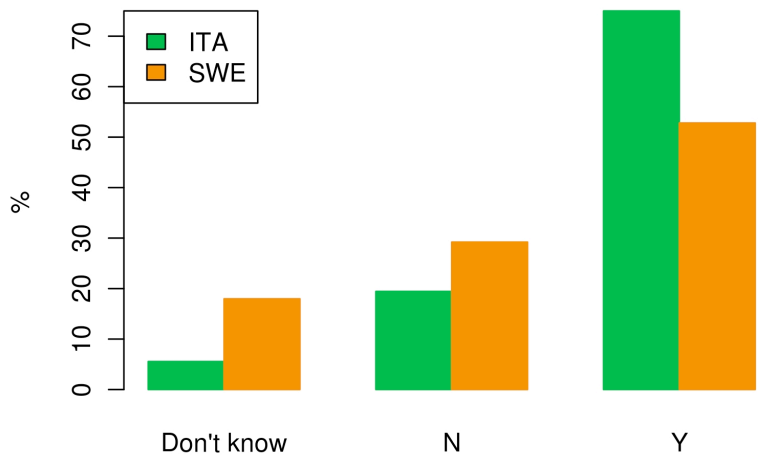
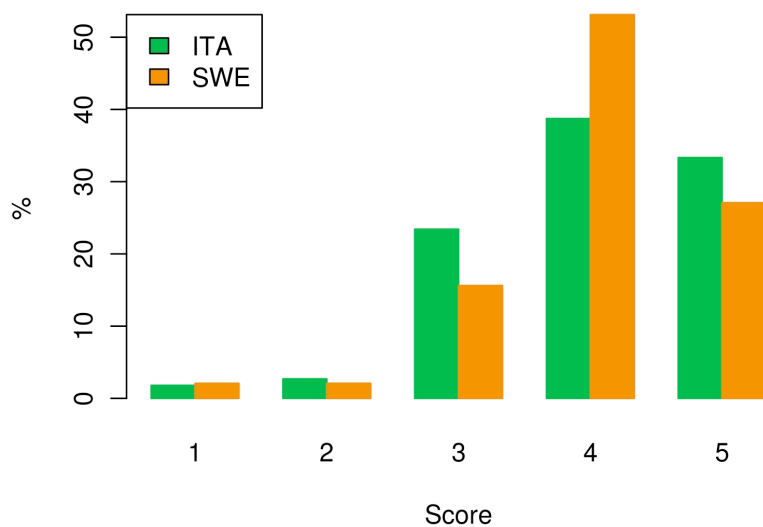


Figure 11. Does the school and the support team collaborate?



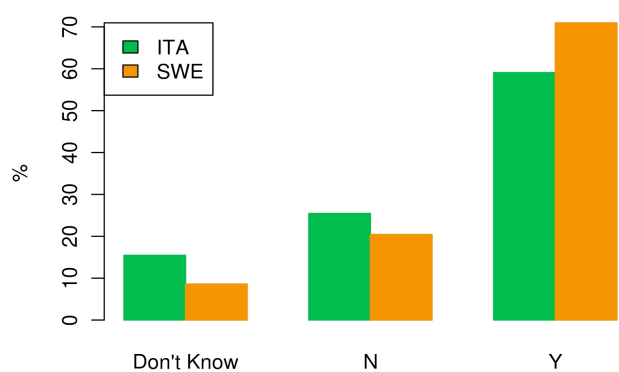
Don't Know / Yes (Y) / No (N)

Figure 12. How satisfied are you as a parent with your child's school?



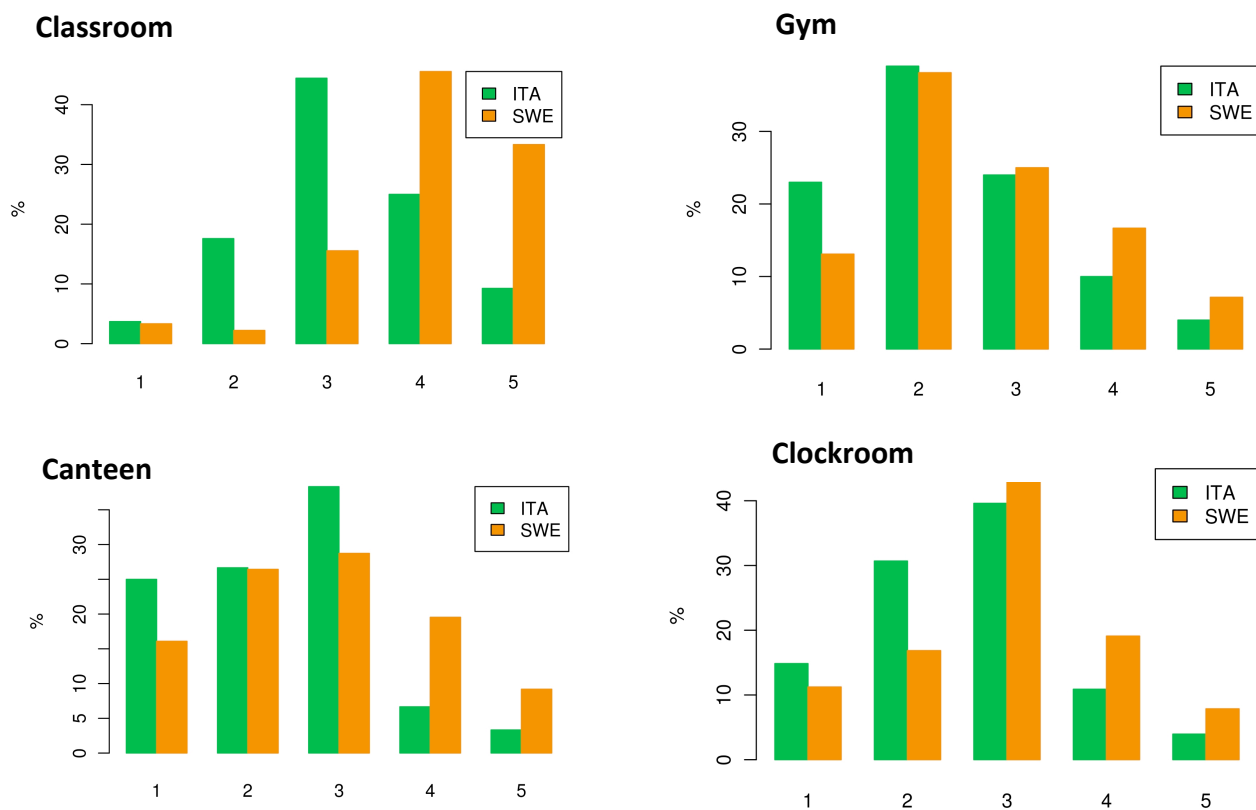
Score: from 1 "very unsatisfied" to 5 "very satisfied"

Figure 13. Do you feel your child's teachers have received enough information about CI?



Don't know/ Yes (Y) / No (N)

Figure 14. How is the acoustic environment in school:



SCORE: from 1 “very bad” to 5 “very good “

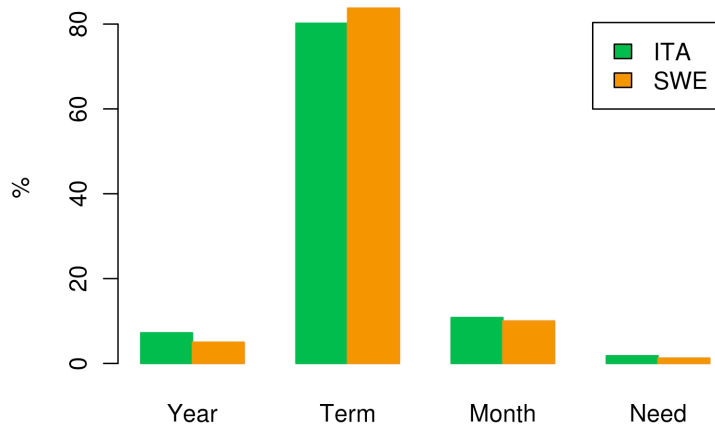
As a parent would you like to receive more information about:

—

Total number of participants

	ITALY	SWEDEN
Acoustics and environment	36	33
Hearing aid	45	40
Pedagogical methods	62	55

Figure16. How often do you meet the school staff about your child?



Answers:

Once a year

Each term

Once a month

When needed