Bullying and cyberbullying and deaf and hard of hearing children: A review of the literature

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ABSTRACT
Bullying is a public health issue that causes major concern to parents and professionals and merits greater attention. The purpose of this investigation was to conduct an exhaustive review of the literature in the field of bullying/cyberbullying and deafness. Computer and manual searches of 34 years of peer-reviewed journal articles were conducted. A total of 13 articles, that examined bullying/cyberbullying among the deaf and hard of hearing (d/hh) student population, met the criteria for inclusion in the review. Results indicate that (a) minimal research has been published focusing specifically on the problem of bullying among d/hh children; (b) most of the studies are qualitative, with a small number of participants; (c) half of the studies reported sporadic findings on bullying while exploring other issues. Thus, it is obvious that the quantity and the quality of research in the field should be enhanced.

KEYWORDS
bullying, cyberbullying, deaf, hard of hearing, review

Introduction
Bullying is among the major concerns that parents, teachers, professionals (e.g. psychologists, social workers), and stakeholders have about children’s safety and well-being. Bullying is a public health issue that merits special attention. The National Institute of Child Health and Human Development1 found that about 3 in 10 children are affected as bully, victim or both. According to the National Center of Education Statistics2, 28% of students aged between 12 and 18 years of age, reported that they were bullied at school and 6% that they were cyber-bullied during the 2008-09 school year.

Bullying has been defined as a form of aggressive behaviour characterized by repetition and an imbalance of power in order to hurt or humiliate someone.3-4 Most definitions of the term “bullying” incorporate three characteristics. First, the behavior occurs over an extended period of time; second, the intention behind the behavior is...
to harm, hurt or damage mentally, socially or physically the victim; finally, there is an imbalance of power between the bully and the victim.5-8

Bullying takes many forms but is often characterized by “name-calling; taunting; mocking; making offensive comments; kicking; hitting; pushing; taking belongings; (...) producing offensive graffiti; gossiping; excluding people from groups; and spreading hurtful and untruthful rumours. Although sometimes occurring between two individuals in isolation, it quite often takes place in the presence of others” (Department for Children, Schools, and Families,9 p. 11). It can take place in playgrounds, hallways, bathrooms, etc.

A form of bullying that has increased worldwide during the last few years, due to the rapid development of technology, is ‘virtual bullying’, or cyberbullying, in which a group or an individual use information and communication technology repeatedly (e.g., inappropriate text messaging and emailing, sending offensive or degrading images by phone or via the internet) to intentionally hurt others.10, 11

A number of studies have emphasized that it is more usual for males than for females to be bullies, or more usually for same age peers to be bullies. Bullies often come from insecure neighbours, and tend to copy negative role models at home; it is more possible for a bully to drink alcohol, or smoke tobacco, and to consume drugs.7

Bullying can have harmful consequences for the victim; Holliday12 emphasizes that “the negative effects of bullying are pervasive in all areas of life, often impacting on physical or emotional health, schoolwork and peer relations” (p. 6). Studies have shown that the victims had low self-esteem, experienced feelings of low self-worth, and suffered from loneliness and depression.4, 13-15 In another study a relationship was noted between reported levels of bullying and not sleeping well, bed wetting, feeling sadness, with more occasional headaches and tummy-aches.16 Finally, in a study by Katz, Buchanan, and Bream,17 it was brought out that having been bullied had consequences on the victims’ attitude to school, specifically on their attendance and attainment. On the other hand, according to the Department for Children, Schools, and Families,9 those who conduct the bullying or witness the bullying can also experience harmful consequences, whilst the impact on parents and school staff can be considerable.

There is a considerable number of risk factors in bullying for some children. Bullying is often motivated by prejudice against particular groups, for example on grounds of race, religion, or culture (e.g. belonging to minority ethnic group), gender, appearance (e.g. being short) or health conditions, individual traits (e.g. shyness, poor coping strategies, no friendships), sexual orientation, because a child is adopted or has caring responsibilities (e.g. young carers or looked-after children), or because a child has a disability.9, 12, 18-21

Regarding the latter, evidence shows that children with disabilities are more likely to experience bullying than their peers.22-29 Marini, Fairbairn, and Zuber30 and Ervin31 emphasize that children with disabilities are twice as likely to be bullied than their peers.

In the study carried out by Briggs,32 56% of the children with learning disabilities who participated in that study and attended general schools, reported incidents of bullying. Whitney, Smith, and Thompson29 matched 93 students with disabilities with their peers without disabilities attending general classrooms; they found that 55% of students with mild learning disabilities and 78% of students with moderate learning disabilities experienced bullying compared to only 25% of their matched peers. In the study by Mencap,33 82% of children and young people with a learning disability were reported to have experienced bullying. Little34 reported that 75% of the children with Asperger’s syndrome felt that they were bullied, while in the study carried out by Massachusetts Advocates for Children in 2009 on families of children on the autism spectrum almost 40% of the children experienced bullying.
for more than a year (Disability in a scoop)\(^3\). In a study carried out by Unnever and Cornell\(^3\) it was revealed that 34% of students who reported taking medication for ADHD faced bullying victimization at least 2-3 times a month. Finally, in the study carried out by Doren, Bullis, and Benz\(^3\) 50% of the students diagnosed as having learning disabilities, intellectual disabilities, speech-language disability, or autism reported that they had been bullied by peers at school.

A number of studies\(^3\) also brought out that although children with disabilities are more likely to be the object of bullying, thus the victim, occasionally they may become the bully, because of low self-esteem or because of being bullied by others.

The knowledge base pertaining to the relationship between bullying and d/hh students is relatively new, and somewhat sparse.\(^4\) Little research has been published focusing specifically on the problem of bullying with respect to d/hh children.\(^1\), \(^4\) The aim of this review is to synthesize the body of current research and to expand on the implications for prevention and intervention.

**Methodology**

A variety of electronic literature databases were employed: Academic Search Complete, EBSCOhost, ERIC, Medline/PubMed, PsycINFO, CINAHL, Dissertations & Theses Database (Proquest). The search also included hand searching key journals and books, and scanning the Internet via multiple search engines. The reference lists of the articles found were also examined to identify studies not found through the databases search. The research was conducted with keywords for hearing impairment and deafness, such as “deaf children” and “hard of hearing children” and “hearing-impaired children” cross-referenced with the words “bullying” “cyberbullying” or “victimizing.”

The inclusion criteria were that articles: a) were published in peer reviewed journals; only peer-reviewed studies were considered; unpublished manuscripts (e.g., chapters in books, dissertations, etc) were excluded, b) were based on empirical studies, c) were written in English, d) were published in 1978\(^*\) or later, e) investigated topics related to bullying and deafness. We found 13 articles to fit those criteria.

**Results**

The papers found were divided into two categories, those that: a) focus exclusively on bullying and d/hh children, b) refer to bullying incidentally, while exploring other issues (see Table 1)

**Studies focusing exclusively on bullying/cyberbullying and deafness**

Dixon, Smith, and Jenks\(^4\) carried out a case study in a general secondary school in the UK, which had 70 pupils with special educational needs and 30 d/hh students who attended the ‘Hearing Impaired Unit’. The unit used only spoken English and none of the students used sign language to communicate. A qualitative research methodology was applied. Specifically, data were gathered through semi-structured interviews with 44 participants, who included 12 moderately to severely hearing impaired and 6 hearing students; 11 parents of students who were hearing impaired; 6 specialist staff; 4 mainstream teachers; 2 mainstream managers; a governor; a lunchtime supervisor; and an educational welfare officer. The researchers stressed that hh students were subject to the same specific norms as any other student. However, they found an increased risk of bullying, teasing and social exclusion faced by the hh students, and they argued that the theory of stigmatization (being attributed a lower class status and being socially marginalized and excluded) offered a clear explanation for that phenomenon.

In a different paper\(^4\) based on the study described above, the researchers reported those findings of the study that provided insight in the understanding of the network of the relationships in which the bullying and the management of bullying are integrated. Specifically, the
### Table 1: Studies investigating bullying/cyberbullying among d/hh student population, with descriptions of participants, tools and key findings

<table>
<thead>
<tr>
<th>Author &amp; Year &amp; Country</th>
<th>Topic/issue</th>
<th>Participants (N=) (with gender composition where indicated)</th>
<th>Age range</th>
<th>Method/instruments</th>
<th>Key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dixon, Smith, &amp; Jenks (2004a) UK</td>
<td>Bullying and theory of stigmatization</td>
<td>44 (12 hh students at a secondary school, 6 hearing students; 11 parents of hh students; 6 specialist staff; 4 mainstream teachers; 2 mainstream managers; a governor; a lunchtime supervisor; and an educational welfare officer)</td>
<td>—</td>
<td>-Qualitative -Semi-structured Interviews</td>
<td>-The hh students were subject to the same specific norms as any other student. -There is an increased risk of bullying, teasing and social exclusion for hh students. -The theory of stigmatization (being attributed a lower class status and being socially marginalized and excluded) offers a clear explanation for this phenomenon.</td>
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<td>Dixon, Smith, &amp; Jenks (2004b) UK</td>
<td>Bullying and management</td>
<td>44 (12 hh students at a secondary school, 6 hearing students; 11 parents of hh students; 6 specialist staff; 4 mainstream teachers; 2 mainstream managers; a governor; a lunchtime supervisor; and an educational welfare officer)</td>
<td>—</td>
<td>-Qualitative -Semi-structured Interviews</td>
<td>- Bullying and its management is embedded within the network of relationships which together form the school system. -Individuality of each school system. - The role of psychological boundaries in bullying is important.</td>
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<td>Dixon (2006) UK</td>
<td>Bullying and advice from D/deaf adults</td>
<td>35 adult D/deaf adults</td>
<td>18–55 years</td>
<td>-Qualitative -Semi-structured Interviews</td>
<td>-Suggestions for interventions aimed at children, at staff; and at schools were made - A recursive cycle of school development emerged.</td>
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<td>Dixon (2007b) UK</td>
<td>Bullying and ostracism</td>
<td>35 adult D/deaf adults</td>
<td>18–55 years</td>
<td>-Qualitative -Semi-structured Interviews</td>
<td>-Participants gave accounts that were considered suggestive of ostracism in all types of school placement. -A theoretical frame for ostracism emerged. -A set of codes that could be suggestive of ostracism in other forms of bullying was revealed.</td>
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<tr>
<td>Dixon (2007c) UK</td>
<td>Bullying and scapegoating</td>
<td>35 adult D/deaf adults</td>
<td>18–55 years</td>
<td>-Qualitative -Semi-structured Interviews</td>
<td>-Participants gave accounts that were considered suggestive of scapegoating in all types of school placement.</td>
</tr>
<tr>
<td>Study (Year, Country)</td>
<td>Type</td>
<td>Participants</td>
<td>Method</td>
<td>Findings</td>
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<tr>
<td>Bauman &amp; Pero (2010) USA</td>
<td>Bullying and cyberbullying</td>
<td>52 secondary pupils, Grades 7–12 (30 d/hh and 20 hearing) (31 boys and 21 girls)</td>
<td>Quantitative - A self-report survey, named 'Student Use of Technology'</td>
<td>- No significant differences were found between d/hh and hearing pupils regarding their experiences with bullying and cyberbullying. - Cyberbullying and cybervictimization were strongly correlated, as were bullying and victimization. - 27% of d/hh pupils compared to 8% of hearing students indicated they would report the incidence of bullying to an adult at school. - Moral disengagement was positively correlated only with conventional bullying and not with cyberbullying.</td>
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<td>Skelton &amp; Valentine (2003) UK</td>
<td>Identity</td>
<td>20 D/deaf young people</td>
<td>Qualitative - Semi-structured Interviews</td>
<td>- A number of the participants (who attended a “partially hearing unit”) stressed that they experienced bullying by their hearing peers because they were deaf and were using signs.</td>
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<td>Kent (2003) New Zealand</td>
<td>Identity</td>
<td>522 pupils (52 hh and 470 hearing pupils) (254 girls and 268 boys) 11-15 years of age</td>
<td>Quantitative - Self-filled “Health Behaviour in School-Aged Children (HBSC)” questionnaire</td>
<td>- Those students who identified themselves as having a hearing disability reported statistically significant levels of experiencing bullying.</td>
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<td>Brunnberg, Lindén-Boström, &amp; Berglund (2007) Sweden</td>
<td>School adjustment and mental health symptoms</td>
<td>2919 year 9 pupils (93 with mild to moderate hearing losses, 56 with mild and moderate hearing losses with multiple disabilities, 282 with other disabilities, and 2488 pupils with no disabilities) 15–16 years of age</td>
<td>Quantitative - Self-filled questionnaire</td>
<td>- Both groups of children with a hearing loss were more often bullied than the group with “no disability.”</td>
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<td>Wheeler, A., Archbold, S., Gregory, S., &amp; Skipp, A. (2007) UK</td>
<td>Experiences of young people with cochlear implants</td>
<td>29 young people (15 male and 14 female) 13–16 years of age</td>
<td>Qualitative - Semi-structured Interviews</td>
<td>- 17% of the participants experienced bullying at school. - No association was found between bullying and the type of school attended,</td>
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<td>Reference</td>
<td>Title</td>
<td>Sample Details</td>
<td>Methodology</td>
<td>Findings</td>
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<td>Wauters &amp; Knoors (2007) Netherlands</td>
<td>Social integration</td>
<td>362 grade 1–5 pupils (18 d/hh and 344 hearing) (190 girls and 172 boys)</td>
<td>- Quantitative 2 sociometric tasks (peer ratings and peer nomination)</td>
<td>- D/hh children were nominated more often than their hearing peers on the item bullied (Z = -3.55, p &lt; .001).</td>
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<td>Kvam &amp; Loeb (2010) Norway</td>
<td>Adverse childhood experiences and later mental health</td>
<td>431 adult d/hh people (246 female and 185 male)</td>
<td>- Quantitative - Self-filled questionnaire</td>
<td>- 23% of the participants claimed that they were frequently bullied when they were pupils. - Being the victim of bullying was significantly correlating with reported later mental health problems.</td>
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</table>
researchers emphasized the individuality of each school system and therefore the need for interventions to be designed for each school’s unique needs. Their findings also revealed the role of psychological boundaries in bullying. They stressed that, dilemmas on how to address issues relating to difference, decisions and consequences represent the cyclical interactions in which the bullying and integration are inserted. The study also brought out issues related to the roles that each group may be playing, and they stressed that change in one part of the system would have an impact on the way in which the system meets other needs.

In another paper by Dixon, based on the study described above, the aim was to explore the combination of systemic thinking with a qualitative methodology, i.e., grounded theory, rather than giving the results of the study.

Dixon carried out another qualitative study on advice given to schools by adult D/deaf people to manage bullying among the d/hh student population. For the purposes of his study, the researcher explored the opinions, experiences, and suggestions of 35 adult D/deaf people on bullying that involved d/hh children through semi-structured interviews. Three groups of suggestions for interventions were reported: a) suggestions for interventions aimed at children; b) suggestions for interventions aimed at staff; and c) suggestions for interventions aimed at schools and the wider system. The suggestions for interventions aimed at children mainly focused on emotional change, behavioural change and cognitive change (e.g. on the need for greater deaf awareness). Regarding their suggestions for interventions aimed at staff, the participants emphasized the need for improved deaf awareness, the need to improve communication between children and teachers, the need for staff to have accurate information about bullying, to be better alerted to peer relationship difficulties, and the need for children to be trained in how to make use of their options. As far as the suggestions for interventions aimed at schools and the wider system are concerned, these focused on the need for greater involvement of adults who are deaf or disabled in schools; greater parental involvement; improved communication between schools and other services; improved decision making by local education authorities (LEAs) with regard to placements; and on the role of government. The researcher also suggested a recursive cycle of school development.

Dixon in another paper, based on the same study described above, tried to explore the relationship between bullying and ostracism. The findings of this study acknowledged ostracism as a probable cause of some bullying that occurs in schools in groups. Specifically, the researcher revealed that 15 of the 35 participants gave accounts that were suggestive of ostracism in all types of school placement (general school, Unit, schools for deaf children). The researcher also proposed a theoretical frame for ostracism, as well as a set of codes that could be suggestive of ostracism in other forms of bullying. This study also distinguished two stages of ostracism in groups; the first stage was characterized by “punitive” behaviours by group members that aimed to change an individual’s ‘non-conformist’ behavior (for instance, by being punished for breaking group norms). The individual is temporarily excluded; at a second stage if the individual changes his behaviour as a result of the attacks, the punitive behavior stops. If the individual does not change his behavior he is ostracized; he is excluded and rejected permanently.

In a paper published in the same year based on the same retrospective study, Dixon aimed to identify the relationship between bullying and scapegoating. It was revealed that 10 of the 35 participants gave accounts that were considered suggestive of scapegoating in all types of school placement. The researcher suggested that scapegoating is an unconscious process and thus difficult to detect. He also considered scapegoating as a cause of bullying in groups. Dixon made recommendations for various implications for interventions; he proposed a theoretical frame for the function and stages of scapegoating in groups, as well providing a set of codes to identify scapegoating when bullying occurs.
The most recent empirical study in this area was undertaken by Bauman and Pero\textsuperscript{10} in the USA. The purpose of their study was to provide insight in bullying and cyberbullying among d/hh secondary students and to compare them with their hearing peers. The participants were 30 secondary students in a charter school for the d/hh and a matched group of 22 hearing students in a charter secondary school on the same campus. The participants were asked to fill in a self-report survey, “Student Use of Technology”, which was developed by the researchers and was modified for that population. The findings indicated that d/hh and hearing pupils had similar experiences with bullying and cyberbullying and no significant differences were found between the two groups. A larger proportion of the d/hh participants were involved in conventional bullying than in cyberbullying, whereas the rates for bullying and cyberbullying were similar among the hearing group. Cyberbullying and cybervictimization were strongly correlated, as were bullying and victimization. It was also revealed that hearing pupils were significantly more likely to have their own mobile phones and to have an account on MySpace.com, a social networking site, whereas access to Internet and the use of Facebook and YouTube was similar in both groups. 27% of d/hh pupils compared to 8% of hearing students indicated that they would report the incidence of bullying to an adult at school. Finally, moral disengagement was positively correlated only with conventional bullying and not with cyberbullying.

**Studies exploring bullying/cyberbullying and deafness among other issues**

Skelton and Valentine\textsuperscript{48} carried out a study to explore the ways in which young D/deaf British people express and experience their identities and how their D/deafness overlaps with other self-identifications. Interviews were conducted with 20 D/deaf young people with different sexual preferences, as well as social, family and educational background, using various modes of communication. Among other issues, a number of the participants stressed that they experienced bullying by their hearing peers because they were deaf and were using signs. Those participants attended a “partially hearing unit” attached to a general secondary school.

Identity issues and aspects of health behavior were also explored by Kent\textsuperscript{49} in New Zealand. For the purposes of his study, Kent matched a sample of 52 hh pupils who attended general schools with 470 hearing peers of the same age, gender, and ethnicity. The Health Behaviour in School-Aged Children (HBSC) questionnaire was used and was filled in by the children. The findings of this study revealed, among other findings, that those students who identified themselves as having a hearing disability reported statistically significant levels of bullying experiences.

Brunnberg, Lindén-Boström, and Berglund\textsuperscript{50} carried out a self-rated study to compare school adjustment, and mental health symptoms among 15- to 16-year-old students who attended general schools in Sweden. The study enrolled children with mild to moderate hearing losses (n= 93), children with mild and moderate hearing losses with multiple disabilities (n = 56), pupils with other disabilities (n = 282), and pupils with no disabilities (n = 2488), who were asked to answer a self-rated questionnaire at school. The researchers reported among other findings that both groups of children with a hearing loss were more often bullied than the group with “no disability.”

Children of similar age were enrolled in the qualitative study carried out by Wheeler and colleagues\textsuperscript{51} in UK. That study aimed to investigate the impact of cochlear implantation on a group of 29 young people aged 13–16 years, using a semi-structured questionnaire. Among other findings, the researchers revealed that 17% of the participants experienced bullying at school. No association was found between bullying and the type of school attended, nor the mode of communication used.

Wauters and Knoors\textsuperscript{52} carried out a study in Netherlands on social integration of d/hh children in inclusive settings. Participants were 18 Grade 1–5 d/hh children and their 344 hearing classmates. The participants completed 2
sociometric tasks, peer ratings and peer nomination, to measure peer relationships. D/hh children were nominated more often than their hearing peers on the item ‘bullied’ ($Z = -3.55, p < .001$).

Finally, Kvam and Loeb$^{53}$ investigated the relationship between adverse childhood experiences and later mental health among deaf adults in Norway. 431 adult deaf persons participated in that study aged between 18 and over 75. All participants were asked to fill in a self-administered questionnaire; it is worth stressing that a sign language version of the questionnaire was also available for those participants who preferred it. 23% of the participants claimed that they were frequently bullied at school when they were pupils (once to three times a month or every week). The findings also revealed that being the victim of bullying was significantly correlated with reported later mental health problems.

**Discussion**

The review of the current literature on bullying/cyberbullying and deafness cannot provide us with conclusive evidence about those issues, mainly due to the limited number of studies (only three studies focus exclusively on bullying and cyberbullying), and to their methodological shortcomings.

From the review of the literature, it can be suggested (but not concluded) that bullying is more prevalent within the deaf population than the hearing population, as supported by the studies carried out by Brunnberg, Lindén-Boström, and Berglund$^{50}$ and Kent,$^{49}$ and Wauters and Knoors.$^{52}$ It is worth stressing, however, that bullying was not the main focus of those studies, and they reported sporadic findings on bullying and deafness while investigating other issues related to deaf studies (e.g. identity, self-concept issues, inclusion, etc). This situation raises issues about the appropriateness of the tools used to explore bullying. The study carried out by Bauman and Pero$^{10}$ that focused exclusively on bullying and cyberbullying (but enrolled very small number of participants) does not support the above findings.

Regarding the percentage of the d/hh children who experience bullying at school, the findings of the studies are rather unclear. The qualitative study by Wheeler and colleagues$^{51}$ suggested that 17% of their 26 d/hh participants experienced some form of bullying, and 15 of the 35 and 10 of the 15 participants in the papers by Dixon$^{46, 47}$ gave accounts that were suggestive of ostracism and scapegoating, respectively. Dixon, Smith, and Jenks$^{43}$ and Skelton and Valentine$^{48}$ did not refer to exact numbers, but rather they mentioned that some of their participants were bullied. These findings must be viewed with caution, since the participants of those studies were very few (between 26 and 35) and these numbers are not at all representative of the wider d/hh population. 23% of the participants in the study by Kvam and Loeb$^{53}$ reported that they were frequently bullied when they were pupils at school. Despite the fact that a big number of d/hh persons participated in this study (n = 431), it must be pointed out that the participants were asked to recall what happened a long time ago. All retrospective studies$^{41, 46-48}$ include a risk that details recalled from the past may be forgotten or distorted. Further, in studies from Dixon$^{41, 46, 47}$ and Dixon, Smith, and Jenks,$^{43, 44}$ the phenomenological approach was applied which is very much affected by the values and experiences of the researchers.

Regarding the impact of bullying on the d/hh population, this has not been documented by current studies. Only the study by Kvam and Loeb$^{53}$ revealed that being the victim of bullying was significantly correlated with reported later mental health problems.

Only the study by Bauman and Pero$^{10}$ focused on cyberbullying. This study can be considered a good starting point for further studies, but it has a number of methodological weaknesses, the main ones being that small samples limit analysis to descriptive results, the fact that the researchers used self-report data only, and findings may not apply to d/hh children attending other types of schools (e.g. schools for the deaf).
The relationship between type of schooling and mode of communication and bullying has not been documented, in the current studies. Despite the fact that Dixon\(^{46,47}\) and Wheeler and colleagues\(^{51}\) support that no association was found between bullying and the type of school attended, or the mode of communication used, this cannot be generalized due to the fact that those studies are qualitative, and involve small numbers of participants. Similarly, the studies by Dixon, Smith, and Jenks,\(^{43}\) Brunnberg, Lindén-Boström, and Berglund,\(^{50}\) and Kent,\(^{49}\) enrolled only hard of hearing students that attended general schools. The fact that those researchers addressed the issue of bullying with hard of hearing students who were oral alongside their non-Deaf setting and culture make it difficult to generalize their findings to deaf students who sign and attend schools for the deaf.

The current studies did not investigate the role of d/hh children as bullies, nor did they investigate the relationship between bullying and the demographic characteristics of the d/hh students and their parents (e.g. sex, degree of hearing loss, age, socio-economic status, parental hearing status, the length of time of use of hearing aid, etc).

The review of the current literature (regardless of the methodological weaknesses of the relevant studies as analyzed in this section) revealed some very interesting findings, which educators, counselors, and administrators could take into consideration in developing preventative strategies and plans for intervention. These findings refer to interventions in bullying aimed at children, as well as at staff, schools and the wider system.\(^{41}\) They also have implications for the management of bullying based on an ecosystematic approach,\(^{44}\) and on a theoretical framework of the function and stages of scapegoating and ostracism, as well as on a set of codes to identify scapegoating and ostracism when bullying occurs.\(^{46,47}\)

**Future research**

There is need that future studies focus on the prevalence of bullying/cyberbullying among the d/hh population in different European countries, in the USA, and elsewhere in order to learn more about the frequency of bullying among d/hh children. Future studies should also investigate the impact of the children’s characteristics (sex, degree of hearing loss, age, presence of other disabilities, cultural background, use of a cochlear implant or a hearing aid, level of visual acuity, their parents’ education levels and occupation, hearing status, and socioeconomic background), on the nature and extent of bullying/cyberbullying behaviors in such populations. Specifically, studies should examine which of the above factors correlate with an increase or decrease in bullying/cyberbullying behaviors.

There is a tendency in the field of deaf education, during the last two decades, for more and more d/hh children to be integrated into general schools.\(^{54}\) There are also research findings which support that ‘not fitting in’ or ‘being physically different’ is the most common characteristic of children who are bullied by their peers.\(^{5,55}\) D/hh children who are educated with hearing peers in general schools are exposed to possible occasions of bullying, since they are often the only d/hh in their school, and they are under enormous peer pressure to be like those around them.\(^{55}\) However, it should not be assumed that bullying does not take place in special schools for the deaf as well, where d/hh children may find other differences to target for bullying, since they are often the only d/hh in their school, and they are under enormous peer pressure to be like those around them.\(^{55}\) Thus, future studies should investigate the relationship between type of schooling (integrated, segregated) and mode of communication (oral or manual) of d/hh children and bullying/cyberbullying. Those studies should further investigate the incidence of bullying/cyberbullying in day schools for the deaf versus residential schools for the deaf, given that studies show that residential school settings with rich hearing children have more bullying incidences (e.g. "teasing" and "hazing"), than public school settings.\(^{42}\) Thus, the role of d/hh children not only as victims but also as bullies should be further explored.
More than 90-95% of d/hh children are born to hearing parents,\textsuperscript{57} most of whom must have had little or no experience of the norms, values or language of the Deaf community.\textsuperscript{58} Communication difficulties are among the major challenges they encounter.\textsuperscript{59} On the other hand, culturally Deaf parents use sign language with their children\textsuperscript{60} and have contacts with the Deaf community.\textsuperscript{61} This fact has also an impact on the construction of identity of the d/hh children, since one’s parents have a significant influence on one’s identity.\textsuperscript{62} Future studies could investigate if d/hh children of Deaf parents have increased or decreased levels of bullying/cyberbullying behaviors when compared with d/hh children of hearing parents. Additionally, the availability of social support systems for deaf children and their families varies depending on where they live. Thus, the presence of social support systems of deaf children should be considered in future studies, as well as the relationship between d/hh children’s identity (hearing, marginal, bicultural or deaf) and bullying/cyberbullying behaviours.

Previous studies have shown that even children with cochlear implants lag behind their hearing peers across academic areas, such as mathematics, writing and reading.\textsuperscript{63} It is worth stressing that only about 29 percent of d/hh students are leaving school with diplomas compared to certificates of attendance.\textsuperscript{64} Thus, there is a need for future studies to investigate the relationship between academic achievement, language level, speech intelligibility and bullying/cyberbullying among the d/hh population. It is established, in the studies carried out within the hearing population, that bullying interferes with the social, emotional, and academic progress of both the victim and the bully.\textsuperscript{4,12} Thus, future studies should explore such possible consequences of bullying/cyberbullying among the d/hh student population as well.

It has been suggested that children who are victimized often have inadequate social skills.\textsuperscript{65} D/hh children lack informal experiences and a lot of social information; specifically it has been argued that “d/hh children miss out on different things that happen around them, which would be picked up by hearing children as part of their incidental learning”\textsuperscript{66} (p. 154). This along with other personality factors of d/hh children (low self-esteem, social immaturity) and problems with social and adaptive functioning, and lack of social skills may place them in great risk with regard to bullying.\textsuperscript{67-69} Further studies should investigate these factors and explore whether they are related to bullying/cyberbullying among the d/hh population.

Future studies on bullying and deafness should be multi-informant (and not involve only children). Thus, parents, adult deaf/Deaf persons, teachers, mental health professionals, administrators, and other professionals should participate to express their views on the nature and extent of bullying/cyberbullying among the d/hh population, as well as their suggestions for prevention and intervention.

The following are some of the many important factors that researchers need to carefully consider when designing studies on bullying/cyberbullying and deafness. Specifically, future empirical studies should employ quantitative methods, and reliable tools (measures). As suggested by Weiner and Miller\textsuperscript{42} any assessment instrument used should be examined “for cultural sensitivity and appropriateness” (for instance to ensure that the “language used in written measurement instruments is familiar and easily comprehended” by d/hh students (p. 66) and that they are ‘sign adaptable’). Such studies should enroll big number of d/hh children matched with their hearing peers; in terms of prevention and intervention what works for hearing students does not necessarily work for d/hh students, since bullying dynamics may be unique to this population. Then, any differences found in d/hh children as compared to hearing children should not be regarded as deviations from a so-called normal standard, rather than as indicators of the uniqueness of the population.\textsuperscript{42} Triangulation, thus the use of both qualitative (e.g. use of interviews, observations) and quantitative methods, could be applied in order to understand fully the bullying/cyberbullying dynamics in the d/hh student population. Last but not least, as analyzed above, these studies should be multi-informant.
Notes:

a. The year 1978 was chosen because during that year a significant start was made with the publication of Olweus’ book on school bullying titled “Aggression in the Schools: Bullies and Whipping Boys.”

b. When referring to the culturally Deaf, capital “D” will be used in this article. Lower case “d” will be used when referring to the audiologically deaf.

References


