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Peer Victimization in Students who are Deaf and Hard of Hearing: Exploring Educational Placement

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Peer victimization in schools is a serious issue of growing concern around the nation, with around a third of secondary school students reporting involvement during their time in secondary school (Wang et al., 2009). Common types of peer victimization assessed in studies include physical, verbal, relational, property, and cyber aggression (Konishi et al., 2009; Wang et al., 2009). Peer victimization has been consistently linked to considerable negative consequences, including suicide (Brunstein, Sourander, & Gould, 2010), other mental health issues (Fedwa & Ahn, 2011), and poor academic outcomes (Hoglund, 2007). Peer victimization is a considerable public and school health and safety issue.

Although peer victimization is a concern for all students, certain populations — including students with disabilities — may be especially vulnerable (Rose, Espelage, & Monda-Amaya, 2009; Rose, Monda-Amaya, & Espelage, 2011). For example, Rose and his colleagues (2009) found that students receiving special education services in a separate classroom for all or part of the school day were more likely than their general education peers to report bullying victimization, bullying perpetration, and fighting. Similarly, students who received special education services were two to four times more likely to be bullies or bully victims relative to their general education peers. Van Cleave and Davis (2006) found that children with special health care needs were more likely to be victims of bullying than children without special health care needs; this risk was especially elevated for children with emotional, behavioral, or developmental problems, who were 2.14 times more likely to be victims of peer aggression even when controlling for demographic factors.

These studies suggest that disability in general increases risk for involvement in bullying or peer aggression. However, it is important to note the bulk of the research on bullying in students with disabilities has focused on students with cognitive, intellectual, and developmental

disabilities (see Rose et al., 2011) or has treated disability as a singular category (e.g., Rose et al., 2009; van Cleave & Davis, 2006). Although this is useful for assessing relative risk among students with disabilities compared to their typically developing peers, it may obscure the unique risk factors presented by different disabilities. For example, Rose, Monda-Amaya, and Espelage (2011) hypothesized that students with physical, hearing, or vision disability might experience risk factors related to the readily apparent nature of their disabilities. Indeed, Swearer, Wang, Maag, Siebecker, and Frerichs (2012) found that students with observable disabilities, such as hearing differences and physical disabilities, were significantly more likely to involved in peer victimization or aggression (89.9%) than either their general education peers (72.2%) or peers with non-observable disabilities (74.5%).

Bullying Among Students Who Are Deaf or Hard of Hearing (SWD/HOH)

Although considerable research has been conducted on social isolation and general peer relations in SWD/HOH (Kluwin et al., 2002), little research exists on bullying involvement among SWD/HOH. Blake, Lund, Zhou, Kwok, and Benz (2012) examined rates of parent-reported peer victimization in two large national data sets of students with disabilities. In regards to SWD/HOH, the sample consisted of 602 students in first through fifth grade (elementary school), 392 in sixth through eighth grade (middle school), and 450 students in ninth through twelfth grades (high school). The respective victimization rates were 22%, 29%, and 22.5%. However, Blake et al. noted that the reliance on parent-report may have artificially decreased the victimization rates across the sample, as not all students may have reported the peer victimization to their parents.

Bauman and Pero (2011) conducted a self-report study of 30 middle and high school SWD/HOH who attended a charter school for SWD/HOH that shared a campus with a school for

hearing students. They found that 10% of the SWD/HOH reported being involved in cyberbullying over the first three months of the school year, and 23% reported being involved in conventional (i.e., physical, verbal, or relational) bullying in the same time period. Among hearing students, the rates were 14% involvement in cyberbullying and 10% involvement in conventional bullying. The rates of bullying involvement of any type did not significantly differ from a comparison group of 21 hearing students from the same campus; however, Bauman and Pero note that the small sample sizes were unlikely to yield significant differences and that the results are primarily descriptive.

Weiner, Day, and Galvan (2013) surveyed 262 students in grades 3-12 who attended residential schools for the Deaf. They found that 32.5% of Deaf students reported being bullied two or three times month or more. This was significantly greater than the rates reported in the hearing reference sample, where only 14.4% of participants reported being bullied two or three times a month or more. Weiner and colleagues did not collect or report data on the types of victimization experienced, nor on bullying perpetration.

Significance for Rehabilitation Professionals who Work with Deaf Clients

Peer victimization has been shown to have significant and long-term effects on mental health and quality of life. In a British study of over 7,000 individuals who experienced bullying during childhood, Takizawa, Maughan, and Arseneault (2014) found that having experienced peer victimization as a child predicted significantly higher likelihoods of depression, anxiety, and suicidality well into adulthood, with childhood peer victimization predicting lower quality of life at age 50, even when other demographic variables were controlled. Similarly, McVie (2014) analyzed data from approximately 4,300 Scottish adolescents and found that bullying perpetration in early to mid-adolescence predicted violent behavior at the age of 17; a similar

relationship existed between bullying victimization and later psychological distress. Thus, it is possible that peer victimization may be a contributing factor to negative mental health and social outcomes experienced by many Deaf/HOH individuals (Sessa & Sutherland, 2013) and that peer victimization may continue to impact Deaf/HOH clients' socio-emotional functioning both during transition and further into adulthood. If the present study indicated a high rate of bullying involvement, a higher rate of bullying involvement among students in certain placements, or both, this then would indicate that rehabilitation counselors working with Deaf/HOH clients should query about peer victimization experiences in order to better understand their clients' social context and background.

Purpose

Previous research suggests that peer victimization may be a problem among students with disabilities in general and that this may also be true for SWD/HOH. However, seemingly only two identified studies have addressed this population specifically (Bauman & Pero, 2011; Weiner et al., 2013), directly examining self-reported bullying involvement among SWD/HOH. This study sought to replicate that research and expand it in two specific ways. First, we examined peer victimization and peer aggression among SWD/HOH with different educational placements to investigate if such behavior was more common in integrated or self-contained Deaf educational settings. Second, we wanted to examine the topography of peer victimization and aggression among SWD/HOH to determine what types of aggression were more common among SWD/HOH. Our research questions were:

1. What is the prevalence of peer victimization and peer aggression in SWD/HOH? What types of aggressive behavior are most common?

2.   Do peer aggression and victimization rates differ for SWD/HOH in Deaf-only schools versus those in more inclusive educational placements?

Method

Procedures

We worked with administrators at the state school for the Deaf and Blind, which oversees all educational services for SWD/HOH in the state, to secure permission to conduct the survey. After receiving administrative approval from the central office, staff from each magnet school and the Deaf-only bilingual (American Sign Language [ASL]/English) school were contacted. Three magnet programs and the Deaf-only school agreed to participate and were sent hard copy surveys and letters of information for all 5-12th grade students in their program.

Prior to the surveys being distributed, the school administrators emailed passive parental consent letters to the parents of all eligible students. The letters, provided in both English and Spanish, described the survey, the opt-out procedures, and the participant protections. Parents then had a two-week opt-out period; none opted out. After that time, letters of information and paper versions of the survey, available in English and Spanish, were hand-delivered to eligible students during the school day. The letters described the survey as asking about experiences with peers, such as teasing and fighting, but did not use the terms "bullying" or peer victimization. They also contained information about the students' rights as participants. In order to maintain student anonymity, students were not required to give written assent via the letter of information; completing the survey was considered assent. All procedures, including the passive parental consent, were approved by the university institutional review board and are common in peer victimization research.

Completed surveys were then collected by school staff and mailed back to the principal investigators. Regrettably, resources to develop or validate an ASL version of the survey were not available, so all surveys were provided in written English only. Finally, data were double-entered into SPSS and double-checked to ensure scoring accuracy. A aggregate results report was sent to the state school for the Deaf and Blind upon completion of data analysis.

Settings

All fifth- through twelfth-grade SWD/HOH who attended specialized educational placements in one mountain-west state were recruited for the study. In the state, SWD/HOH can attend either a Deaf-only campus or one of eight magnet programs. These magnet programs offer specific classes and/or services for SWD/HOH, but also offer opportunities for educational and social inclusion within the general student population such as attending assemblies, recess, or elective classes.

For this study, the Deaf-only campus and three of the magnet programs agreed to participate. All study placements, including the Deaf-only school, were day schools and either used English as the sole language of instruction or provided bilingual English/ASL instruction, with a focus on literacy in English language reading and writing. Thus, all students in these programs had received exposure to and instruction in at least written English from their early years onward. Although all measures were delivered in written English or Spanish due to the lack of standardized signed language translations, we purposefully selected measures that were brief and used clear and simple language in order to reduce the possibility of language burden on participants.

Participants

Approximately 85 students from the four sites were eligible to participate in the survey, 35 of whom attended magnet programs. Forty-six (54%) eligible students completed surveys, 45 in English and one in Spanish. Of those, complete or near-complete data were available for 45. Given the student's informed knowledge about participation, it can be assumed that the students who did not participate were either not present when the survey was distributed at their school or simply chose not to participate. No parent or guardian opted out any of the students. Twenty participants (44%) came from magnet schools, and 25 (56%) came from the Deaf-only school. Of the 44 participants who identified their gender, 28 (64%) were male. Participants ranged in age from 10 to 17 years old (n=44; mean=13.43; SD=1.77). Grade-level information was available for 43 participants; 26% (n=11) were in elementary school (5-6), 48.9% (n=21) were in middle school (7-8), and 25.6% (n=11) were in high school (9-11).

Independent sample t-tests were used to compare the demographics of students between the magnet and Deaf schools. Thee magnet and Deaf-only school students were not significantly different in terms of age (t(42)=.123; p=.903) or grade (t(41)=.274; p=.786). Gender was more evenly distributed at the Deaf-only school (54% male) than at the magnet schools (75% male). Complete demographic information is in Table 1.

Table 1. Sample characteristics

Variable	Total sample (*n*=45)	Magnet programs (*n*=20)	Deaf-only school (*n*=25)
Gender[1]			
Male	64% (28)	75% (15)	52% (13)
Female	36% (16)	25% (5)	44% (11)
Primary form of communication[2]			
American Sign Language (ASL)	55% (24)	20% (4)	80% (20)
Spoken language	18% (8)	35% (7)	4% (1)
Other signed language	4% (2)	10% (2)	-
Both spoken and signed language	23% (10)	30% (6)	16% (4)
Hearing device			
None	20% (9)	15% (3)	24% (6)
Hearing aid	56% (26)	50% (10)	60% (15)
Cochlear implant	22% (10)	35% (7)	12% (3)
Both	2% (1)	0	4% (1)
Friends			
Mostly Deaf/HOH	38% (17)	35% (7)	40% (10)
Equal numbers Deaf/HOH and hearing	51% (23)	40% (8)	60% (15)
Mostly hearing	11% (5)	25% (5)	
Culturally Deaf/HOH	84% (38)	70% (14)	96% (23)

Notes. [1]Total sample *n*=44, Deaf-only school *n*=24. [2] Total sample *n*=44, Magnet school *n*=19.

Measures

This study was part of a larger survey that also contained eight additional items on friendships and perceived school climate; however, the main purpose of the study was to determine the rate of bullying involvement among the Deaf students in the sample. This was assessed via the 12-item Pacific Rim Bullying questionnaire (PRB; Konishi et al., 2009). The questionnaire asked six items relating to both perpetration ("how have you been mean or

negative to other students by…") and victimization ("how often have other students been mean or negative to you by…") over the past two months. The survey avoids potentially loaded or confusing terminology like "bullying," "bully," "perpetrator," and "victim," instead focusing on specific behaviors. The items addressed: (1) joking physical aggression ("pushing, hitting, kicking, or hurting in other physical ways (jokingly)"); (2) intentional physical aggression ("pushing, hitting, kicking, or hurting in other physical ways (on purpose)"); (3) property damage or theft (taking things or damaging property); (4) verbal aggression ("teasing, name-calling, threatening verbally, or saying mean things to you/them"); (5) relational aggression ("excluding or ignoring, spreading rumors or saying mean things about you/them to others, or getting others not to like you/them"); and (6) cyber aggression ("using computer, email, or phone text messages to be mean or negative"). Each item was rated on a four-point scale (1: never, 2: once or twice, 3: once a week, or 4: several times a week).

We used the 100-point Fleicher reading ease score, as calculated by Microsoft Word, to measure readability. Reading ease is measured using the number of words per sentence and the number of characters per word. Higher scores represent greater ease of reading, and scores of between 60 and 70 are considered optimal for most text (Microsoft Office, 2015). The Fleicher reading ease for the combined demographic, perpetration, and victimization items was 63. For the victimization and perpetration items alone, it was 57.6. However, these scores may have been deflated (i.e., scored as more difficult) by the relatively long sentences (average 23.6 words), as used in the standardized text of the PRB. Furthermore, the long sentence length was largely because the items provided examples of each type of behavior, and this could have potentially increased item understandability. Words themselves were relatively short; the average length of words on the PRB was 4.5 characters, and the average length of the words on the PRB and

demographics measures combined was 4.4 characters. We did not collect data on participants'
average reading levels, although all students had received instruction in English literacy
throughout their education.

For the purposes of this study, any score of 2 ("once or twice") or above on any of the six
items was considered bullying involvement. This was consistent with existing research that used
the PRB (e.g., Swearer et al., 2012). Because involvement in peer victimization tends to be
chronic in students with disabilities, including SWD/HOH (Blake et al., 2016), it is likely that
students who reported experiencing these behaviors once or twice within the two-week window
also experienced them before and after that window. However, because other studies have used a
stricter frequency criterion for bullying involvement (e.g., Bauman & Pero, 2011; Weiner et al.,
2013), we also reported the percent of studies reporting perpetration and victimization of some
sort at least once a month.

The 12-item PRB questionnaire has shown acceptable internal reliability and reliable
factor structure across multiple, cross-cultural samples (Konishi et al., 2009; see also Swearer et
al., 2012 for an overview) and has been used with students with disabilities, including some with
hearing differences (Swearer et al., 2012). Total victimization and perpetration scores can be
calculated from all six victimization items and all six perpetration items, respectively, on the
PRB (Konishi et al., 2009). Because the definition of bullying traditionally requires intent to
cause harm (Olweus, 1995), some researchers have chosen to exclude the item on joking
physical aggression when calculating total victimization and perpetration scores, because joking
behavior may indicate a lack of malicious intent (Swearer et al., 2012). However, other literature
indicate that many students do not perceive an intent to cause harm as necessary for behavior to
be considered "bullying" (Naylor, Cowie, Cossin, de Bettencourt, & Lemme, 2006), and so some

researchers choose to include "joking" aggression when reporting perpetration and victimization rates in order to capture harmful behavior that may not be perceived as such by both parties. Therefore, we elected to calculate both five-item and six-item scores for all analyses.

Internal consistency (Cronbach's alpha) was calculated for both the five- and six-item victimization and perpetration scales of the PRB. The six-item perpetration scale had an alpha of .713; internal consistency increased slightly when the item regarding joking physical aggression was dropped (alpha=.723). Conversely, the six-item victimization scale had a slightly higher alpha (.709) than did the five-item scale (alpha=.701). These alphas fell above the generally accepted guideline of .70 or higher (George & Mallery, 2003). This suggested that asking about joking physical aggression did not significantly alter the reliability of the scale, the items targeted similar constructs, and participants were able to understand items and response options on the scale. When alpha was broken down by main form of communication (ASL versus non-ASL), alpha was above .70 for all groups for the 5- and 6-item perpetration scales and higher for the ASL group (.757 v. .703 and .735 v. 702, respectively). However, alphas for 5- and 6-item victimization scales were questionable for the ASL group (.637 and .582, respectively), suggesting that victimization responses for these respondents should be interpreted with caution, especially the joking physical aggression item.

Alternately, some of this difference could be due to different patterns in actual victimization and thus different response patterns on the measure. For example, students who reported ASL as their primary means of communication were far more likely to report cyberbullying victimization than students who identified another form as their primary means of communication (victimization rates of 62.5% v. 25%, respectively). Conversely, students for

whom ASL was a primary means of communication were less likely than other students to report victimization via relational aggression (victimization rates of 50% v. 75%, respectively).

Analysis

In addition to the descriptive outcomes, Pearson's *r* was calculated for both five- and six-item perpetration and victimization scores. In order to assess differences between students at Deaf-only and magnet programs, independent sample t-tests were run. Students from the magnet programs were combined into a single group (total *n*=20) in order to allow for similar sample sizes between the two groups.

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Results

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Peer Aggression and Victimization

The majority of the sample reported being involved in bullying behavior during the past two months as both a victim and perpetrator. When "joking" aggression was excluded, 77.8% (*n*=35) reported perpetration over the past two months and 86.7% (*n*=39) reported victimization. When "joking" physical aggression behavior was included, 82.2% (*n*=37) reported some perpetration and 93.3% (*n*=42) reported victimization. When the criterion for bullying involvement was limited to experiencing or engaging in some form of bullying behavior at least once a week, 30 (66.7%) and 22 (41.1%) students reported bullying victimization when joking physical aggression was included and excluded, respectively. Similarly, 25 students (56.8%) reported bullying perpetration when the more restrictive frequency criterion was used and joking physical aggression was included. When joking physical aggression was excluded, 17 students (38.6%) met the more restrictive criteria for involvement in bullying perpetration. The frequencies for each type of aggression are listed in Table 2.

Table 2. Bullying involvement over the past two months

	Never	Once or twice	Once a week	Several times a week
Perpetrator				
Physical (joking)	31% (14)	38% (17)	16% (7)	16% (7)
Physical (intentional)	58% (26)	33% (15)	4% (2)	4% (2)
Property damage / theft	73% (33)	22% (10)	2% (1)	2% (1)
Verbal (*n*=44)	50% (22)	36% (16)	7% (3)	7% (4)
Relational	38% (17)	49% (22)	7% (3)	7 %(3)
Cyber	60% (27)	11% (5)	4% (2)	24% (11)
Victim				
Physical (joking)	29% (13)	38% (17)	18% (8)	16% (7)
Physical (intentional)	47% (21)	40% (18)	4% (2)	9% (4)
Property damage / theft	58% (26)	24% (11)	9% (4)	9% (4)
Verbal	33% (15)	46% (21)	7% (3)	13% (6)
Relational	38% (17)	36% (16)	13% (6)	13% (6)
Cyber	55% (26)	24% (11)	4% (2)	16% (7)

Correlations and cross school comparisons

When joking physical behavior was excluded, victimization and perpetration were positively related (*r*= .311, *p*= .040). Students at the Deaf-only school reported greater overall mean victimization, both when joking physical aggression was excluded (*t*(43)= 3.400; *p*=.001) and included (*t*(43)= 3.413; *p*=.001). When joking behavior was excluded, students at the Deaf-only school also reported higher mean perpetration (*t*(42)= -2.080; *p*=.044); however, this difference was not maintained when joking physical perpetration was included (*t*(42)= 1.930; *p*=.06). No significant differences in overall perpetration (*t*(41)= 1.301, *p*= .253) or victimization (*t*(42)= -.795, *p*=.521) between genders were found. No significant differences in overall perpetration (*t*(42)= .683, *p*=.533) or victimization (*t*(32.09)= -1.242, *p*= .315) by primary language of communication (ASL v. others) were found. The means and standard deviations for each measure are listed in Table 3.

Table 3. Means and standard deviations for outcome measures by educational placement

Scale	Possible range	Total sample (*n*=45)	Magnet school (*n*=20)	Deaf-only school (*n*=25)
PRB perpetration (including joking physical aggression)	6-24	10.55 (3.57)[1]	9.37 (3.15)[2]	11.40 (3.67)
PRB perpetration (excluding joking physical aggression)	5-20	8.34 (3.11)[1]	7.26 (2.56)[2]	9.16 (3.29)*
PRB victimization (including joking physical aggression)	6-24	11.47 (3.85)	9.50 (2.52)	13.04 (4.05)**
PRB victimization (excluding joking physical aggression)	5-20	9.27 (3.37)	7.55 (2.41)	10.64 (3.44)**

Notes. *p<.05; **p<.01; [1]*n*=44; [2]*n*=19; PRB=Pacific Rim Bullying Questionnaire (Konishi et al. 2009).

Discussion

The students reported experiencing high levels of peer victimization and aggression in their schools, with about three-quarters reporting perpetration of such behavior over the past two months and more than four-fifths reporting victimization even when joking physical aggression was excluded. When joking physical aggression was included, perpetration rates rose to over four-fifths and victimization rates exceeded 90%. The most common types of peer aggression reported were verbal and relational aggression. Although cyberbullying behavior was reported by fewer than half of the students, those who did experience it tended to report that it occurred frequently. Mean victimization was significantly higher among students who attended a Deaf-only school.

Relation to Previous Research

The extremely high rates of perpetration and victimization reported by the students in the current study suggest that peer victimization may be a serious issue among SWD/HOH. These levels of aggression and victimization were much higher than those reported by Bauman and Pero (2011), who found that only about a quarter of the SWD/HOH in their sample reported being involved in peer victimization and aggression, with 10% reporting involvement in cyberbullying and 27% reporting involvement in "traditional" victimization or aggression. It is possible that this could reflect a difference in measurement, especially given that our results more closely aligned to those in the Swearer et al. (2012) subsample of students with observable disabilities. However, it is also important to note that only three participants in Swearer and colleagues' study were Deaf/HOH. Even when our definition of bullying involvement was limited to those students who reported victimization or perpetration once a week or more, our rates were still elevated above those reported by Bauman and Pero, with over two-fifths of the students meeting the more restrictive criteria for victimization and over one-third meeting the more restrictive criteria for perpetration. These rates were closer to but still somewhat higher than those reported in Weiner et al.'s (2013) study of bullying in residential schools for the Deaf. Again, definitional measurement differences should be considered, given Weiner et al.'s use of a formal, broad "bullying" definition as opposed to querying about specific behaviors and their decision to use "two to three a month or more" as a cut-off for involvement.

The significantly higher mean victimization in students who attended the Deaf-only schools appears to contradict the literature that suggests that Deaf-only placements may provide a better social experience for SWD/HOH (Kluwin et al., 2002; Marschak et al., 2012). One possible explanation for this difference is that that SWD/HOH who attend magnet programs may

be less likely to be victims of bullying than hearing peers because they are perceived as "separate" from the general student body and less likely to be involved in the overall social dynamics of the school. Thus, there may be fewer opportunities for such students to experience victimization or fewer potential perpetrators of bullying. This coincides well with the research indicating that SWD/HOH are often socially isolated from their hearing peers (Kluwin et al., 2002; Marschark et al., 2012) and may indicate that less social isolation can also increase vulnerability to bullying. In other words, the ability to interact and communicate fully with all students at the school also increases the opportunities for negative social interactions with peers. Finally, it is important to note that the magnet school group was composed of students from multiple campuses. It may be that some of these campuses have lower or higher victimization rates, which are not reflected in the overall average.

Limitations and Future Research

The current study has limitations that should be considered when interpreting results. First of all, the sample size in the current study was relatively small, which limited both the generalizability of the results and our ability to conduct and interpret correlations and comparisons. Future research on this topic should involve multi-state samples in order to increase both population and sample size and the generalizability of results. Our response rate of approximately 54% leaves open the possibility of some self-selection in respondents and non-respondents, although research indicates that response rates may not be a good predictor of response quality or representativeness (Langer, 2003). It is possible that students may be hesitant to participate in studies on peer victimization given the sensitive nature of this topic; on the other hand, many people report finding that being able to report their victimization experiences, even anonymously, via research can be cathartic or otherwise subjectively beneficial (Jaffe, DiLillo,

Hofffman, Haikalis, & Dykstra, 2015). Additionally, we were unable to offer an incentive for participation due to lack of available funds. This may have decreased the motivation of some students to participate. Finally, some students may have been absent on the day that their school distributed and collected the survey.

Second, the lack of a sign language translation of the measure may have limited its accessibility to some students whose primary language is sign language. Although the development of a standardized sign language translation was outside of the scope of the present study, researchers should develop a standardized bullying measure in ASL to best serve SWD/HOH who have limited proficiency with written language. Even though internal consistency for our English-language measure as a whole was acceptable for both students who used ASL as their primary language and those who did not, internal consistency for the victimization items only was in the questionable range for the ASL subsample, potentially indicating that these students may have had some difficulty understanding these questions. Further testing on the understandability and reliability of this measure with larger samples of Deaf/HOH students should be conducted; reading ability should also be included as a potential co-variate.

Furthermore, Konishi et al. (2009) note that constructs of bullying may differ across cultures. We did find a pattern in which students who used ASL as their primary form of communication were more likely than other students to report cyberbullying victimization but less likely to report victimization via relational aggression, even though the two groups did not significantly differ in terms of overall levels of victimization. These differences in reported victimization patterns may potentially reflect cultural differences in how peer victimization occurs. More research should examine the relative acceptability of certain behaviors, such as

joking physical aggression, among both SWD/HOH and hearing students in order to better understand if and how these constructs differ.

Finally, we did not collect data on race and ethnicity; since this was a small base population in a fairly racial and ethnically homogenous state, doing so would have potentially identified participants. However, Spanish language versions were made available at the request of the schools, allowing students whose primary spoken or home language was Spanish to participate. Future studies on this topic should draw from larger, multi-state samples to increase generalizability. Researchers involved in such studies should collect data on participant race and ethnicity in order to better understand how race and ethnicity interact with disability status in terms of risk for peer aggression and victimization

Implications for Rehabilitation Professionals

The results of the present study indicated that peer victimization and peer aggression may be common among SWD/HOH and that many students may be involved both as a perpetrator and as a victim. Professionals working with transition-age Deaf/HOH clients may do well to inquire about involvement in peer victimization and peer aggression with clients in order to better understand the client's social experiences and possible difficulties as they complete school and transition into post-secondary employment, training, and education. For example, counselors who learn that a client is involved in perpetrating peer aggression may want to place more focus on appropriate social skills, conflict resolution, and anger management in order to reduce the likelihood of continued aggressive behavior. In another example, a counselor who is working with a client who experiences frequent victimization may want to screen more closely for possible associated mental health issues, such as depression, anxiety, and suicide. In cases where perpetration of victimization are particularly affecting, frequent, or intense, counselors may want

or be required to involve the school in order to address the issue of student safety. Given the long-term effects of bullying involvement on mental health (Takizawa et al., 2014), even counselors who work with Deaf/HOH clients who are older than transition age may benefit from assessing clients' history of peer victimization and peer aggression as a way to be alerted to potential sequelae and to better understand the social context and history of their clients.

Implications for Schools

The results from this study suggest a need for bullying intervention and prevention programs targeted to or evaluated in Deaf/HOH hearing populations. Students with disabilities have historically been overlooked in bullying intervention research, and no known studies have examined the efficacy or effectiveness of bullying interventions specifically for Deaf/HOH students. Given the high rates of bullying involvement reported, school-wide interventions may be useful in both Deaf-only schools and magnet schools. Additionally, Deaf/HOH students may benefit from a program with a low verbal load and one that teaches ways to communicate that another student needs to stop specific behavior without requiring much spoken language. Such a curriculum would make the materials more accessible to students for whom spoken English is not a primary form of communication or for those whom might struggle to access a curriculum with a high verbal load due to difficulties with written or spoken language. One possible intervention is the Bully Prevention in Positive Behavior Support (BP-PBS; Ross, Horner, & Stiller, 2008), a school-wide intervention that involves teaching students a stop-walk-talk procedure for addressing bullying or other disrespectful behavior. This approach has been shown to significantly reduce bullying behavior (peer victimization) in schools (Ross & Horner, 2009, 2014). When considering Deaf/HOH populations specifically, BP-PBS has the additional advantage of being simple, not being verbally loaded, and having the option to use a hand signal

instead of a verbal cue when intervening in incidents of disrespectful behavior (Ross et al., 2008). However, more research needs to be done on whether and how evidence-based bullying interventions can be adapted to meet the needs of Deaf/HOH students and other students with disabilities.

Conclusion

This study indicates that bullying may be prevalent problem among the SWD/HOH in our sample, with a vast majority of the students experiencing it. Most participants reported being involved in bullying as both the perpetrator and the victim, and bullying victimization occurred more frequently among students who attended the Deaf-only school. This study corroborates well with previous research that suggests that students with disabilities are at evaluated and increased risk of bullying involvement compared to their general education peers (e.g., Blake et al., 2012; Rose et al., 2011; Swearer et al., 2012; Weiner et al., 2013). It also highlights the need for evidence-based bullying intervention and prevention programs that show effectiveness among SWD/HOH.

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