

# The Availability and Features of School-Based Mentorship Programs for Students who are Deaf or Hard of Hearing in North America

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## ABSTRACT

**OBJECTIVE:** The purpose of this study was to explore the availability, features, and implementation of school-based mentorship programs for students who are deaf or hard of hearing (D/HH) in North America.

**DESIGN:** An online survey was distributed to school-based hearing professionals in North America to describe their experiences operating a peer mentorship program for students who are D/HH.

**STUDY SAMPLE:** 139 school-based hearing professionals from North America responded to the online survey.

**RESULTS:** Results of the survey indicated that only a small percentage of school-based hearing professionals in North America are running peer mentorship programs for D/HH students. Barriers to implementing a peer mentorship program existed, explaining their lack of availability. Obstacles for the implementation of a peer mentorship program included access to resources for program development, access to program funding, and the availability of support staff interested in participating. For those programs that did exist, topics of focus included the development of social skills, friendships, self-advocacy, and understanding of hearing loss.

**CONCLUSIONS:** The availability of school-based mentorship programs for students who are D/HH in North America was limited. For those operating programs, mentors engaged in activities that supported student relatedness, competency, and autonomy.

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## INTRODUCTION

### The Classroom Experience of Children and Teens who are Deaf or Hard of Hearing

The classroom environments of children who are deaf or hard of hearing (D/HH) have changed significantly over recent years. Early identification of hearing loss, access to better hearing aid and cochlear implant technology, increasing availability of online and other speech-to-text technologies, and legislation concerning inclusivity, have all contributed to increased enrollment of children who are D/HH into their local schools and into mainstream classrooms (Individuals with Disabilities Education Act [IDEA],

2004; Consortium for Research in Deaf Education [CRIDE], 2017; Joint Committee on Infant Hearing [JCIH], 2019; Constantinou et al., 2020). Children and teens who are D/HH, like their typical hearing peers, aspire to learn, develop friendships, understand who they are, and feel they belong within their peer group and school environment (Antia et al., 2011). Research focused on the classroom relationships of mainstreamed children who are D/HH found that critical to those feelings of belonging was for children with hearing loss to interact with other D/HH students from other schools. This helped the students to manage feelings of isolation and their experience of having hearing different from their classmates (Gordey, 2018).

Peer mentorship programs may provide a pathway for students who are D/HH to develop peer relationships leading to optimal outcomes for empowerment, confidence and well-being.

### **The Importance of Peer Mentorship**

Peer mentorship is a process where a more experienced individual provides information, resources and guidance to a less experienced individual (Saxena et al., 2020). Typically delivered in a specific context, either formally or informally, the peer mentor functions as a coach. Collaborative learning features of these mentor/mentee interactions include role modeling, knowledge sharing, social support, and guidance (Beltman & MacCallum, 2006; Ames et al., 2016). Research has shown that peer mentorship created outcomes that were beneficial for both the mentor and the mentee. Beltman and Schaeben (2012) found that mentors who were interested in providing growth and guidance to mentees experienced increased feelings of empowerment, confidence, and competence. In addition, through their activities and engagement with others, mentors saw growth in their own interaction capabilities (Ward et al., 2014). Studies that described the value of peer support to the mentee reported findings associated with the development of confidence, learning more about being adaptable and facilitated feelings of optimism for their future (Allen et al., 1997; Destin et al., 2018; Saxena et al., 2020). Furthermore, Ward et al., (2014) found that the mentee viewed their mentor as a positive role model and felt a shared companionship and cooperation between them. Feelings of belonging and new opportunities for socialization were also available for the mentor and mentee.

Special education research has described peer mentorship programs that had students with typical development coaching students with disabilities. At the secondary school level, these programs were shown to promote learning, inclusion, and friendship (Carter et al., 2015). Peer mentorship programs are also found on many college and university campuses. Programs are designed to facilitate academic and social inclusion for those with atypical cognitive, sensory and physical abilities. Research has shown that peer mentorship programs demonstrated benefits for mentors and mentees, showing an improvement in self-awareness, social interaction, and confidence (Farley et al., 2014).

An examination of peer-reviewed and grey literature (unpublished or published papers in non-commercial form; Dobbins et al., 2006), investigating the availability of mentorship programs for adolescents or pre-adolescents with hearing loss indicated few published reports of peer mentorship programs for students who are D/HH, that used measurable outcomes, and

were offered within the context of elementary and secondary schools (Spangler et al., 2019). With so many D/HH children and teens being educated alongside their typical hearing peers understanding how we can support the inclusion, belonging and wellness of our students who are D/HH in their mainstream school is critical. Therefore, the purpose of this study is to expand on our literature review and explore through survey methods, the availability, features, and implementation of school-based peer mentorship programs for students who are D/HH offered in North America. This work is intended to provide detailed information about the content of current mentorship programs and the challenges they may face.

## **METHOD**

### **Participants**

In October 2018, school-based hearing professionals practicing in North America were invited to complete an online, web-based survey. A “school-based hearing professional” for the purpose of our survey was defined as educational audiologists, audiologists, or teachers of the D/HH working with students who are D/HH in an elementary, middle or high school setting. Survey questions were developed by the researchers based on their experiences running peer mentorship programs. Non-probability, purposive sampling was utilized, as the requirements for participants were very specifically defined (Rea & Parker, 2005). School-based hearing professionals were contacted via email through the Educational Audiology Listserv, AG Bell, and the Canadian Educators of the Deaf and Hard of Hearing and asked to participate in the survey. In addition, email invitations for the survey were distributed to school-based hearing professionals by hearing aid manufacturers in North America. A total of 139 hearing professionals responded and indicated they currently work with students who are D/HH. Descriptive statistics were used to analyze the responses from the school-based hearing professionals. The distribution and frequency of individual responses to questions were analyzed. For each question in the survey, responses were summed and reported as percentages.

### **Materials**

The online survey consisted of 13 items and was developed and delivered to the participants in an online format using the SurveyMonkey® web-based program. Questions addressed the features and implementation of peer mentorship programs. Responses could not be linked to the individual participants, their schools, or their specific geographical location. The participants were given 10 weeks to complete the survey. Survey items are listed in Table 1.

Table 1. The 13 Items Included in the North American Survey of Peer Mentorship Programs for Students with Hearing Loss

Items	Questions	Response Options
1	I live in: (select one)	Canada
		United States
		Other
2	I work as a: (select one)	Educational Audiologist
		Teacher of the Deaf and Hard of Hearing
		Audiologist
		Speech-Language Pathologist
		Auditory-Verbal Therapist
		School Administrator
3	Does your school district/school board offer a planned, school-based program that provides students with hearing loss the opportunity to gather with other students with hearing loss to be educated about hearing loss? (e.g. develop self-advocacy skills)	Yes
		No (skip to end of survey)
		I don't know (skip to end of survey)
4	You answered "yes." How many times do you have meetings for your students with hearing loss?	Once per year
		Twice per year
		Three times per year
		We meet as often as we can
		Less than once a year
5	When does the program run?	Other
		During school hours
		After school hours, during the week
		After school hours, on the weekend
6	Tell us about your school-based student program. What topics are most important in your program? (Check all that apply)	Self-determination
		Self-advocacy
		Career development
		Transitions
		Understanding your hearing loss
		Bullying
		Safety
		Communication
		Social skills
		Friendships
Self-regulation		
Other		

Table 1 (continued). The 13 Items Included in the North American Survey of Peer Mentorship Programs for Students with Hearing Loss

Items	Questions	Response Options
7	Who typically participates in your program as a mentor? (Check all that apply)	Parent
		Adult with hearing loss
		Teacher of the deaf and hard of hearing
		Educational audiologist
		Classroom teacher
		Other students with hearing loss
		Peer with hearing loss
		Graduate students in communication disorders
8	Who provides funding for your program?	School district
		Philanthropic organization
		Charitable organization
		School
		Government
9	Are you measuring outcomes for your program?	Yes
		No
10	You answered YES to measuring outcomes, can you please describe your outcome measurement tools in the text box below?	
11	What are the main objectives of your program? (check all that apply)	Education
		Social relationships
		Self-advocacy
		Understanding hearing loss
		Friendships
		Social skill development
		Other (please specify)
12	What obstacles might prevent students from participating in your program? Please briefly describe those obstacles.	
13	Do you encounter barriers to running your student program? Please briefly describe those barriers.	

## RESULTS

The majority of respondents to the survey were school-based hearing professionals (56% teachers of the D/HH and 36% educational audiologists). Only 37% of participants reported that they offered a peer mentorship program for students who are D/HH. For those professionals that offered peer mentorship programs, 26% were educational audiologists and 41% were teachers of the D/HH. The majority (76%) of the peer mentorship programs were being held during school hours. As shown in Figure 1, funding that supported the operation of these programs came mainly from the school district (63%).

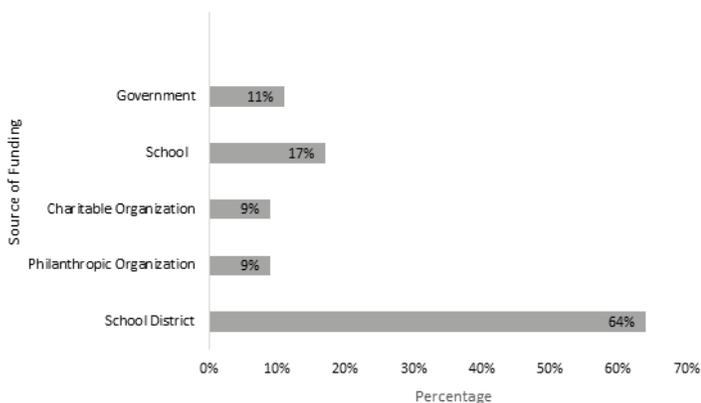


Figure 1. Reported sources of funding for peer mentorship programs.

Participants described the objectives and content of the mentorship programs available in their school district. Survey results indicated that topics of importance were the development of friendships, social relationships and social-skill development, development of self-advocacy, and understanding hearing loss (Figure 2).

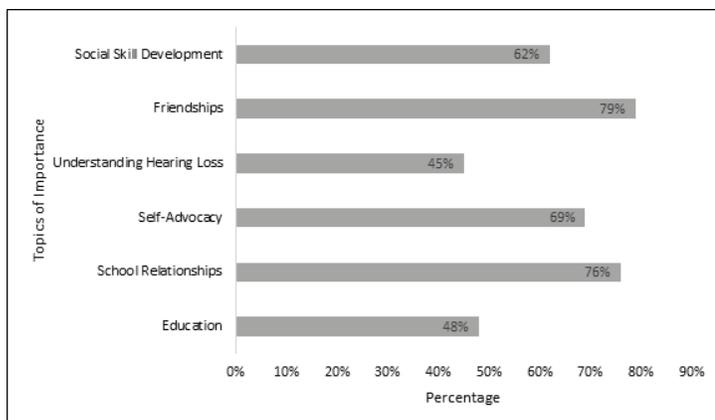


Figure 2. Topics of importance for peer mentorship programs.

The respondents identified different types of peer mentors or program facilitators, all reportedly contributing to the success of their program. Identified program mentors are teachers of the D/HH, educational audiologists, students who are D/HH, and adults who are D/HH who live within the community.

Anecdotally, we have heard that many school-based hearing professionals in North America have the desire to operate peer mentorship programs. In our survey, we wanted to learn more about the barriers to program implementation. Survey participants reported that a major barrier to delivering a peer mentorship activity was related to the challenges associated with the logistics of program development and implementation. Obstacles identified occurred at different levels including the individual student(s) who are D/HH, their family, educators, and school administration. Participant response categories for barriers included: convincing students to attend (10%), availability of meeting space (13%), distance and transportation to the meeting site (28%), cost of running the program (45%), and allocation of time for program within the school day (24%). Additional comments of interest from the survey included: students did not want to attend the mentorship group as they did not identify as deaf or hard of hearing or were not wearing hearing technology, parents' were concerned about their child missing school and falling behind in their coursework, and finding school staff to assist with the program was a challenge.

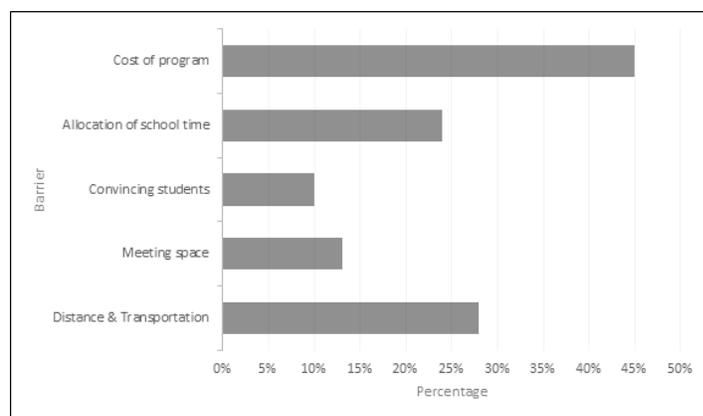


Figure 3. Reported barriers associated with the implementation of peer mentorship programs.

The final section of the survey aimed to understand outcome measures and if they were being used to assess peer mentorship programs. While 17% reported using outcome measures, further analysis of these measures suggested that they were more appropriately classified as program descriptors. Participants described reporting numbers of attendees, attributes of student participants (age, gender, degree of hearing loss, and type of hearing technology used), and ratings of program satisfaction by student and parent attendees. Outcome measures related to program foci on social-skill development, self-advocacy, and relatedness with same-self peers and peers with typical hearing,

competency of hearing and hearing technology, and autonomy were not conducted.

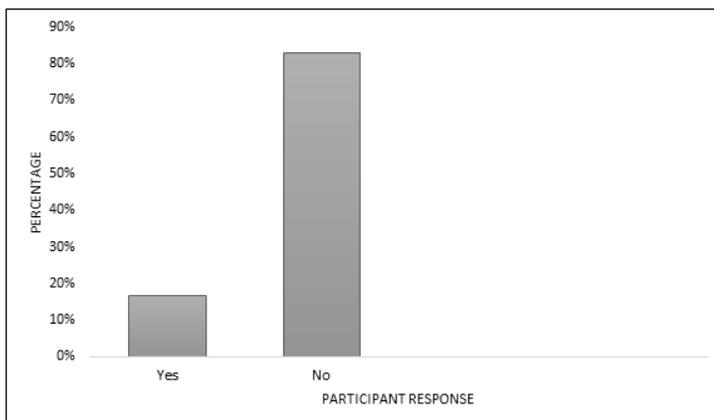


Figure 4. Participant's use of outcome measures.

## DISCUSSION

This novel study explored the availability and features of school-based mentorship programs for students who are D/HH. While peer mentorship groups bring together individuals and allow them to develop same-self connections and relationships in a supportive environment, findings from our survey sample suggest that there appears to be very few groups available for students who are D/HH. Our findings revealed that there were barriers to the development and implementation of peer mentorship program for students who are D/HH, and this likely explained one potential reason for the lack of availability. As noted in the literature, these obstacles also existed in the development of most school mentoring programs (Stumbo et al., 2008). Challenges identified included access to resources for developing a program, the availability of funding to operate a program, and support staff available and interested in participating.

Our study found that, for those who have developed and provided school-based mentorship programs, goals and topics of importance included social-skill development, self-advocacy, relatedness with same-self peers and peers with typical hearing, competency of hearing and hearing technology, and autonomy. These group interests identified as being important for mentorship in our study aligned well with research on D/HH students and their areas in need of development (Dalton, 2011). For example, Dalton (2011) found that social interaction with classmates and school staff have been recognized as areas in need of attention for children who are D/HH. In addition, researchers have found that students who are D/HH required coaching and guidance with social skills and relationship development and were more likely to experience loneliness than their typical hearing peers, placing them at risk for social maladaptation and social cognitive processing disorders (Warner-Czyz et al., 2015).

Research examining school-based programs found that a key facilitator to sustainability was the measurement of program outcomes (Hatch, 2014). Studies have reported that staff understood the importance of completing outcome measurements and were willing to collect data to support the survival of their school-based program (Wilkerson et al., 2013; Hatch, 2014).

Moreover, they recognized that sharing program outcomes with administrators and decision makers was crucial for garnering support (Hatch, 2014). In addition to gaining favour from school principals and superintendents, researchers found that when program organizers measured the impact of their activities on students, it also helped inform the development of program content (Carey et al., 2008). In this study, we found that participants were not using formal outcome measures, nor were they measuring outcomes related to their program foci. We found that, when existing mentorship programs assessed their activities, they used informal measures that described member's participation in the program. This may be because the knowledge to construct outcome measures or programs for sustainability are more complex, and program facilitators may feel uncertain about the types of outcomes they should be measuring or sustainability measures to put into place (Allen et al., 2008). Pending the availability of a formal peer mentorship model with established metrics, school-based hearing professionals could consider offering workshops for students within their school district or community who are D/HH that include topics that would be align with the outcome-related goals and objectives of their school's administration. For example, if a school-district goal was to improve student population well-being, the workshop offered could address topics of well-being for students who are D/HH and provide measurable outcomes on the workshop that would meet an administrator's need for reporting purposes.

## LIMITATIONS

The purposive nature of the sample for this study may have impacted results measured and it reflects views of respondents within the North American context. Our self-report survey asked respondents to provide information about the challenges in implementing a program but did not ask them to provide information about facilitators to peer mentorship program development. There are specific States and Provinces that only have one educational audiologist (e.g. British Columbia, Nova Scotia, and Alaska). We de-identified personal information and did not collect detailed demographic data from our participants. This means we are unable to understand how the responses collected represent professionals working across North America. Peer mentorship programs are inclusive of students who are D/HH from elementary, middle, and high school (Spangler, 2019). We did not ask respondents about specific programs for each of these populations (elementary, middle and high school). This important and interesting information could be included in future research studies.

## FUTURE RESEARCH

Many school-based hearing professionals have the desire to implement school-based mentorship programs for students who are D/HH. Results of this research study revealed that more work on the development and implementation of these types of programs is necessary. Results also revealed an opportunity for a practice-based research collaborative to be developed. School-based peer mentor program developers could partner with researchers to develop evidence-based programs and collaboratively define appropriate outcome and sustainability measures. These well-defined projects could then be made available to school-based hearing professionals so that they had the opportunity to provide rationale, evidence and program design in order to improve access to available funding and well-designed programs. This is the goal of the future work for the authors of this paper. Our next objective is to develop a model for peer mentorship programs and provide guidance for others related to the development, implementation, and sustainability of these programs for elementary and secondary students who are D/HH. Future research will evaluate the implementation of the peer-mentorship program and its overall effectiveness across a variety of desirable self-determination related outcomes.

## CONCLUSION

School-based peer mentorship programs are designed to support students through a guided, collaborative learning process leading to beneficial outcomes. Findings from our study revealed that the availability of school-based peer mentorship programs for students who are D/HH students was low. In addition, for programs that were available in North America, they were not always well-described, developed based on evidence, and while they did focus on topics important to the well-being of students who are D/HH they did not measure important outcomes related to these topics. Our study found that peer-mentorship programs for students who are D/HH aimed to facilitate the development of skills to support relationship development, inclusion and areas associated with self-determination theory, specifically relatedness, competency, and autonomy (Deci & Ryan, 2002). Future work will focus on the development of a peer-mentorship program for students of varying ages who are D/HH and includes suggestions for topics, activities and measurable outcomes that can be disseminated across North America.

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## REFERENCES

- Allen, T. D., Eby, L. T., O'Brien, K. E., & Lentz, E. (2008). The state of mentoring research: A qualitative review of current research methods and future research implications. *Journal of Vocational Behavior, 73*(3), 343-357.
- Allen, T. D., Russell, J. E., & Maetzke, S. B. (1997). Formal peer mentoring: Factors related to protégés' satisfaction and willingness to mentor others. *Group & Organization Management, 22*(4), 488-253 507.
- Ames, M. E., McMorris, C. A., Alli, L. N., & Bebko, J. M. (2016). Overview and evaluation of a mentorship program for university students with ASD. *Focus on Autism and Other Developmental Disabilities, 31*(1), 27-36
- Antia, S., Jones, P., Luckner, J. L., Kreimeyer, K., & Reed, S. (2011). Social outcomes of students who are deaf and hard of hearing in general education classroom. *Exceptional Children, 77*(4), 489-504. <https://doi.org/10.1177/001440291107700407>
- Beltman, S., & MacCallum, J. (2006). Mentoring and the development of resilience: An Australian perspective. *International Journal of Mental Health Promotion, 8*(1), 21-32.
- Beltman, S., & Schaeben, M. (2012). Institution-wide peer mentoring: Benefits for mentors. *The International Journal of the First Year in Higher Education, 3*(2), 33-44.
- Carey, J. C., Dimmitt, C., Hatch, T. A., Lapan, R. T., & Whiston, S. C. (2008). Report of the national panel for evidence-based school counseling: Outcome research coding protocol and evaluation of student success skills and second step. *Professional School Counseling, 11*(3), 2156759X0801100306.
- Carter, E. W., Moss, C. K., Asmus, J., Fesperman, E., Cooney, M., Brock, M. E., Lyons, G., Huber, H.B., & Vincent, L. B. (2015). Promoting inclusion, social connections, and learning through peer support arrangements. *Teaching Exceptional Children, 48*(1), 9-18.
- Consortium for Research in Deaf Education (CRIDE). (2017). CRIDE report on 2014 survey on educational provision for deaf children. Retrieved from <http://www.ndcs.org.uk/document.rm?id=9801>
- Constantinou, V., Ioannou, A., Klironomos, I., Antona, M., & Stephanidis, C. (2020). Technology support for the inclusion of deaf students in mainstream schools: a summary of research from 2007 to 2017. *Universal Access in the Information Society, 19*, 195-200. doi:10.1007/s10209-018-0630-8
- Dalton, C. J. (2011). Social-emotional challenges experienced by students who function with mild and moderate hearing loss in educational settings. *Exceptionality Education International, 21*(1), 28-45. Retrieved from <https://ir.lib.uwo.ca/eei/vol21/iss1/4>

- Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.
- Destin, M., Castillo, C., & Meissner, L. (2018). A field experiment demonstrates near peer mentorship as an effective support for student persistence. *Basic and Applied Social Psychology, 40*(5), 269-278.
- Dobbins, M., & Robeson, P. (2006). A methodology for searching the grey literature for effectiveness evidence syntheses related to public health. Project report prepared for The Public Health Agency of Canada. Available from: [http://healthevidence.ca/downloads/Dobbins2006\\_Grey\\_Literature\\_Project\\_Report.pdf](http://healthevidence.ca/downloads/Dobbins2006_Grey_Literature_Project_Report.pdf)
- Farley, J. A., Gibbons, M. M., & Cihak, D. F. (2014). Peer mentors in a postsecondary education program for students with intellectual disabilities. *College Student Journal, 48*(4), 651-660.
- Gordey, D (Producer). (2018). The importance of classroom relationships for children with hearing loss [Video]. <https://www.audiologyonline.com/audiology-ceus/search/page:3/sort:dateDifference/direction:asc/cp:oticon/>
- Hatch, T. (2014). *The use of data in school counseling: Hatching Results for students, programs and the professions*. Thousand Oaks, CA: Corwin Press.
- Individuals with Disabilities Education Improvement Act (IDEA). (2004) Public Law 108-446, 20 U.S.C. 1400 et seq.
- Joint Committee on Infant Hearing (2019). Year 2019 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. *Journal of Early Hearing Detection and Intervention, 4*(2): 1-44. doi: 10.15142/ftp-k-b748
- Patel, S. R., Bouldin, E., Tey, C. S., Govil, N., & Alfonso, K. P. (2020). Social Isolation and Loneliness in the Hearing-Impaired Pediatric Population: A Scoping Review. *The Laryngoscope, 30*4
- Rea, L. M. & Parker, R. A. (2005). *Designing and Conducting Survey Research: A Comprehensive Guide*. San Francisco, CA: Jossey-Bass.
- Saxena, S., Mitchell, J., Ehsan, A., Majnemer, A., & Shikako-Thomas, K. (2020). Online peer mentorship programmes for children and adolescents with neurodevelopmental disabilities: A systematic review. *Child: Care, Health & Development, 46*(1), 132-148. doi:10.1111/cch.12726
- Spangler, C., Yuskow, K., Moodie, S., & Gordey, D. (2019). PEAK Performers: Programming, Education, Advocacy and Knowledge. Invited presentation at the 2019 Education Audiology Association Conference, Denver, CO, June 24.
- Stumbo, N. J., Lindahl-Lewis, P., & Blegen, A. R. (2008). Two mentorship case studies of high school and university students with disabilities: Milestones and lessons. *Journal of Rehabilitation, 74*(3), 45.
- Ward, E. G., Thomas, E. E., & Disch, W. B. (2014). Mentor service themes emergent in a holistic, undergraduate peer-mentoring experience. *Journal of College Student Development, 55*(6), 563-579.
- Warner-Czyz. (2020). Friendship and loneliness in children and adolescents with hearing loss. *Audiology Today, 32*(1), 36-43.
- Warner-Czyz, A. D., Loy, B. A., Evans, C., Wetsel, A., & Tobey, E. A. (2015). Self-esteem in children and adolescents with hearing loss. *Trends in hearing, 19*, 2331216515572615.
- Wilkerson, K., Pérusse, R., & Hughes, A. (2013). Comprehensive school counseling programs and student achievement outcomes: A comparative analysis of RAMP versus non-RAMP schools. *Professional School Counseling, 16*(3), 2156759X1701600302.