

Robin E. Perkins-Dock, Ph.D.

Terrilyn R. Battle, M.S.

Jaleassia M. Edgerton, M.S.

Jaqueline N. McNeill, M.S.

Winston-Salem State University

Abstract

Hearing difficulty is one of the most prevalent disabilities in the United States, comprising approximately 2.1 percent (3.9 million) of American, working-age population. This disability impacts communication, educational achievement, and the social interactions resulting in significant unemployment and underemployment. The authors present a survey of barriers to employment as identified by participants who are deaf. Survey results include descriptive data related to barriers to employment, level of education, employment status, use of accommodations, and recommendations for change. A comparative analysis demonstrates the relationship between selected variables. The authors conclude with practical implications for potential stakeholders.

Keywords: disabilities, deaf, deafness, barriers, employment

Introduction

Recent statistics identify hearing difficulties as one of the most prevalent disabilities in the United States, comprising approximately 2.1 percent (3.9 million) of American adults between the ages of 18-64 (Erickson, Lee, & von Schrader, 2014; National Center for Health Statistics, 2011; National Institute on Deafness and Other Communication Disorders [NIDCD], 2010; Schiller, Lucas, & Peregoy, 2012; U.S. Census Bureau, 2012). This statistic may be even higher considering that the population of individuals who are deaf, that use American Sign Language (ASL) as their primary language, may be excluded from the surveyed sample (Barnett et al., 2011; McKee et al., 2012; Pick, 2013). Hearing loss significantly impacts the communication, educational achievement, and social interactions for these individuals (Boutin, 2010; Boutin & Wilson, 2009), and restricts access to employment with significant unemployment and underemployment (Bradley, Ebener, & Geyer, 2013; Smith, 2011).

The population of individuals who are deaf and hard of hearing is diverse. There are variations in the cause and degree of hearing loss, educational background, age of onset, and communication methods. The U.S. Census

Bureau (2012) identifies only “hearing difficulty” in its American Community Survey (ACS) estimates. People who are deaf have hearing loss severe enough that communication and learning are primarily by visual methods. Those who are hard of hearing have mild-to-profound hearing loss and are not restricted to visual methods for communication and learning (Shuler, Mistler, Torrey, & Depukat, 2014). How individuals who are deaf and hard of hearing identify themselves is personal and may reflect identification with the deaf or hard of hearing community, the relative age of onset, or the degree of hearing (Kimmery & Compton, 2014; National Association of the Deaf [NAD], 2014a). For the purpose of this study, participants self-identified as “deaf” when submitting their completed questionnaires.

Although the Americans with Disabilities Act (ADA) of 1990 mandates hiring practices and provision of reasonable accommodations for all persons with disabilities, research indicates that even with increased professional training, legislative initiatives, and awareness to the needs of employees who are deaf, the employment rate of this population continues to be lower than their peers who can hear (Appelman, Callahan, Mayer, Luetke, & Stryker, 2012; Boutin & Wilson, 2009). Houston, Lammers, and Svorny (2010) found a substantial number of their respondents reported that the ADA requirements and increased legislative benefits often result in lowered employment for individuals who are deaf that lack postsecondary training or education. A study by Bowe, McMahon, Chang, and Louvi (2005) suggested that young people who are deaf may experience possible resistance from employers regarding initial hire, training, promotion, and reasonable accommodations due to employers’ perceiving the cost as an undue hardship.

Reasons cited in the literature for occupational difficulties of individuals who are deaf include the inadequate understanding of employers regarding legal mandates and appropriate accommodations (Bowe et al., 2005; Houston et al., 2010; McCrone, 2011), communication difficulties (Haynes, 2014; Houston, et al., 2010), and poor academic preparation (Luft, 2012; Luft & Huff, 2011). The authors present a survey of barriers to employment identified by participants who are deaf. Survey results include descriptive data in the areas of barriers to employment, level of education, employment status, use of accommodations, and recommendations for change. A comparative analysis demonstrates the relationship between selected variables.

Reasonable Accommodations

Accommodation practices with persons who are deaf are a significant factor in employment attainment and retention (Cawthon, Leppo, & pepnet2, 2013; Geyer & Schroedel, 1999; Haynes & Linden, 2012; Scherich & Mowry, 1997). Many employers lack adequate understanding of the accommodation needs and strategies that allow successful work performance of employees who are deaf (Scherich, 1996). Employers may also consider many accommodations for adult workers who are deaf as too costly (Scherich, 1996). Increased knowledge about accommodating this population would increase their workforce participation (Geyer & Williams, 1999; Scherich, 1996).

Reasonable job accommodations for workers with hearing loss may include amplification/clarity technology, assistive listening devices, augmentative and alternative listening devices, Bluetooth technology, and alerting devices (Job Accommodation Network [JAN], 2013a, 2013b; NIDCD, 2011). For individuals who are deaf and communicate primarily through visual modalities, reasonable accommodations may include the provision of qualified sign language interpreters, visual alarms, summary of meeting notes, captioned telephones, video relay services, video remote interpreter/interpreting services, and texting (JAN, 2013a, 2013b; Jennings, Shaw, Hodgins, Kuchar, & Bataghva, 2010; NAD, 2014b; NIDCD, 2011).

Haynes and Linden (2012) identified telephone aids and assistance from co-workers as the most common accommodations for study participants who are deaf. Their study also discussed effective communication in groups and lack of co-worker support as unmet needs of adult workers who are deaf. Assistance centers like the Job Accommodations Network (JAN), the regional Disability and Business Technical Assistance Centers (DBTACs), and the state-level Assistive Technology Projects are available to provide assistance and address employer and employee concerns about accommodations for employees with disabilities (Haynes & Linden, 2012; JAN, 2013b).

Communication Difficulties

Communication difficulties have been a significant contributor to poor employment rates, and continue to be a primary barrier to job maintenance and advancement for the employee who is deaf (Frasier, Hansmann,

& Saladin, 2009; Haynes, 2014; Rosengreen & Saladin, 2010; Shuler et al., 2014). In a study by Rosengreen and Saladin (2010), 100% of their participants identified communication as a significant problem in the workplace setting, and integral to effective job performance. An individual who is deaf may experience communication difficulties interacting with co-workers, supervisors, and customers, depending on the work environment (Foster & MacLeod, 2003; Geyer & Schroedel, 1999). In addition, communication difficulties impact the employee who is deaf in social interactions that occur in work settings (Luft, 2000). In these instances, difficulties with communication may isolate the individual who is deaf, as well as limit their ability to perform their job to the best of their ability (Foster & MacLeod, 2003; Luft, 2000; Shuler et al., 2014).

Reading and writing are often critical to workplace settings (Foster & MacLeod, 2003). Workers who are deaf often lack the ability to communicate effectively in written language due to weak English reading and writing skills that often characterizes individuals who are deaf (Appelman et al., 2012; Dallas Hearing Foundation, 2014; Houston et al., 2010; McKee, Schlehofer, & Thew, 2013). Garberoglio, Cawthon, and Bond (2014) found that higher literacy skills of adult workers who are deaf predicted higher wage earnings. Low written language skills also negatively impacts this population's ability to communicate in written form (Garberoglio et al., 2014), which is a common accommodating process in the workplace (Shuler et al., 2014).

Educational Preparation

The positive effect of postsecondary education on the employment rate and economic status of graduates is prevalent in the literature (Haskins, Holzer, & Lerman, 2009; Williams & Swail, 2005; U.S. Bureau of Labor Statistics, 2013a, 2013b). Research also demonstrates a positive impact of college completion on the career success of individuals who are deaf (Boutin, 2009; Schley et al., 2011; Walter & Dirmyer, 2013). Individuals who are deaf that complete postsecondary training demonstrate higher labor force participation (Walter & Dirmyer, 2013), obtain managerial/professional occupations (Boutin & Wilson, 2009), and obtain jobs with higher salaries (Moore, 2002; Schley et al., 2011; Walter, Clarcq, & Thompson, 2002).

Schley et al. (2011) reported that postsecondary training increases the potential for employment of persons who are deaf and hard of hearing, with

graduates earning higher salaries than non-graduates. In a study investigating the effect of postsecondary education on the occupational attainments of adults who are deaf, Welsh and Walter (1988) found positive effects of postsecondary technical training and college degrees on the work lives of persons who are deaf with lower unemployment rates and significantly higher wages.

Purpose of the Study

This study was formulated to investigate the occupational experiences of working-age individuals who are deaf and characteristics of this population that may enhance job attainment and retention. The perceptions of working-age individuals who are deaf regarding barriers to job attainment and retention will be identified, as well as the relationship between characteristics of this population and employment. In addition, the authors hoped to gain insight into possible recommendations for change to assist working-age individuals who are deaf to increase job attainment and retention.

Methods

Procedure

Before conducting the study, Institutional Review Board (IRB) approval was received at the first author's institution, and return of the Survey Questionnaires indicated consent of the study participants. Study participants were identified and mailed the Survey Instrument. Based on the returned survey questionnaires, descriptive data was obtained and analyzed for significant findings.

Participants

Participants for this study included 224 adults (110 females; 114 males) who are deaf from a list of names and addresses provided by the state Council for the Hearing Impaired, the state Association for the Deaf, private and public rehabilitation agencies, state schools for the deaf, and local churches that offer deaf ministry in the metropolitan and surrounding area (120 mile radius) of a city in the southern United States. Participants self-identified with a disability of deafness by returning the survey packet. Of the 224 surveys that were mailed to potential participants, 156 surveys were returned for a 70% return rate. Since the return of the surveys indicated self-

identification as deaf, all participants were classified as deaf. One hundred twenty-five (125) surveys were complete and included in the study for a 56% return rate of usable data. In the sample of 125 participants, 54% of the study participants reported being employed (38 males; 30 females).

Survey Instrument

The questionnaire, developed by the first author and primary investigator, was designed based on review of the literature to collect descriptive data relevant to the occupational experiences of working-age individuals who are deaf. The survey instrument was divided into two sections: (1) Demographic Information and (2) Employment Information, and used to gather information about the perceptions toward job attainment and retention. The demographic portion of the survey instrument inquired about the participants' age, gender, educational level, primary communication modality, and employment status. The employment portion of the survey instrument was formulated to survey individuals who are deaf regarding employment history, hiring difficulties, barriers encountered in the workplace, use of assistive technology on the job, use of accommodations on the job, and recommendations for change. Considering that individuals who are deaf are underrepresented in survey research due to telephone access, literacy, language, and sociocultural factors in the deaf community (Graybill et al., 2010), and written surveys often pose access and data validity problems (Graybill et al., 2010; Pollard, 2002; Pollard, Dean, O'Hearn, & Haynes, 2009), the items on the survey instrument were reviewed by a team of relevant experts for readability and ease of understanding. The team of relevant experts included a university professor of a graduate program in deaf education, a teacher of the deaf from a local state school for the deaf, two (2) state vocational rehabilitation consumers who are deaf, and the first author with over 25 years' experience in the field of deafness. The team of experts revised some of the wording on the survey (i.e., changed the word barriers to problems) and concluded that the survey would adequately collect descriptive data appropriate for this study.

Results

Descriptive Analysis

Demographic information from the Demographic Questionnaire included age, gender, hearing status, educational level, primary

communication modality, and use of assistive technology. Of the 224 surveys that were mailed to persons who are deaf, 156 surveys were returned for a 70% return rate. One hundred twenty-five (125) surveys were complete and included in the study for a 56% return rate of usable data. For the 125 usable surveys, there were 60 females (48%) and 65 male (52%). The mean age of participants was 30 years old (SD = 10), with 60 females (avg. age = 29 years) and 65 males (avg. age = 31 years).

The educational levels of participants included eight percent (8%) with a M.Ed. degree, 12% with a B.S. degree, 19% with some college, 32% completed high school with a special education certificate of completion, 15% completed high school with a regular high school diploma, and 14% did not complete high school. The study participants were also asked to identify their current employment status (employed or unemployed) on the employment portion of the survey. In the sample of 125 participants, 54% of the study participants reported being employed (38 males; 30 females).

Study participants identified barriers to employment (e.g., problems that persons who are deaf experience on the job). The authors categorized the study participants' reported problems encountered on the job into five general areas: (a) communication difficulties, (b) discrimination, (c) education level required for the job, (d) expectations of the employer in fulfilling job requirements, and (e) employer lacking knowledge about deafness. The two major barriers to employment reported by study participants were communication difficulties at 28.8 percent, and employer lacking knowledge about deafness at 18.4 percent.

Table 1 shows issues that study participants identified as problems encountered on the job. Consistent with the literature, study participants reported communication difficulties and conflicts related to the employer's limited knowledge of deaf culture as major problems encountered in the work environment (Houston et al., 2010; McCrone, 2011). Consistent with communication difficulties in the work environment identified in the literature for workers who are deaf was reported by study participants as "difficulty understanding in meetings." Study participants indicated that they are usually expected to obtain notes from another employee after meetings or go directly to their supervisor to obtain necessary information.

Table 1. Barriers to Job Attainment and Retention

Barrier to Job Attainment and Retention	Frequency	Percent
Communication difficulties	36	28.8
Conflicts related to deaf culture	23	18.4
No interpreters available	8	6.4
Too much pressure	8	6.4
Discrimination	7	5.6
Low morale	7	5.6
Inconsistent expectation of employer	4	3.2
Limited advancement	4	3.2
Misunderstanding in meeting	4	3.2
Transportation difficulties	4	3.2
Underemployed	4	3.2
Unrealistic expectations of employer	4	3.2
Long hours	3	2.4
Maltreatment	3	2.4
Physical limitations	3	2.4
Unfair treatment	3	2.4
Totals	125	100.0

Note. The above items were listed by study participants as barriers to employment and job retention. They are listed according to frequency with the highest frequency listed first.

On the survey instrument, study participants identified recommendations for improvement (e.g., things they would change on their job) on their job. Study participants provided descriptive information regarding changes that they would like to see on the job and in their work experience (e.g., more ADA awareness, better communication, boss more patient). Table 2 shows the recommendations that study participants provided for improvement

for job attainment and retention of persons who are deaf. Many of the recommendations are related to issues that are clearly covered under Title I of the ADA such as, equal access in meetings and having a sign language interpreter for meetings. In addition, many of the study participants' recommendations for change were factors related to the employer and employment site, rather than factors related to the employee who is deaf.

Table 2. Recommendations for Change

Advocacy for deaf employees

More ADA awareness

Be more aware of deaf person's needs

Better communication

Better relations among staff

Boss be more patient

Boss understand deaf people

Equal access to meetings and instruction

Have interpreter for meetings

Improve communication between employees

More deaf employees

More hours

More knowledge about deafness

More opportunities for advancement

More opportunities for more money

Better job

Sign language classes for hearing employees

Touch deaf employee instead of waving hand in front of face

Experimental Analysis

A chi square test for independence was used to explore the relationship between (a) gender and employment status and (b) education level and employment status. For our sample of 125 participants, 30 (50%) of the 60 females, and 38 (58%) of the 65 males, reported current employment.

Relationship between gender and employment status. The Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between gender and employment status, $X^2(1, n = 125) = .59, p = .44, phi = .09$. The null hypothesis, there is no relationship between gender and employment status, was accepted, indicating that the proportion of males employed is not significantly different from the proportion of females employed.

Relationship between educational level and employment status. The Chi-square test for independence indicated an association between employment status and educational level, $X^2(1, n = 125) = 39.1, p = .00, phi = .56$. The null hypothesis, there is no relationship between employment status and level of education, was rejected, indicating a significant relationship between the employment status and level of education for study participants.

Consistent with the literature, the higher levels of education yielded a higher proportion of employed individuals (e.g., Master's degree = 100% employed; Bachelor's degree = 100% employed; some college = 71% employed; High School diploma/equivalency = 47% employed; completion of High School with a special education certificate = 25% employed; not completing High School = 41% employed). Considering that the 2 X 6, Chi-square test for independence exploring an association between employment status and educational level contained 1 cell (8.3%) with an expected frequency count less than 5 (chi-square assumption), data regarding educational level for (a) some college, (b) bachelor's degree, and (c) master's degree were collapsed to further explore this relationship. The 2 X 4, Chi-square test for independence also indicated an association between employment status and educational level, $X^2(1, n = 125) = 35.0, p = .00, phi = .53$.

Consistent with the literature, the results of this comparison suggest that educational level is an important factor in the employment status of individuals who are deaf (Boutin & Wilson, 2009; Walter & Dirmyer, 2013). However, an interesting factor in the data provided in this study was

that participants that graduated with a high school diploma reported similar employment status as those not completing high school. This suggests that obtaining employment is just as difficult for individuals who are deaf that graduate with a high school diploma, as for individuals that do not complete high school. This raises an interesting question as to the possible skills or related barriers that these two groups may have in common.

Limitations of the Study

The mean age of the participants in this study ($x = 30$; $SD = 10$) and range of ages is a possible limitation, considering the advancements and changes in the process of education for persons who are deaf. The results may be skewed due to the possibility that the mean-age of the sample received their education and training under a less developed curriculum than is currently in place. The younger participants may have received more vocational training, as well as vocational training opportunities, than the older participants. The results also suggest that participants with postsecondary education or training appeared to fare better with regards to occupational attainment and retention. In this regard, the older participants may not have experienced as many opportunities for postsecondary education and training as the younger participants.

The process of collecting data in written form may have limited the study results due to difficulty of study participants in completing the survey instrument. It is possible that recipients of the survey became overwhelmed with the written format and therefore, did not complete the survey and return it. Future surveys may offer an alternative for individuals needing a more visual communication format.

A final limitation of this study is the sample size and geographical location of the sample. The sample was a unique population in an identified, geographical location, and may not be representative of the experiences of all persons who are deaf. In addition, the levels of accommodations, hiring practices, and barriers to employment may be unique to the geographical location of the sample, resulting in limited possibilities to generalize the study results.

Practical Implications

The results of this study are consistent with relevant literature, suggesting that difficulties with communication, inadequate education and technical

training, and employer attitudes contribute to or impede job attainment and retention for individuals who are deaf. The rehabilitation counselor can play an essential role in promoting job attainment and retention, and enhancing the occupational opportunities for people who are deaf. Research indicates that rehabilitation counseling specifically related to hearing loss has significant supportive outcomes (Boutin, 2010). Certified rehabilitation counselors specifically trained to provide services to individuals who are deaf is recognized as a national priority by the U.S. Department of Education and the Rehabilitation Services Administration (Proposed Priority-Rehabilitation Training, 2014). These specifically trained certified rehabilitation counselors can serve as a bridge between consumers who are deaf and employers. They can educate employees and employers about the ADA and the rights of people with disabilities, recommend appropriate assistive technology, facilitate communication, and assist employees who are deaf in their efforts to advocate for themselves. Methods of disseminating information about the options currently available to promote occupational success for employees who are deaf must be developed and effectively implemented.

A common thread throughout the literature and evident in this study is the importance of appropriate accommodations to the successful employment outcomes for individuals who are deaf. Although this study involved a limited sample size, the results are useful in offering suggestions to enhance competitive employment for this population. Participants in this study that graduated with a special education certificate reported a similar employment status as those not completing high school. This may suggest that the curriculum for students obtaining a special education certificate should be reviewed for mastery of related job skills. Increasing actual job skill training, with an inclusion of possible apprenticeship opportunities, may give individuals who graduate with a special education certificate an advantage as they enter the workforce.

Increasing successful occupational outcomes for individuals who are deaf must involve a planned process of training, support, and advocacy for employees and potential employers. Assisting individuals who are deaf to understand and disseminate vital information to potential employers regarding accommodations and other ways to enhance workplace productivity is essential to the future advancement of this population in today's workforce. Assistance centers like the Job Accommodations Network (JAN), the Disability and Business Technical Assistance Centers (DBTACs), and

the state-level Assistive Technology Projects have been created to provide information and technical assistance to employers, employees, and other people with questions about accommodations, and to address employer concerns about accommodating employees with disabilities. Future research that provides employer data would be an important strategy toward improving the occupational opportunities for this diverse population.

Contact Information

Robin E. Perkins-Dock
Wilson-Salem State University
601 S. Martin Luther King Jr. Drive
Anderson Center C024A
Winston-Salem, NC 27110
dockre@wssu.edu

References

- Americans with Disabilities Act (ADA) of 1990, Pub. L. No. 101-336, 104 Stat. 328 (1990).
- Appelman, K. I., Callahan, J. O., Mayer, M. H., Luetke, B. S., & Stryker, D. S. (2012). Education, employment, and independent living of young adults who are deaf and hard of hearing. *American Annals of the Deaf*, 157(3), 264-275.
- Barnett, S., Klein, J. D., Pollard, R. Q., Samar, V., Schlehofer, D., Starr, M., ... Pearson, T. A. (2011). Community participatory research with deaf sign language users to identify health inequities. *American Journal of Public Health*, 101(12), 2235-2238.
- Boutin, D. L. (2009). The impact of college training and vocational rehabilitation services on employment for consumers with hearing loss. *Journal of the American Deafness and Rehabilitation Association*, 42(2), 73-89.
- Boutin, D. L. (2010). Occupational outcomes for vocational rehabilitation consumers with hearing impairments. *Journal of Rehabilitation*, 76(3), 40-46.
- Boutin, D. L., & Wilson, K. B. (2009). Professional jobs and hearing loss: A comparison of deaf and hard of hearing consumers. *Journal of Rehabilitation*, 75(1), 36-40.
- Bowe, F. G., McMahon, B. T., Chang, T., & Louvi, I. (2005). Workplace discrimination, deafness and hearing impairment: The national EEOC ADA research project. *Work*, 25, 19-25.
- Bradley, C. F., Ebener, D. J., & Geyer, P. D. (2013). Contributors to successful VR outcomes among non-Latino (Caucasian) and Latino consumers with hearing loss. *Journal of Rehabilitation*, 79(2), 24-33.
- Cawthon, S. W., Leppo, R., & pepnet 2 Research and Evidence Synthesis Team. (2013). Accommodations quality for students who are d/

Deaf or hard of hearing. *American Annals of the Deaf*, 158(4), 438-452.

Dallas Hearing Foundation (2014). *Facts about Deafness*. Retrieved from <http://dallashearingfoundation.org/facts/>

Erickson, W., Lee, C., & von Schrader, S. (2014). *Disability Statistics from the 2012 American Community Survey (ACS)*. Ithaca, NY: Cornell University Employment and Disability institute (EDI). Retrieved from www.disabilitystatistics.org

Foster, S., & MacLeod, J. (2003). Deaf people at work: Assessment of communication among deaf and hearing persons in work settings. *International Journal of Audiology*, 42 (Supplement 1), S128-S139.

Frasier, D. M., Hansmann, S., & Saladin, S. P. (2009). Psychosocial aspects of deafness: Implications for rehabilitation counselors. *Journal of the American Deafness and Rehabilitation Association*, 43(1), 52-68.

Garberoglio, C. L., Cawthon, S. W., & Bond, M. (2014). Assessing English literacy as a predictor of post school outcomes. *Journal of Deaf Studies and Deaf Education*, 19(1), 50-67.

Geyer, P. D., & Schroedel, J. G. (1999). Conditions influencing the availability of accommodations for workers who are deaf or hard-of-hearing. *Journal of Rehabilitation*, 65(2), 42-50.

Geyer, P. D., & Williams, E. (1999). The role of technical assistance centers in addressing employer concerns about accommodating workers who are deaf or hard of hearing. *Labor Law Journal*, 50 (4), 280-288.

Graybill, P., Aggas, J., Dean, R. K., Demers, S., Finigan, E. G., & Pollard, Jr., R. Q. (2010). A community-participatory approach to adapting survey items for deaf individuals and American sign language. *Field Methods*, 22(4), 429-448.

- Haskins, R., Holzer, H., & Lerman, R. (2009). Promoting *economic mobility by increasing postsecondary education*. Economic Mobility Project. Washington, DC: Urban Institute Press. Retrieved from http://www.urban.org/uploadedpdf/1001280_promotingeconomic.pdf
- Haynes, S. (2014). Effectiveness of communication strategies for deaf or hard of hearing workers in group settings. *Work*, 48(2), 193-202.
- Haynes, S., & Linden, M. (2012). Workplace accommodations and unmet needs specific to individuals who are deaf or hard of hearing. *Disability and Rehabilitation: Assistive Technology*, 7(5), 408-415.
- Houston, K., Lammers, H. B., & Svorny, S. (2010). Perceptions of the effect of public policy on employment opportunities for individuals who are deaf or hard of hearing. *Journal of Disability Policy Studies*, 21(1), 9-21. doi: 10.1177/1044207309357428
- Jennings, M. B., Shaw, L., Hodgins, H., Kuchar, D. A., & Bataghva, L. P. (2010). Evaluating auditory perception and communication demands required to carry out work tasks and complimentary hearing resources and skills for older workers with hearing loss. *Work*, 35, 101-113.
- Job Accommodation Network [JAN]. (2013a). Accommodation and compliance series: *Employees with hearing loss*. Retrieved from <http://askjan.org/media/Hearing.html>
- Job Accommodation Network [JAN]. (2013b). Effective accommodation practices (EAP) Series: *Job accommodations for people with hearing loss*. Retrieved from <http://askjan.org/media/deaf.htm>
- Kimmery, M. A., & Compton, M. V. (2014). Are you deaf or hard of hearing? Which do you go by: Perceptions of identity in families of students with hearing loss. *The Volta Review*, 114(2), 157-192.
- Luft, P. (2000). Communication barriers for deaf employees: Needs assessment and problem-solving strategies. *Work*, 14 (1), 51-59.

- Luft, P. (2012). Employment and independent living skills of public school high school deaf students: Analyses of the Transition Competence Battery response patterns. *Journal of the American Deafness and Rehabilitation Association*, 45(2), 292-313.
- Luft, P., & Huff, K. (2011). How prepared are transition-age deaf and hard of hearing students for adult living? Results of the Transition Competence Battery. *American Annals of the Deaf*, 155 (5), 569-579.
- McCrone, W. P. (2011). Practical implications of the 2008 Americans with Disabilities Act Amendments (Title I) for rehabilitation counselors and deaf job seekers. *Journal of the American Deafness and Rehabilitation Association*, 44(2), 54-66.
- McKee, M., Schlehofer, D., & Thew, D. (2013). Ethical issues in conducting research with deaf populations. *American Journal of Public Health*, 103(12), 2174-2178.
- McKee, M., Thew, D., Starr, M., Kushalnagar, P., Reid, J. T., Graybill, P.,...Pearson, T. (2012). Engaging the deaf American sign language community: Lessons from a community-based participatory research center. *Progress in Community Health Partnerships: Research, Education, and Action*, 6(3), 321-329.
- Moore, C. (2002). Relationship of consumer characteristics and service provision to income of successfully rehabilitated individuals who are deaf. *Rehabilitation Counseling Bulletin*, 45(4), 233-239.
- National Association of the Deaf (NAD). (2014a). *Community and Culture*. Retrieved from <http://nad.org/issues/american-sign-language/community-and-culture-faq>
- National Association of the Deaf (NAD). (2014b). Making communication and information accessible. Retrieved from <http://nad.org/issues/technology>
- National Center for Health Statistics. (2011). *Disability and Functioning (Adults)*. Retrieved from <http://www.cdc.gov/nchs/fastats/disable.htm>

- National Institute on Deafness and Other Communication Disorders (NIDCD). (2011). *NIDCD Fact Sheet: Assistive Devices for People with Hearing, Voice, Speech, or Language Disorders*. NIH Publication No. 11-7672. Retrieved from <http://www.nidcd.nih.gov/health/hearing/Pages/Assistive-Devices.aspx>
- National Institute on Deafness and Other Communication Disorders (NIDCD). (2010). *Quick Statistics*. Retrieved from <http://www.nidcd.nih.gov/health/statistics/Pages/quick.aspx>
- Pick, L. (2013). *Health care disparities in the deaf community*. American Psychological Association, Spotlight on Disability Newsletter. Retrieved from <http://www.apa.org/pi/disability/resources/publications/newsletter/2013/11/deaf-community.aspx>
- Pollard, R. Q. (2002). Ethical conduct in research involving deaf people. In V.A. Gutman (Ed.), *Ethics in Mental Health and Deafness*, (pp. 162-78). Washington, DC: Gallaudet University Press.
- Pollard, R. Q., Dean, R. K., O'Hearn, A., & Haynes, S. L. (2009). Adapting health education material for deaf audiences. *Rehabilitation Psychology*, 54, 232-238.
- Proposed Priority-Rehabilitation Training: Rehabilitation Long-Term Training Program-Rehabilitation Specialty Areas, 79 Fed. Reg. 92 (May 13, 2014), p. 27238.
- Rosengreen, K., & Saladin, S. P. (2010). Deaf workers prioritized workplace expectations: A qualitative study. *Journal of the American Deafness and Rehabilitation Association*, 42(3), 128-151.
- Scherich, D. L. (1996). Job accommodations in the workplace for persons who are deaf or hard of hearing: Current practices and recommendations. *Journal of Rehabilitation*, 62 (2), 27-35.
- Scherich, D. L., & Mowry, R. L. (1997). Accommodations in the workplace for people who are hard of hearing: Perceptions of employees. *Journal of the American Deafness and Rehabilitation Association*, 31(1), 31-43.

- Schiller, J. S., Lucas, J. W., & Peregoy, J.A. (2012). Summary health statistics for U.S. adults: National Health Interview Survey, 2011. *National Center for Health Statistics. Vital Health Stat*, 10(256).
- Schley, S., Walter, G. G., Weathers II, R. R., Hemmeler, J., Hennessey, J. C., & Burkhauser, R. V. (2011). Effects of postsecondary education on the economic status of persons who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, 16(4), 524-536.
- Shuler, G. K., Mistler, L. A., Torrey, K., & Depukat, R. (2014). More than signing: Communicating with deaf. *Nursing Management*, 45(3), 20-27.
- Smith, J. A. (2011). Embracing the elephant in the room: Interviewing ideas for applicants who are deaf or hard of hearing. *Journal of the American Deafness and Rehabilitation Association*, 44(2), 67-81.
- U.S. Bureau of Labor Statistics. (2013a). Earnings and unemployment rates by education attainment. Retrieved from http://www.bls.gov/emp/ep_chart_001.htm
- U.S. Bureau of Labor Statistics. (2013b). Economic News Release, Table A-6. Employment status of the civilian population by sex, age, and disability status, not seasonally adjusted. Retrieved from <http://www.bls.gov/news.release/empst.t06.htm>
- U.S. Census Bureau. (2012). Disability Characteristics, 2008-2012 American Community Survey (ACS) 5-year Estimates, Table S1810; generated by Robin E. Perkins-Dock; using American Fact Finder; <http://factfinder2.census.gov>.
- Walter, G. G., Clarcq, J. R., Thompson, W. S. (2002). Effect of degree attainment on improving the economic status of individuals who are deaf. *Journal of the American Deafness and Rehabilitation Association*, 35(3), 30-46.
- Walter, G. G., & Dirmyer, R. (2013). The effect of education on the occupational status of deaf and hard of hearing 26-to-64-year-olds. *American Annals of the Deaf*, 158(1), 41-49.

- Welsh, W. A. & Walter, G. G. (1988). The effect of postsecondary education on the occupational attainments of deaf adults. *Journal of the American Deafness and Rehabilitation Association*, 22(1), 14-22.
- Williams, A., & Swail, W. S. (2005). *Is more better? The impact of postsecondary education on the economic and social well-being of American society*. American Higher Education Report Series. Stafford, VA: Educational Policy Institute. Retrieved from <http://www.educationalpolicy.org/pdf/gates.pdf>