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Hearing Loss in the Middle East: Attitudes of Kuwaiti Adults

Stephanie Hughes[1], Fauzia Abdalla[2] & Farzan Irani[3]

Abstract

In many developed countries services for people with hearing loss (PWHL) are, in general, quite widely available. Decades of research in these countries, however, suggest that PWHL face social, academic, and occupational stigmatization. Fewer studies have investigated how people in Middle Eastern countriesperceive PWHL and hearing impairment. Accordingly, this study attempted to measure the attitudes toward PWHL of people living in Kuwait, a country in which audiology services are relatively advanced but less widely available than in Western countries. A questionnaire to measure attitudes toward PWHL was administered to 943 university students and adult members of the general population living in Kuwait. Results indicated that many of the respondents' attitudes toward hearing loss and PWHL were generally positive. There were, however, some significant differences in responses on the basis of gender, and some misconceptions about hearing loss and its effects were observed. These findings indicate that people in Kuwait demonstrate attitudes toward hearing loss that are similar to those expressed outside of the Middle East, including North America and some European countries. As such, interactions between people with hearing loss and with normal hearing may be improved by increased education of the general public in Kuwait about hearing loss and its effects.

Keywords: hearing loss; stereotypes, stigma, Middle East, Kuwait

1. Introduction

According to the Word Health Organization (WHO, 2014), hearing loss is defined as the inability to hear normally—that is, the ability to hear a sound that is about as loud as a whisper, or 25 decibels (dB).

[1]PhD., CCC-SLP, Department of Rehabilitation Sciences, University of Toledo, MS 119, Toledo, OH 43606. Tel: 419-530-3106, Email: Stephanie.Hughes@utoledo.edu
[2]PhD., CCC-SLP, Department of Communication Disorders Sciences, Kuwait University, Kuwait
[3]PhD., CCC-SLP, Department of Communication Disorders, Texas State University, San Marcos, TX

The extent of a hearing loss is based on gradations of severity. Without intervention, people with mild hearing loss will have difficulty conversing in noisy environments; people with moderate hearing loss will have difficulty conversing in the presence of background noise; and people with severe hearing loss will have to conduct conversations loudly and may struggle in group conversations. Individuals with these types of hearing losses are said to be hard of hearing, whereas people with profound hearing loss who have little to no hearing and are said to be deaf.

Five percent of people world wide (360 million people, of whom 32 million are children) have what is known as a disabling hearing loss; this estimate includes adults who cannot hear sounds at 40 dB in at least one ear and children who cannot hear sounds at 30 dB in one ear (WHO, 2014). Congenital and acquired factors can cause hearing loss, including difficulties during the birthing process, diseases such as meningitis, and chronic ear infections. Noise-induced and age-related hearing loss also contribute significantly to the numbers of people with hearing loss (PWHL). At least half of all cases of hearing loss are preventable, though the majority of PWHL live in low- and middle-income countries (WHO, 2014).

In this article the effects of hearing loss are reviewed, followed by a consideration of how PWHL in developing countries, specifically those in the Middle East, may be affected by hearing loss. A study is then presented in which the authorssurveyed university students and members of the general public in Kuwait to better understand their attitudes toward PWHL.

1.1.The Impact of Hearing Loss

The psychosocial effects of hearing loss can be especially problematic for PWHL, and these effects tend to begin in early childhood for children with congenital hearing impairments. Hearing aids, with their visible testimony to hearing impairment, make children vulnerable to stigmatization.Researchers have found a stigmatizing effect of hearing aids for preschool and elementary school children (Danhauer, Blood, Blood, & Gomez, 1980; Dengerink, & Porter, 1984), as well as adolescentsin secondary school (Strange, Johnson, Ryan, &Yonovitz, 2008). In these studies children with hearing loss who wore hearing aids were stereotyped (or felt that they were stereotyped) as having fewer positive personality traits than their hearing peers.

Teachers, health professionals, and parents of children with hearing loss also stereotype children with hearing loss, especially in terms of how much they believe these children can achieve (Danhauer et al., 1980; Blood & Blood, 1983). Lowered expectations of children with hearing loss appear to correspond with occupational stereotyping. For example, teachers and parents of children with hearing loss tend to believe that PWHL are less suited to careers that require a high degree of communicative competence, such as physician or lawyer. These findings have been replicated in India (Parasnis, DeCaro,&Raman, 1996) and Sweden (DeCaro et al. 2001), as well as in cross-cultural studies involving parents of children with hearing loss in Italy and England (DeCaro, Dowlaiby, &Maruggi, 1983).

It is perhaps unsurprising that the stigmatizing effect of hearing loss follows children with congenital hearing loss into adulthood. People with severe or profound hearing losstraditionally have had fewer opportunities to participate in higher education (Mulrow et al., 1990), and they may not receive schooling at all in less developed countries (WHO, 2014). As a result PWHL tend to be unemployed or underemployed as compared to their hearing counterparts (Bradshaw, 2002; Ruben 2001).In general more students with hearing loss in the United States appear to be obtaining university degrees; those that do are increasingly able to find employment (Shroedel&Guyer, 2000). Yet even as these students succeed academically, they may be socially isolated from their peers in mainstreamuniversities, particularly students with more severe hearing loss (e.g., Gregory, 1998). The socio-economic status of women tends to be impacted more severely by hearing loss than that of men, perhaps because of narrow range of educational programs leading to traditionally feminine careers that women with hearing loss tend to pursue (Schroedel, &Guyer, 2000). Finally, adults who have acquired rather than congenital hearing loss also struggle with public perceptions of their disability and experience embarrassment, social isolation and rejection, shame, and depression among other psychosocial issues (Hetu, 1996). Fear of stigmatization combined with ageism creates further social and emotional difficulties for older adults with hearing loss (Wallhagen, 2010).

In general, in the United States, Canada, and some European countries, stereotypes of PWHL and limitations society place upon PWHL have been measured with good reliability for decades.

That hearing aids cause stereotyping and stigmatization is so well known that researchers and hearing aid manufacturers are striving to reduce the visibility of hearing aids, thereby reducing "the hearing aid effect" (Johnson, Danhauer, Gavin, Karns, Reith, & Lopez, 2005).

For children and adults who are severely or profoundly hearing impaired, cochlear implants have become a new option to help individuals develop or regain hearing function (Bradham& Jones, 2008). Little research has been conducted about stigmatization of cochlear implants (the external portion of which may or may not be less visible than a hearing aid), though in general it seems safe to say that despite the persistence of social penalties for hearing loss, PWHL, (particularly men), enjoy more education and more lucrative careers than in the past. Nonetheless, these generalizations may apply only to parts of the world where medical advances in audiology are prevalent. It is quite possible that attitudes toward hearing loss differ markedly from country to country, especially where audiology services are still developing.

1.2. Hearing Loss in the Middle East

Some troubling statistics about the prevalence of hearing loss in the Middle East have emerged. Mustafa (as cited in Campbell-Wilson, 2012) found that roughly 8 in 1000 Egyptian children are born with a hearing loss, compared to only 1 in 1000 in the rest of the world. Other reports suggest that children from the Middle East have double the prevalence of deafness as compared to children born in the United States (Campbell-Wilson, 2012). It is possible that consanguineous marriages may contribute to rates of deafness among Arab populations, including Kuwait (Kandari& Crews, 2010). The importance of addressing hearing loss in the Middle East has been recognized for decades (e.g., Soliman, 1979; Toubbeh, Soliman, & Yates, 1976). More recently, researchers in Kuwait (Al-Kandari&Alshuaib, 2007) used universal newborn hearing screening protocols (many of which are mandated in many Western countries) and found that 2% of "normal" and nearly half of "high risk" newborns had hearing loss. As a result of these findings, Al-Kandari and Alshuaibrecommended continued use of universal newborn hearing screenings both in Kuwait and other Middle Eastern countries. At the present time, however, there is little evidence to suggest that these newborn screenings are as widely used or mandated as they are in many Western countries.

The WHO (2014) reports that in developing countries, PWHL may be at particular risk for negative social, academic, occupational, and economic impacts related to their hearing loss. Mourad, Farghaly, and Mohamed (1993) found that children in Egypt who were identified as having a hearing loss were labeled as poor academic performers by their teachers. Thus, like children in similar studies reported in section 1.1, children in Egypt and the Middle East in general seem to be at particular risk for stereotyping and decreased educational and occupational achievement. More research needs to be completed in this area to ascertain the validity of this assumption, and the extent to which Middle Eastern countries differ from each other in this regard.

1.3. Rationale

Attitudes toward PWHL have been found to be malleable based on education about hearing loss (Brown Zahan, & Kelly 1995), positive experiences with PWHL (Kiger, 1997), and strategies employed by PWHL (Blood & Blood, 1999). These findings, however, are predicated on the responses of people in the United States toward hearing loss. The extent to which individuals with and without hearing loss in the Middle East might benefit from one or more of these strategies cannot be ascertained until data from this population is gathered and analyzed. Further, there are 16 countries which comprise the Middle East and this large geographic region necessitates specificity in data collection and interpretation. Thus, the purpose of this study was to examine the perceptions of people toward hearing loss in a single Middle Eastern country, Kuwait. Few if any studies have been published about the attitudes of people in this country toward hearing loss. The following research questions guided the study:

1) How do university students and the general population of Kuwait view PWHL?
2) Does the sex of respondents impact reported attitudes toward PWHL?

2. Method

2.1.Instrumentation

2.1.1. Written Questionnaire

The written instrument compiled for use in this study consisted of two sections. The first section gathered demographic information about age, sex, nationality, place of birth, education and native language. Additionally, the university students were required to indicate their major, college and academic standing. The second section of the instrument consisted of an adapted version of a questionnaire by Bebout and Arthur (1992) that was designed to determine the participants' attitude towards people with hearing loss (see Appendix A and B). Bebout and Arthur's original 12 survey items were adopted with the following modifications: (a) negation was added to statements 4 and 7 to minimize response bias (i.e., Bebout and Arthur's statement 'have trouble getting a good job' was changed to 'have no trouble getting a good job'); (b) to conform with the convention of using 'person-first language' Folkins (1992), all items began with "people with hearing loss"; and (c) a 13th statement 'a person with hearing loss can pursue their education in mainstream (regular) public schools' was added to the instrument. This statement was added to learn more about how people with hearing lossmight be viewed within an educational setting.

A four-point Likert scale (i.e., strongly agree, agree, disagree, strongly disagree) was used to measure participants' agreement with the survey statements. A primary limitation of using a Likert scale is that participants typically tend to provide moderate or socially desirable responses (Baron, 1996). This was addressed by the use of a forced-choice format (even-point scale requiring a response of either agree, strongly agree, disagree, or strongly disagree). Two professional English- Arabic translators translated the 13 items into standard Arabic and two independent bilingual linguists from Kuwait University then checked the translation for accuracy. A short pilot study for the initial draft was conducted with 41 undergraduate students majoring in communication disorders to verify the clarity of the statements. Minor feedback regarding re-wording some of the statements was incorporated into the finalized survey questionnaire.

2.1.2. Stimuli

The stimuli for this study consisted of an audio speech sample obtained from an adolescent Kuwaiti male with prelingual hearing loss as he conversed with his clinician in a quiet office. The sample was recorded in Arabic on a digital audio recorder (Olympus DS-50) and the clip lasted approximately one minute, 50 seconds.

The client's records at Sheikh Salem Al-Ali Center for Speech and Hearing in Kuwait indicated that he was diagnosed with bilateral sloping severe sensorineural hearing loss and was fitted with binaural behind-the-ear (BTE) hearing aids at the age of 28 months. Although he was reportedly receiving significant benefit from his hearing aids, his speech contained characteristics of "deaf speech" in the form of phoneme production errors as well as rhythmic and resonance problems.

2.2.Participants and Survey Distribution

The participants of this study were residents of Kuwait. The first group of participants were Kuwaiti citizens from the general public aged at least 35 years.These participants were located through public sectors and family gatherings using acquaintances, Kuwait university students/staff, and Ministry employees. The second group comprised undergraduate students enrolled at Kuwait University, a state institution established in 1966 with over 30,000 students. Inclusionary criteria for the students included being at least 18 years of age and not majoring in communication disorders. Potential university students were identified by randomly selecting general education classes held at three Kuwait University Campuses (Kaifan, Khalidia, and Shuwaikh) with the help of staff at the admission and registration office. General introductory classes across the university were chosen in an attempt to recruit students of various majors and both genders. The students at the Adeliyah campus (College of Life Sciences) were excluded from the sample because the majority of these students take an introduction to communication disorders course before declaring their major.

A total of 1,030 questionnaires (79.2% response rate) were returned, of which 984 were complete and usable. Forty student respondents were excluded from the study because they were international students (non-Kuwaiti) and one participant was less than the cut-off age of 18 years. The final sample comprised 943 participants, 477 (50.6%) males and 466 (49.4%) females.

The participant age range was 18 to 76 years, with a mean age of 31.2 years (SD = 13.7). A large majority of the participants reported speaking Arabic as their native language (89.8%) with the exception of 93 participants who did not specify their dominant language and three individuals who indicated English as their first language.

Adults from the public presented a diverse range in education (less than elementary to postgraduate) with 74.3% having attained a Bachelor's degree. The undergraduate student participants varied in their academic standing with close to half (47.6%) being in their first year. Approximately 52% of the students (n = 277) had either not declared their major or chose not to respond to the question. The students attended various Kuwait University colleges such as Arts, Business Administration, Education, Engineering, Science, Social Sciences and Pharmacy.

For the data collection, five research assistants from the department of Communication Disorders at Kuwait University were trained to administer the procedures using a standard protocol. The second author contacted potential course instructors via a letter describing the project and requesting permission to administer the survey in the last 15 minutes of their lectures. The research assistants set up appointments with the instructors who granted permission for their students to participate in the study. The assistants visited the classroom on the date and time specified by the instructors and explained to the students in colloquial Arabic the purpose of the project and the inclusionary–exclusionary criteria using a standard script. The students who agreed to participate received a package containing a cover letter, consent form, demographic section, the survey questionnaire, and a return envelope. The cover letter specified that anonymity would be maintained and that participants would not be asked to provide their names. Individuals with a history of communication disorders were exempted from the study.

After reading the letter, the students were instructed to carefully listen to a speech sample of a Kuwaiti speaker with hearing loss. The audio-recorded sample was played on a Toshiba Satellite laptop with external loud speakers. After listening to the recording, the participants completed the demographic and survey sections and handed the completed instrument in an envelope to the assistant. A similar procedure was followed for gathering data from the general public.The research assistants collected data from groups of three or more individuals who met the criteria for participation through family gatherings and offices in public sectors.

2.3. Data Analysis

IBM SPSS Statistics program version 20 (IBM Corp., 2011) was used for data analysis. Descriptive statistics including frequency of responses categorized as either "strongly agree", "agree", "disagree" or "strongly disagree" were calculated to determine general trends in attitudes toward PWHL. In addition to general trends, the data were further analyzed to look for differences in responses to the Likert-type scales based on sex(male vs female).Due to the ordinal nature of the survey instrument, analyses to determine whether the demographic variable of gender affect participant responses were analyzed using non-parametric statistics (Boone & Boone, 2012). Chi-square tests for independence were conducted to determine if the group differed in their responses to certain items on the Likert-Scale based on their sex (male vs. female). The target alpha level was set to $p<.05$. However, due to the large number of analyses conducted (13), a Bonferroni correction was applied to control for Type I errors, resulting in a more conservative alpha value of $p < .004$.

3. Results

3.1.General Trends

A total of 943 respondents used the 13-item Likert scale to rate the audio sample of a person with hearing loss. It should be noted that due to the nature of a Likert scale, items are balanced such that agreement with one item indicates favorable attitudes and agreement with another indicates unfavorable attitudes. Thus, participant responses will be discussed in terms of whether they demonstrate "favorable" or "unfavorable" attitudes instead of simply being classified as "agreed" or "disagreed" responses. For the purpose of this study, a participant's agreement with statements that might reflect negative cognitive, emotional, and behavioral reactions toward a person with hearing losswas regarded as unfavorable. Table 1 below provides an overview of the total number of participants responding to each survey question (1 through 13) as well as the percent of participants who indicated that they strongly agreed, agreed, disagreed, or strongly disagreed with each statement.

Table 1. Number of Participants that Responded to each Item on the Likert-Scale and their Response Patterns

Statement #	Statement	*N*	% Strongly Agree	% Agree	% Disagree	% Strongly Disagree
1	PWHL have trouble making friends or getting married.	941	23.2	47.1	22.4	7.3
2	PWHL should go to a doctor for help with their speech.	941	48.8	41.9	6.4	3.0
3	It is OK to make jokes about hearing lossif no persons with hearing lossare listening.	941	4.4	8.6	26.7	60.4
4	PWHL have no trouble getting a good job.	941	7.5	25.9	49.8	16.7
5	PWHL or their families are being punished (by fate or God, for example).	940	3.5	11.2	41.3	44.0
6	PWHL are likely to be as intelligent as their peers.	939	49.1	33.8	12.4	4.8
7	PWHL should not go to a person who cures or helps people (not a doctor) for help with their speech.	936	11.8	24.8	37.2	26.3
8	PWHL could hear/speak better if they tried hard.	937	12.5	33.1	38.3	16.1
9	The family should keep a PWHL at home to hide the problem from other people.	939	3.2	7.9	21.3	67.6
10	It is sometimes OK to tease or make fun of PWHL.	940	2.9	8.3	20.6	68.2
11	Many PWHL are emotionally disturbed.	935	12.8	43.5	31.8	11.9
12	PWHL should get help with their speech problem at some time in their lives.	940	34.3	52.4	9.1	4.1
13	PWHL can pursue their education in mainstream (regular) public schools.	934	21.2	27.2	34.2	17.5

Overall, participants reported what could be considered favorable and informed attitudes toward PWHL on most scale items. For example, 67.6% of participants strongly disagreed with the statement that, “The family should keep a person with a hearing loss at home to hide the problem from others” and 68.2% strongly disagreed with the statement that “It is sometimes ok to tease or make fun of adults with a hearing loss.”Many of the respondents, however, reported what might be considered unfavorable attitudes on three items in the scale related to social and vocational abilities.

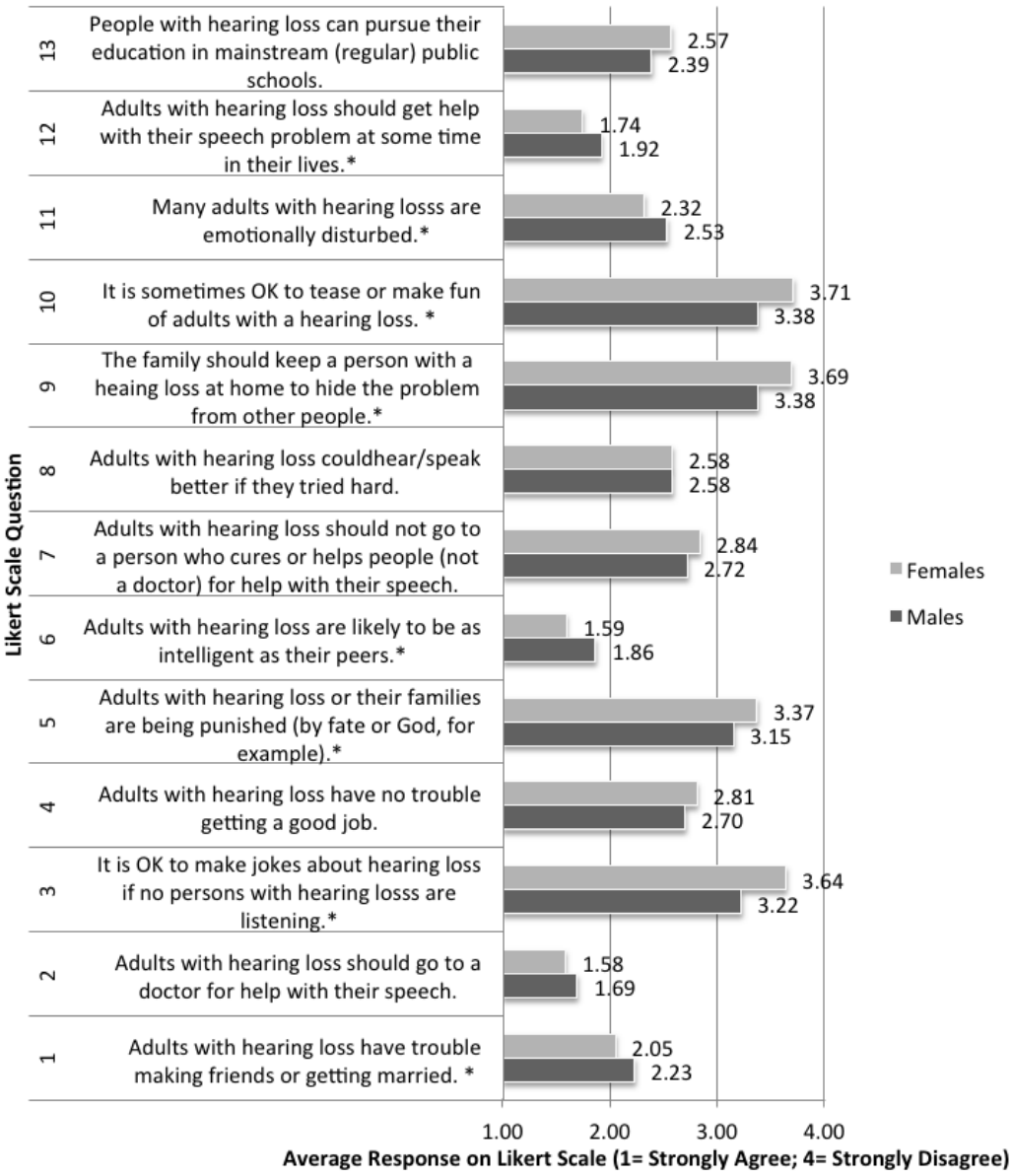
These include items 1, 4, and 11. 47.1% of the participants agreed and 23.3% strongly agreed (70% expressed agreement) that PWHL "have trouble making friends or getting married"; 66.5% disagreed (49.8% disagreed and 16.7% strongly disagreed) that PWHL "have notrouble finding a good job"; and 56.3% agreed (12.8% strongly agreed and 43.5% agreed) that PWHL "are emotionally disturbed."

Additionally, the majority of the participant responses were centered around the median (either agree or disagree) for questions related to activities and participation in daily life activities such as "they could hear/speak better if they tried harder" with 45.6% respondents expressing agreement with the statement (12.5% strongly agree) and the rest disagreeing (16.1% strongly disagree). Similar responses were noted for whether PWHL can pursue education in mainstream schools, where 48.4% agreed (21.2% strongly agreed) and the rest disagreed (17.5% strongly disagreed).

3.2. Sex

Figure 1 provides descriptive data (mean for each item on the survey instrument) for sex-based responses to items on the Likert scales. Results of the Chi-square test of independence yielded eight items that had a significant difference betweenmen and women even with a conservative alpha value of $p < .004$. These included items 1, 3, 5, 6, 9, 10, 11, and 12 on the scale as discussed below.

Figure 1: Average Response by Male and Female Participants to Each Item on the Likert Scale



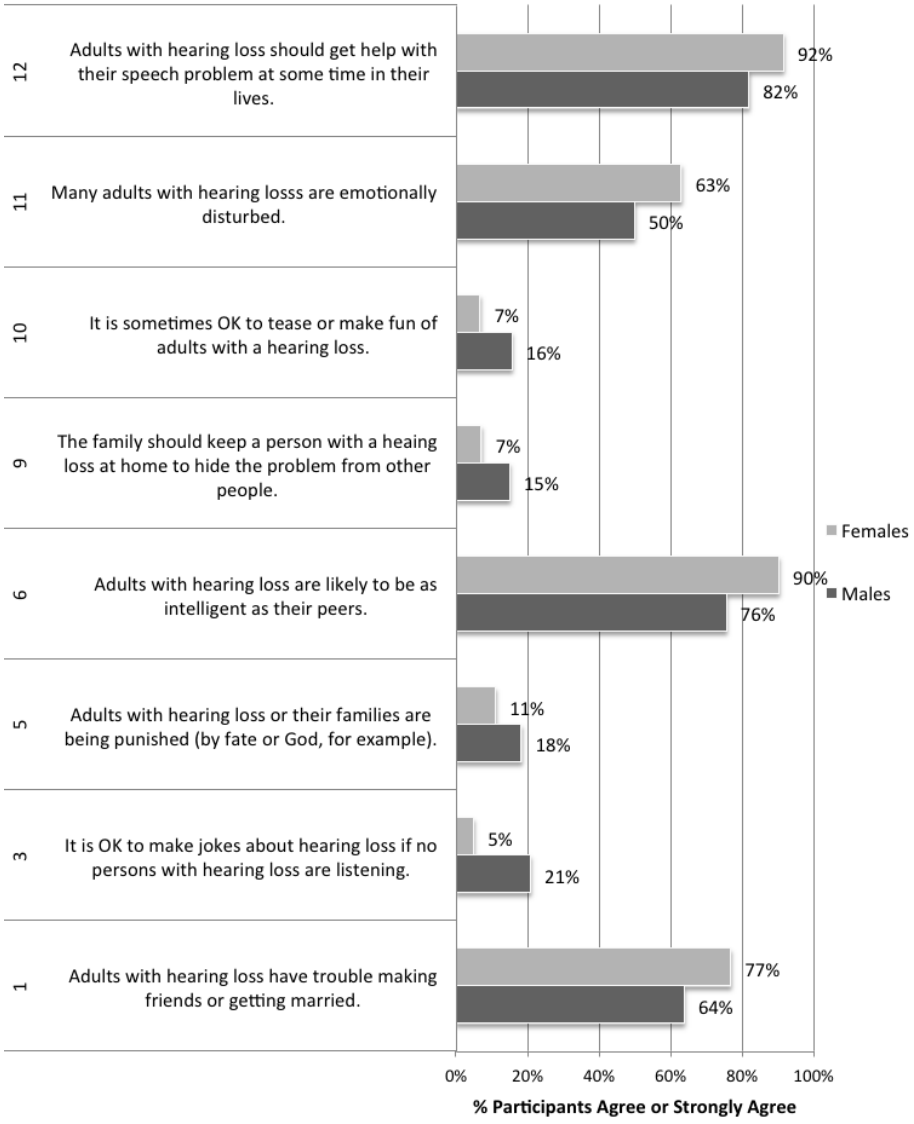
*Indicates significant difference between males and females in response pattern.

Female respondents were found to be more likely than males to agree withitem 1 [χ^2 (3, n= 941) = 26.48, $p \leq .000$], " People with hearing loss have trouble making friends/getting married"; item 6 [χ^2 = (3, n= 938) = 37.93, $p \leq .000$], "People with hearing loss are likely to be as intelligent as peers"; item 11 [χ^2 = (4, n= 936) = 17.93, $p \leq .001$], "People with hearing loss are emotionally disturbed"; and item 12 [χ^2 = (3, n= 940) = 20.779, $p \leq .000$], "People with hearing loss should get help with their speech problem at some time in their lives."

Male respondents were more likely than females to agree with item 3 [χ^2 (3, n= 941) = 63.09, $p \leq .000$], "It is OK to makes jokes about hearing loss if no person with hearing loss is listening";Item 5 [χ^2 (3, n= 940) = 19.29, $p \leq .000$], "People with hearing loss or their families are being punished (by fate or God, for example)"; item 9 [χ^2 (4, n= 940) = 52.77, $p \leq .000$], "The family should keep a person with a hearing loss at home to hide the problem from other people"; and item 10 [χ^2 (3, n= 940) = 51.59, $p \leq .000$], "It is sometimes OK to tease or make fun of adults with hearing loss."

These differences indicate that, in general, women provided more favorable responses on a majority of the scale items. Figure 2 below provides the percentage of women versus men who responded with either agree or strongly agree with each statement where a significant difference was found. As can be seen from Figure 2, a majority of men and women reported favorable attitudes for all items (except item 11, where more females provided an unfavorable response). The statistically significant differences indicate that a higher proportion of women reported favorable attitudes compared to men; however, majority members of both groups reported favorable attitudes (except item 11, in which they agreed that PWHL are likely to be emotionally disturbed).

Figure 2: Ratio of Males and Females Reporting Agreement with Items for which a Statistically Significant Difference in Response was Found



4. Discussion

In recognition of the dearth of published research about perceptions of hearing loss in the Middle East, the purpose of this study was to gather preliminary data on this topic from adults in Kuwait.

The data collected from nearly 1000 Kuwaiti men and women served as a means of ascertaining the extent to which questionnaire responses could conceivably impact the daily activities and social participation of people with hearing loss in Kuwait. The descriptive data (see Table 1 and Figure 1) indicated that the majority of participant responses were favorable with the exception of three items. These items related to social and romantic relationships, vocational opportunities, and emotional disturbance of PWHL. These facets of daily life echo the review of the literature in Section 1.2, in which PWHL reported social isolation from others and people with normal hearing tended to engage in occupational stereotyping, thereby limiting the careers they found suitable for PWHL. The findings in the current study when paired with existing studies from North America and Europe begin to suggest that attitudes toward hearing loss and PWHL may share more similarities than differences worldwide.

Further analysis of questionnaire items indicated that while most attitudes were positive overall, women held significantly more favorable impressions of PWHL than men, with the somewhat puzzling exception that more women believed that PWHL are emotionally disturbed. This finding may be related to the male with hearing loss who was recorded for the audio stimulus; it is possible that women may have rated a woman with hearing loss as less emotionally disturbed. The possibility that the questionnaire items were gender biased (i.e., prompted men and women to respond differently rather than revealing actual differences) is a possibility that cannot be ruled out (Salzberger, Newton, & Ewing, 2014).

5. Conclusions

Overall, the findings from this study are positive, though they do mirror those from other countries in which PWHL are stigmatized and have less socio-economic advantages than their counterparts with normal hearing. Each country in the Middle East has its own customs and resources that will influence the rehabilitative services and opportunities that are available to PWHL. Kuwait is a small, oil-rich country that appears to be implementing newborn hearing screenings at some hospitals and has specialists dedicated to hearing disorders.

To the best of our knowledge, however, no studies have gathered data from PWHL living in Kuwait to quantitatively and qualitatively learn what barriers to participation, if any, exist for them in terms of social and marital romantic relationships as well as educational and employment opportunities. It seems likely that, as in Western countries, PWHL in Kuwait and the Middle East have less education and face unemployment or underemployment; however, without the input of PWHL these questions will go unanswered. Thus, a necessary avenue for research is to interview or survey PWHL in Kuwait and the Middle East, interpreting the results of such data with a culturally sensitive approach. Audiologists and speech-language pathologists, two professionals who often work with PWHL, could be instrumental in collecting such data and disseminating it to the Kuwaiti public.

Other limitations that could be addressed in future research include the creation of a variety of stimuli that could be presented to various groups of Kuwaitis. For example, this study presented only one audio sample of an adolescent with hearing loss to respondents before they completed the survey. This speaker, of course, cannot be representative of all persons with hearing loss. Instead it may be more illuminating to develop a number of conditions under which participants complete the questionnaire. Speakers with more and less severe hearing loss could be presented in both audio and visual formats, as could PWHL who have cochlear implants as compared to hearing aids. Additionally, a female speaker with hearing loss could be presented instead of a male speaker, as could children and adults of various ages. Finally, in survey research participants tend to give socially desirable responses that center around a neutral or moderate rating (Baron, 1996). While this study avoided that tendency by using a four point scale in which respondents could only agree or disagree, more nuanced data that captures the inner thoughts of respondents could be obtained by use of a qualitative methodology.Such an approach would point researchers and health care professionals toward the best way to educate members of the general public about hearing loss in an attempt to reduce stigma associated with the disorder. Finally, the current study excluded students studying communication disorders. In future studies it will be important to gather data from those who have knowledge about (either from personal experience or as a result of their education) hearing loss and its impact on an individual and compare their responses to those of the general public. Such studies would then permit us to begin developing a deeper understanding of how education about hearing loss (or any other disorder) impacts beliefs about the person.

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