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“The phenomenon of Hearing Aid Stigma: The shadows of having a hearing loss,
creating a possibility to end the stigma.”

Honor's Program

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ABSTRACT

Approximately 40 million Americans have been diagnosed with a unilateral or bilateral hearing loss, but only 25% of them wear hearing aids. People hesitate getting hearing devices due to the fear of being perceived as uncool, socially awkward or someone with a disability. In addition, the costs to access this assistive device might be one of the main reasons why the elderly population are reticent to pursue amplification. Even though the elderly population is more likely to experience hearing loss, it can occur at any age. The phenomenon of Hearing Aid Stigma varies depending on the age of the person because it affects personal and work relationships, physical health, and self confidence. Even though some individuals do acquire hearing aids many of them still try to hide them. This is because they may feel embarrassed, and they do not want to be perceived as “disabled.”

For my thesis, I will look at the relevant research literature regarding the following topics: ramifications of Hearing Aid Stigma on obtaining amplification and effects on communicative ability, the influence/relationship of social factors and economic status on the decision to acquire hearing aids, and benefits of aural rehabilitation on improving perceived Hearing Aid Stigma and availability of aural rehabilitation counseling tools that focus on Hearing Aid Stigma. Based on these findings, I will create an educational/self assessment tool in order for audiologists to better understand their patients, have a better communicative relationship, and make the patient feel more comfortable regarding the acceptance of hearing aids.

I. INTRODUCTION

Hearing Aid Stigma associated with hearing loss has prevented potential hearing aid users from seeking hearing assistance. Hearing Aid Stigma is defined as “the possession of, or belief that one possesses some attribute or characteristic that conveys a social identity that is devalued in a particular social context.” Some people worry that wearing hearing aids will make them look “older” (Packer, 2016). A hearing loss not only affects the individuals who have it, but those relatives around them as well. It also affects the ability to interact with the world one lives in leading to social isolation and negative workplace outcomes. According to the statistics, 95% of hearing losses can be treated with hearing aids, but the perceived stigma negatively impacts an individual’s initial acceptance on whether or not they choose to acquire hearing aids (McCormick, 2014). The phenomenon of the stigma has a long history that is associated with negative characteristics of the individual. Self-perception is one of the main factors that makes people reticent regarding getting aids because they are worried about how society would view them. Hearing aids were introduced in 1948 and went from “ear trumpets to digital technology.” Technological advances have assisted in making people with a hearing loss to feel comfortable in their decision to acquire hearing aids.

II. EVOLUTION OF HEARING AIDS AND IMAGES

Modern hearing aids are now minituare in size, but in the 1600s and 1700s, hearing aid “trumpets” were popular. Trumpet-style hearing aids were shaped in various styles, depending on customer preference and degree of hearing loss. Also, in the 1700s “bone conduction” transmission was



discovered. This is where a sound goes directly to the inner ear through the bones of the skull by means of vibration. Bone conduction transmission today can be used with individuals with normal or impaired hearing. However, small fan-shaped devices were placed behind the ears to collect sound wave vibrations and direct them through the small bones behind the ear. In the 1800s, there was an attempt to conceal hearing aids into decorative accessories and head wear. They were sometimes covered in flesh-colored or hair-colored enamel or hidden in full beards (Parker 2016). In addition, ear tubes were introduced where one end was held to the speaker's mouth and the other end placed directly to the listener's ear, which was quite effective.

A new generation of hearing aids came in the early 1900s because Alexander Graham



Bell made possible electronic amplified sound with a carbon microphone and a battery. These hearing aids were cumbersome boxes containing visible wires and a heavy battery that lasted only a few hours, and worn around the neck. Sometimes, “battery packs” were worn on

the body to extend the hearing aid life. In the 1950s, the transistor was invented and transformed hearing aid technology completely: a transistor is a switch with two settings: on or off (Parker, 2016) . At the same time, transistors were made of silicon to reduce hearing aids sizes.

Consequently, they became “body aids,” which were not binaural or then ear-friendly instruments worn behind the ear.

Digital hearing aid technology started to allow sound to be amplified, reduced, filtered, and directed in the mid-1990s. Digital hearing aids were constructed with a small programmable computer and were capable of amplifying millions of different sound signals very precisely, thus improving the hearing ability of hearing-impaired people.

Amplification of various sounds levels was now possible for quiet home settings and voices in restaurants, and in addition, competing wind noise could be diminished, with digital hearing aids. Because of the size of these hearing aids, some hearing aid users now feel more comfortable wearing them.



Throughout history, being hearing impaired was most likely to be associated with the elderly population with its prevalence reaching almost 50% in those older than 75 years (Parker, 2016). Circa 1900, an individual with a significant hearing loss was perceived as being developmentally disabled and was many times institutionalized without access to language.

These subjects were given tests to measure their intelligibility with no considerations related to deafness or hearing loss (Parker, 2016).

Twenty five years ago, hearing impaired people were “imprisoned at home,” which seems unthinkable today (Bouton, 2016). For example, individuals with a significant hearing loss decided to stay home instead of going out of the house because they felt the pressure of not being able to communicate. The outside world did not accommodate their needs, and they lacked access to mainstream life in almost every aspect. Although the passage of the American with Disabilities Act advocates prohibiting discrimination against individuals with disabilities in all areas of public life, including jobs, schools, and transportation, the persistent stigma of hearing loss seemed to continue (Bouton, 2016).

Over time, this perceived stigma constructed “a label” that has created a negative self-perception in individuals with hearing loss; therefore, these individuals have become fearful due to focusing in possible prejudice and misconceptions.

III. PRESENTATION OF RELEVANT RESEARCH AND FINDINGS

Determine the ramifications of hearing aid stigma on obtaining amplification and effects on communicative ability

a) “The Effect of Attitude on Benefit Obtained from Hearing Aids”

The article “The effect of attitude on benefit obtained from hearing aids,”(Brooks, 1989) analyzes the attitude of hearing aid candidates towards the perception of the stigma in wearing the device. There is lack of current research associated with hearing aid stigma, and this is why this older study was chosen. The author investigated how the lack of support from family members interferes with the attitude and the outcome of the subjects obtaining hearing aids

(Brooks, 1989). Family plays a significant role in providing support in assisting their relatives. When individuals find out they have lost their hearing, their lives may change completely. This is the moment where they need the support from their loved ones. Family members have the power to show how much they care, and it means a lot for the individual to see that. If this factor is not present, then the subject is more likely to enter into a depressive stage due to the feeling of isolation caused by hearing loss.

While conducting this study, questionnaires were sent to 80 hearing aid candidates prior to the supply of the instrument and after, but only 30 participants responded (Brooks, 1989). It should be noted that although this study is dated, it is pertinent to this query (Brooks, 1989). The findings of this study supports the idea that attitude is everything when it comes to dealing with life changing experiences. Social factors such as family, attitude, and lifestyle play a significant role in the hearing impaired individual's life. Some of the participants also revealed that the lack of support plays an additionally important role when acquiring hearing aids. Emotional/financial support is another important factor that sometimes may benefit from counseling. For example, if the individual could not afford to pay for this hearing device, then financial support may be needed from family members in order to obtain them. Subsequently, their lifestyle would be negatively affected if they could not afford to purchase hearing aids. Therefore, many individuals may decrease social interactions in a variety of communicative situations because of the fear of not correctly understanding the message (Brooks, 1989).

The sample used to conduct this study was: hearing aid candidates with at least a moderate hearing loss and over 65 years old. The participants were asked questions associated with family support, personal attitudes, beliefs, opinion on hearing aids, and lack of support. The

data that was collected from the participants was comparatively analyzed. Results from this study showed that attitude plays a significant role when adopting hearing aids and how the attitude from family members is an asset to this decision.

b) “Stigma Regarding Hearing Loss and Hearing Aids: A Scoping Review”

Over time relevant literature has revealed stereotypes associated with hearing aid stigma. A scoping review of 21 different studies from 1982 to 2014 examined how the elderly population is affected with common stereotypes that haven't changed completely. Consequently, being considered “old” or being “less communicatively effective when wearing hearing aids” are common misconceptions from the article “Stigma Regarding Hearing Loss and Hearing Aids: A Scoping Review”(David and Werner, 2015). The search strategy used in this study was a computer-based literature review to identify publications on the topic of stigma regarding hearing impairment/hearing aids from January 1982 until December 2014. A variety of studies were considered; however, only 21 were selected because they met the criteria. The inclusion criteria was (a)older adults with progressive hearing loss being the population of interest and (b)the outcome measure was clearly focused on some aspects of the stigma regarding hearing loss and/or hearing aids. The analysis of the data covered the cognitive dimension, the emotional dimension, and the behavioral dimension. Also, the articles used for this systematic review had to meet the following exclusion criteria: (a) collective representations, for example, the shared societal understandings and beliefs about stigmatizing conditions; (b) personal characteristics; and (c)situational cues, for example, matters related to the physical and social environment inherent in a stigmatizing event, such as “background noise” (David and Werner, 2015). The

article included four studies in 1988, six studies between 1990 and 1998 and eleven studies between the years 2001 and 2014.

Some of the participants in this study reported that in 2002, they would feel embarrassed wearing hearing aids and tried to hide them with hair accessories (David and Werner, 2015). Furthermore, with the increased use of digital technology miniaturization occurred in a variety of hearing aids styles, which made potential hearing aid users feel more comfortable about using them. These type of hearing aids could be so small that no one would not notice and the elderly population thought that technology could solve the stereotype of making them look older than they were (David and Werner, 2015).

The study “Stigma Regarding Hearing Loss and Hearing Aids: A Scoping Review” also examined different types of stigmas: self-stigma, public stigma, courtesy stigma, and the social and psychological reactions to people associated with a stigmatized person. One of the articles selected revealed that the most common stereotype associated with hearing aids was “old age,” which would make adults look older. Other stereotypes reported in these studies were “being deaf,” “less sociable/friendly,” “looking disabled,” “weak,” “embarrassing,” “lonely,” and “less confident” (David and Werner, 2015). Furthermore, six of the studies indicated that having a hearing impairment is a major threat to social identity and the stability of social interaction. “Stigma was reported as a primary reason for not wearing hearing aids in a significant proportion of studies (33.3%)” because of the size and visibility of hearing aids in 1983 (David and Werner, 2015).

Ten of these studies measured stigma using non standardized measures, such as self assessment tool . One of the examples was “If someone has a hearing loss, other people think of

them as _____” and the person with a hearing loss needed to complete the blank space. This assessment tool encouraged more truthful responses because it was presented in the third person. Subsequently, the participants were more open to talk about their feelings towards their hearing loss and hearing aids.

c) “Expectations About Hearing Aids and Their Relationship to Fitting Outcome”

The third study “Expectations About Hearing Aids and Their Relationship to Fitting Outcome” (2000) by Robyn M. Cox and Genevieve C. Alexander presented data from hearing aid users associated with the fitting of the instrument. When potential hearing aid users decided to acquire their devices, some of their expectations were not met because they experienced technical problems. The goal of the study was to obtain satisfactory data from the subjects who participated. The Consequences of Hearing aid Ownership (ECHO) questionnaire was the main tool to obtain information, and it included questions related to their amplification fit. The ECHO questionnaire was sent to 174 hearing aid owner's who had agreed to participate in this type of research. The instructions were modified to request where subjects provided the "correct" response to each item, based on their actual experience with hearing aids (Cox and Alexander, 2000).

In addition, during the latter study, four experiments were conducted to (1) determine realistic expectations for hearing aids, (2) evaluate expectations of new users, (3) measure reliability of prefitting expectations, and (4) assess relationships between pre-fitting expectations and postfitting satisfaction (Cox and Alexander, 2000). The search strategy used consisted of data collected by audiologists at seven different clinical sites. There were four VA hospitals, two university-based clinics, and one private practice. Each audiologist was asked to enroll up to ten

consecutive patients who met the following criteria: inexperienced hearing aid user, expressed desire to try amplification, at least 60 years old, ability to read and write sufficiently to complete the survey, and willingness to participate in the study. The ECHO was administered after the clinical decision to proceed to a hearing aid fitting (Cox and Alexander, 2000). One of the findings was that 35 % hearing aid users were satisfied with amplification and did not require changes in volume or any other properties related to the device, while 45% of the participants decided to not wear hearing aids at all.

The ECHO questionnaire measured responses on a scale of one to seven, seven being the highest number an indicator of a favorable expectation toward hearing aids. The authors reported that “individuals who expected the hearing aid to yield more psychological and psychoacoustic improvements in functioning tended to report greater improvements after the fitting”(Cox and Alexander, 2000). Most of the participants did not present for a hearing aid fitting unless they anticipated both that the dispenser and the device will be reasonably effective and that the cosmetic outcome will be acceptable. The ECHO questionnaire helped to conclude that only individuals with certain attitudes toward their hearing loss and toward the psychosocial impact of using a hearing aid are likely to actually seek help. In addition, it can be possible that a negative experience might cause a hearing aid candidate to avoid or postpone going to a rehabilitation program. The reality norms could be used to help determine whether a patient falls into either of these categories, and appropriate counseling might be effective in improving a successful fitting. Furthermore, measuring pre-fitting expectations about hearing aids is only useful if patients are different from each other. The data obtained in Experiment I strongly supported the notion that expectations are different in terms of personal preferences.

*Influence/relationship on social factors and economic status on the decision to
acquire hearing aids*

a) “Factors Influencing Help Seeking, Hearing Aid Uptake, Hearing Aid Use and Satisfaction With Hearing Aids: A Review of the Literature”

The fourth article “Factors Influencing Help Seeking, Hearing Aid Uptake, Hearing Aid Use and Satisfaction With Hearing Aids: A Review of the Literature,” (2010) conducts an overview of different studies. The source of motivation was investigated in order to see if it plays a significant role in seeking hearing help. It also explored the factors contributing to an individual's decision to seek help, pursue, and use amplification in three different stages. These stages were prior to the actual hearing aid fitting, the actual fitting period, and postfitting in every participant. The method used to conduct the search of literature was divided into different steps: the articles had to meet a certain criteria (Knudsen, Oberg, Nielsen, Naylor, Kramer, 2010). For example, the chosen study needed to include adults as the participants, the outcome measure has to be focused on help seeking, hearing aid uptake, hearing aid use, or satisfaction with hearing aid, the study needed to be published in the period from January 1980 to January 2009, the evidence described in the article had to be based on empirical data and qualitative studies were not included (Knudsen, Oberg, Nielsen, Naylor, Kramer, 2010). The researchers searched for relevant articles in two major electronic databases: *Pubmed* and *CINAHL*, which covered most of the audiological journal.

The authors created a table providing the outcome measures and what study design was used in every article. Only 18 studies found fulfilled the inclusion criteria in order to be used in the systematic review. The main body of literature divides the patient journey into three stages:

prefitting, fitting, and postfitting. The review yielded 22 studies focusing on the prefitting period. The following factors were addressed in these studies: source of motivation, attitudes towards hearing aids, attitudes to hearing loss, expectations, personality, self-reported hearing, health, hearing sensitivity, age, age at onset of hearing loss, duration of hearing loss, gender, educational level, socioeconomic status, living relations, matrimonial status, amount of social interaction, cost, and prefitting counseling (Knudsen, Oberg, Nielsen, Naylor, Kramer, 2010).

Results of this literature review found that source of motivation, attitude toward hearing aids, own attitude toward hearing loss and acceptance were the main factors associated with hearing aid adoption. The source of motivation played a fundamental role because the findings showed that those seeking help had experienced more social pressure by significant others than those not seeking help. Also, an observation by the authors stated a significant relation between the source of motivation (self vs. other) for attending a hearing clinic and the *satisfaction* with hearing aids (measured several months post fitting). This literature review demonstrated that self-motivated individuals were more satisfied than those motivated by others. There was no data that showed the influence of any prefitting source of motivation on the uptake/rejection of hearing aids. In terms of attitude towards hearing aids, the authors concluded that more frequent use of hearing aids as well as higher satisfaction levels are among those with a positive (prefitting) attitude toward hearing aid rehabilitation compared to those with negative attitudes (Knudsen, Oberg, Nielsen, Naylor, Kramer 2010). Even though there seems to exist no clear evidence of the impact of attitude toward hearing aids, the majority of studies addressing the effect on hearing aid use demonstrated a significant positive relationship or a significant difference between groups. Consequently, personal attitude of hearing loss and acceptance was

found to not have a relation between acceptance of hearing loss prior to fitting and hearing aid satisfaction in seven different studies. Also, acceptance of hearing loss prior to hearing aid fitting has thus been shown to positively influence both hearing aid uptake and hearing aid use.

b) “Social Context and Hearing Aid Adoption”

The fifth article, “Social Context and Hearing Aid Adoption” (2016) by Gurjit Singh and Stefan Launer analyses the influence/relationship of awareness of communication difficulties, personality traits, and social support of potential hearing aid users. The authors hypothesized that the association between hearing aid adoption and attendance had a higher correlation. Basically, hearing aid adoption was associated when patients attended appointments with a significant other rather than when attending appointments alone. This study consisted of 60,964 patient records where their decision to proceed with a hearing aid were almost always made at the conclusion of the audiological evaluation (Singh and Launer, 2016). The method used was based on a criteria: the participants needed to be first-time patients from a private clinic and the participants of the hearing clinics were encouraged by clinic staff to attend appointments with a relative if possible. Also, details regarding the distribution, dispersion, and skewness of the age of the participants were placed in Figure 1. On Table 2, one could find the audiometric findings. All the data was analyzed using hierarchical binary logistic regressions with IBM® SPSS® statistics software.

The decisions to purchase and possibly return the hearing aids were measured as follows. Hearing aid adoption” is defined as the proportion of patients who made the decision to include amplification as a component of their rehabilitation” (Singh and Launer, 2016). In addition, return rate “is defined as the proportion of hearing aids that were evaluated by patients but ultimately returned before the conclusion of the trial period” (Singh and Launer, 2016). The

current study provides quantitative evidence of a significant relationship between attendance with a relative at audiology appointments and greater hearing aid adoption. (Singh and Launer, 2016). Overall, greater hearing aid adoption was observed when participants attended audiology appointments with a significant other with a mean of 63.8% than when attending audiology appointments alone with a mean of 50.6% (Singh and Launer, 2016).

Results of this study showed that older individuals were significantly more likely to pursue amplification than younger individuals. Then, significant other(SO) attendance status was positively associated with hearing aid adoption within older individuals. One of the findings from the authors was that individuals with a mild hearing loss increased by a remarkable 96% in hearing aid adoption when patients attended the audiology appointment with a SO than alone. Also, for individuals with moderate hearing losses, hearing aid adoption increased by 15 percentage points. According to the researchers, “ associations observed between SO attendance at audiology appointments and hearing aid adoption were established hierarchically after statistically controlling for the contributions of age, sex, and degree of audiometric hearing loss to hearing aid adoption” (Singh and Launer, 2016). In addition, good current evidence was found to warrant the involvement of SOs in the audiologic rehabilitation process, and the current study found that SO involvement is strongly associated with acquiring hearing aids. The findings of the study support that positive audiologic outcomes are achieved when SOs are actively involved during the audiologic care process. It is not only about being positive but active at the same time with the individual with a hearing loss (Singh and Launer, 2016). In conclusion, this study attempted to analyze data collected in daily clinical practice from thousands of patients as a means to better understand factors affecting help seeking and adoption of hearing instruments.

c) “Determinants of hearing-aid adoption and use among the elderly: a systematic review”

Consequently, the sixth article “Determinants of hearing-aid adoption and use among the elderly: a systematic review” (2015) synthesizes current evidence associated with hearing aid adoption and use among the elderly. The articles implemented through a systematic search in the *Web of Science*, *Medline*, *CINAHL*, and a manual search. Then, 22 studies were chosen to explore the potential determinants of hearing-aid usage. The articles were chosen by following four audiological determinants: the severity of hearing loss, the type of hearing aids, background noise acceptance, and insertion gain. Also, it needed to follow seven non-audiological determinants: self-perceived hearing problems, expectation, demographics, group consultation, support from significant others, self-perceived benefit, and satisfaction. Furthermore, a systematic search strategy was guided by the clinical question of evidence-based medicine in the PICO format . The research question was: “In older adults (P) with hearing loss, how do non-audiological factors (I), compared to audiological factors (C), affect hearing-aid usage (O)?” Five hundred and ninety-five articles were identified through the search strategies described above. After duplicates were removed, the abstracts of 396 studies were screened. Only studies published in peer-reviewed journals in English language were included. In view of the nature of the research question, both experimental and observational studies were included in this systematic review (Ng and Loke, 2016). Qualitative studies were excluded. Since the aim of a systematic review is to synthesize the best available evidence of the highest quality, and expert opinions and editorials were excluded (Ng and Loke, 2016).

The authors concluded that a higher tolerance for background noise while listening to speech was associated with longer hours of daily use of hearing aids. In addition, the Hearing Handicap Inventory scores (HHIE) of individuals indicated that higher scores for the perception of a hearing handicap were significantly associated with shorter hours of daily hearing-aid use

(Ng, Loke 2016). The HHIE is a 10-item questionnaire developed to assess how an individual perceives the social and emotional effects of hearing loss. HHIE high scores show greater handicapping effect of hearing impairment. Possible scores range from 0 (no handicap) to 40 (maximum handicap). Expectations, self-perceived benefit, and satisfaction with the hearing aid being used were the other determinants for hearing-aid usage where the regular use of hearing aids was significantly related to self-perceived benefit. Another interesting finding is that individuals who perceived that they were getting “a lot” of benefit from wearing hearing aids were more likely to use them than individuals who perceived that they were benefitting “not at all” from using hearing aids. In conclusion, a number of audiological and non-audiological determinants correspond during the course of hearing rehabilitation after hearing aid adoption.

Benefits of aural rehabilitation on improving perceived Hearing Aid Stigma and availability of aural rehabilitation counseling tools that focus on hearing aid stigma

a) “The impact of self-efficacy, expectations, and readiness on hearing aid outcomes”

The seventh article “The impact of self-efficacy, expectations, and readiness on hearing aid outcomes”(2016) examined the impact of self-efficacy and expectations for hearing aids, and readiness to improve hearing on hearing aid outcome measures in first-time adult hearing aid users. Self-efficacy refers to the beliefs and confidence that individuals have in their abilities to perform a set of skills needed to achieve a certain goal related to hearing aids

(Ferguson, Woolley, Munro, 2016). Also, readiness was investigated to see if the participant was able to overcome hearing difficulties in terms of help-seeking, intervention adoption and maintenance. Participants were recruited from a random sample of first-time hearing aid users who attended the public-sector funded Nottingham Audiology Services. The inclusion criteria were (1) adults aged 18 years or over, (2) first-time hearing aid users, which included those who had not worn a hearing aid for at least two years, and (3) English spoken as a first language or having good understanding of English. In addition, the exclusion criteria were (1) lack of capacity to give informed consent, (2) requirement for alternative management strategies, and (3) requirement for high-power hearing aids. The study aimed to recruit 38 participants and 100 patients were seen in the audiology clinic, in which 61 patients met the study criteria but only 34 patients consented to participate, and at the end 30 people completed the study. The participants attended three appointments 1) initial hearing assessment 2) hearing aid prescription and fitting 3) follow-up for evaluation of outcomes where an expression of interest to participate was obtained at assessment, and written informed consent obtained at the hearing aid fitting.

Outcome measures such as satisfaction with hearing aids was assessed using the Satisfaction with Amplification in Daily Life (SADL) questionnaire. This questionnaire contained questions to elicit the patients' opinions after experiencing hearing aids like "How content are you with the appearance of your hearing aids?" Activity limitations and participation restrictions were assessed using the Glasgow Hearing Aid Benefit Profile assessment (Ferguson, Woolley, Munro, 2016). The GHAB is an instrument suitable for application in the context of the evaluation of the efficacy and effectiveness of rehabilitative services for hearing-impaired adults. It has scales of pre-intervention disability, handicap, reported hearing

aid use, reported benefit, satisfaction, and residual disability, obtained over a combination of prespecified listening circumstances and those nominated by individual hearing-impaired listeners. In addition, hearing aid use was measured using data logging information for each participant for the period between the fitting and follow-up. Data collected was represented graphically with histograms and scatter plots. A linear regression analysis was utilized with outcome measures of satisfaction, hearing aid outcome and hearing aid use.

Results from this study showed that self-efficacy expectations were low because the participants were not confident enough when wearing hearing aids. The SADL questionnaire findings revealed that the patient's hearing loss was not fully accepted (Ferguson, Woolley, Munro, 2016). Therefore, 5 of the participants revealed that a feeling of embarrassment will always be there when going out in public. Another significant finding was that hearing aid use was about 3-4 hours per day, which corroborates with the expectations of first time hearing aid users. On the other side, the authors concluded that hearing aid use was associated with the stigma and with three related concepts of alterations in "self-perception," "ageism," and "vanity." The participants also discussed their feelings of hearing aids drawing attention to a disability, which made them feel old or unattractive. Overall, research is needed to establish how clinical assessment of non audiological factors, such as expectations and readiness may best be implemented into clinical practice.

b) "Issues Associated With the Measurement of Psychosocial Benefits of Group Audiologic Rehabilitation Programs"

The eighth study, "Issues Associated with the Measurement of Psychosocial Benefits of Group Audiologic Rehabilitation Programs" (Preminger, 2017) described the psychosocial

effects of hearing loss, reviewed the literature that has attempted to measure the psychosocial benefits of group audiologic rehabilitation programs, and offer suggestions for the design of future studies (Preminger, 2017). The psychosocial aspects of hearing loss may include the emotional, cognitive, interpersonal, behavioral, and physical responses to hearing loss. As a result of the stigma of hearing loss, individuals may isolate themselves and avoid social interactions, however in group audiologic rehabilitation programs is a good way to deal with the stigma and the loss of social identity. These groups help individuals with hearing aids communication strategies when having communication difficulties. The main objectives of group audiologic rehabilitation programs for adults with hearing loss is to provide information, training, and psychosocial support.

Dr. Preminger analyzed a study by Hawkins's (2005) which conducted a systematic review to examine the effectiveness of group audiologic rehabilitation programs. Hawkins concluded that benefits of aural rehabilitation include reduced self-perceived hearing handicap, improved self-perceived quality of life, and improved use of communication strategies. When the author was selecting a study to analyze, he made sure that it had the components of emotional reaction, cognitive reaction, interpersonal reaction, behavioral reaction, and physical reaction. One of the studies that met the criteria was, "Effectiveness of counseling-based adult group aural rehabilitation programs: a systematic review of the evidence" by Hawkins. Results of this study demonstrated the effectiveness of group audiologic rehabilitation in the psychosocial domain. A different study concluded that in a group, all members share the stigma of hearing loss. In a supportive group, individuals with hearing loss are able to share their experiences, their feelings, and their frustrations. Participation in a group reinstates the feeling of belonging (Preminger,

2017). In addition, another study chosen by Preminger had a rehabilitation program that included informational counseling, communication strategies training, speechreading training, and auditory-visual speech perception training. After completion of the program, only 5 of the 35 subjects (14%) showed a significant reduction in hearing handicap, as measured by the Hearing Handicap Inventory for Adults (HHIA). The HHIA is a 25-item self-assessment scale composed of two subscales (emotional and social/situational).

The author concluded by offering different suggestions related to the need of future research associated with hearing aid stigma. Dr. Preminger suggested to do more research on the content covered in group audiologic rehabilitation programs and how this influences the psychosocial outcomes. Also, there is a need of counseling tools to realize if the stigma is affecting the patient during audiologic appointments.

c. “Attitudes to hearing difficulty and hearing aids and the outcome of audiological rehabilitation”

The ninth study “Attitudes to hearing difficulty and hearing aids and the outcome of audiological rehabilitation” conducts a study with hearing aid users who were asked to complete the HARQ questionnaire before and after hearing aid fitting and aural rehabilitation. (Brooks 1998). Even though this study exceeds the ten year limit, this article pertains to the need of this literature review in terms of the Hearing Aid Stigma and aural rehabilitation. One-hundred and thirty five first-time hearing aid candidates were administered the Hearing Attitude in Rehabilitation Questionnaire, which is designed to assess attitudes toward acquired hearing loss and hearing aids. The participants were clients at the Audiological Rehabilitation Unit of Withington Hospital, London. The subjects received the routine service at the hospital,

comprising assessment, fitting, and follow-up. In addition, they were asked to complete the HARQ assessment prior to the first visit and a self-reported hearing aid review in nine months after the issue. The outcome variables were divided into aid use, situational evaluation, and satisfaction. The data was analyzed with logistic regression for predictor variables.

The findings of this study revealed that there was a higher degree of acceptance for patients issued hearing aids at Withington Hospital. The results were 73% used the aid every day or most days, 70% used it for more than four hours per day, 79% rated the aid between 6 and 10 on the 10 point scale of satisfaction and 53% regretted not obtaining one sooner. One striking feature found was lack of association between hearing aid stigma and amount of aid use or evaluation in listening situations. The author could not ascertain to what extent hearing aid stigma deterred people from seeking an aid but once referred it did not appear to have been an obstacle to receiving benefit within the participants. Results from aural rehabilitation helped patients to increase hearing aid use.

IV. Discussion

This literature review focused on multiple articles that looked at various factors affecting Hearing Aid Stigma and considered if informational tools are available to address these issues. The factors included: The ramifications of hearing aid stigma on obtaining amplification and effects on communicative ability, influence/relationship of social factors and economic status on the decision to acquire hearing aids, and benefits of aural rehabilitation on improving perceived Hearing Aid Stigma and availability of aural rehabilitation counseling tools that focus on Hearing Aid Stigma. The first grouping of articles concluded that hearing aids are very beneficial for individuals with a hearing loss. Amplification allows the person to hear better in

noisy environments and establish conversations with a large group of people. Also, these studies corroborate with the theory that the perception of the stigma regarding hearing aids has shaped the perspective of people who have or need them. The authors of the second article in this grouping concluded that there needs to be more research done to come up with an exact definition of what the stigma is, and how people really feel about it. There are stereotypes, which have been created due to the social factors that have influenced the idea of acquiring hearing aids. It is significant to see how the stigma has changed within time, and how it is viewed in the society.

In addition, the second grouping of articles concluded that one of the main factors associated with hearing aid adoption is having a significant other showing emotional support. This factor contributed to the idea that an individual with a hearing loss needs a support system in order to continue with the process of acceptance aural rehabilitation. It is essential for the individual to know that loved ones will always be there.

The last grouping of articles deduced that aural rehabilitation should be recommended based on the individual needs of each patient. Aural rehabilitation was offered to make sure the individuals needs were met after the acquisition of hearing aids. The authors concluded that it is essential as audiologists to offer all the resources available for the patient regarding hearing aids. Even though different assessment tools were used, they were not enough to measure the feelings and expectations from the patient. Educational tools were necessary in these studies in order to educate significant others as well. In addition, not many individuals know about aural rehabilitation so it was emphasized by the last three studies that it needed to be enforce to those who were taking a long time to decide if acquiring hearing aids or not.

The phenomenon of the Hearing Aid Stigma is not often spoken about by individuals with a hearing loss. In addition, there is a paucity of research that has been conducted regarding aural rehabilitation focusing on decreasing Hearing Aid Stigma. By conducting this literature review, it was determined that it is difficult to find educational/counseling tools or stigma assessments available for these patients. This shows that individuals with or without hearing aids do not talk about their feelings related to the devices during their audiological appointments. Furthermore, there was a great deal of information about aural rehabilitation related to hearing aid satisfaction (functionality) instead of the stigma, when hearing aid use was low. Therefore, it is apparent that counseling for all aspects of the hearing aid fitting is essential for successful aural rehabilitation. Moreover, it has been found that family support is essential to accept hearing loss and seek hearing assistance to accommodate the individual's need.

Counseling in Audiologic Practice (2013) by John G. Clark and Kristina M. English explores ways of helping patients and families adjust to hearing loss. Family is a fundamental supportive system where every family is unique, bringing varieties of personalities, attitudes, and beliefs. Support groups within audiologic/aural rehabilitative intervention such as parent support groups and sibling support groups, would benefit from audiological counseling in the form of personal adjustment support counseling. Personal adjustment support counseling focuses on permanency of the hearing loss and on psychological, social, and emotional acceptance. Although the audiologist can provide a limited amount of counseling, when the patient is experiencing depression, anger, confusion and disappointment caused by having a hearing loss, parents, siblings or significant others have the primary role of offering emotional support. This is an opportunity for both parties to express emotions and explore areas of discomfort they may be

reluctant to face openly (Clark and English 2013). The authors also recommended the sibling support group, which consists of siblings receiving therapy to help their brother/sister with accepting hearing loss. The members of this group (siblings) can find themselves confronting new issues, facing new challenges, and receiving new responsibilities as they help their relatives in accepting hearing loss and what is coming..

The emotional impact of adult hearing loss not only affects the patient with the loss, but also the family dynamics. “Fitting hearing aids in three to five appointments with no further rehabilitation is not how the founders of our profession envisioned the manner in which we would practice audiology”(Clark and English 2013). Unfortunately, this is how it has been for the past years, but due to recommendations by the Academy of Rehabilitative Audiology, there has been increased momentum to provide a more comprehensive delivery of audiologic rehabilitation services to hearing impaired adults.

V. Conclusion

There is an enormous need for additional educational/counseling tools focusing on the phenomenon of Hearing Aid Stigma. As evidenced in this thesis; the SADL and the HARQ and the Hearing Handicap Inventory for Elderly (HHIE) do address this issue, but not to the extent required. This tool reflects the feelings of the patient towards wearing hearing aids and their self-perception associated with hearing loss. It does not however, provide a culturally appropriate assessment to determine if the patient has been negatively affected by Hearing Aid Stigma. Therefore, there is a need of a greater inventory of supportive resources regarding Hearing Aid Stigma.

As a result of this thesis, I am proposing that a new assessment tool be created. This new assessment tool will be a non-standardized measure that will include statements associated with attitudes towards hearing loss and hearing aids utilizing the Likert of measurement scale. There will be 20 statements in which five will measure acceptance of hearing loss in a scale from 1-5. Five statements will assess how comfortable the patient feels or will feel, wearing hearing aids in a social setting. Five statements will determine if the patient feels the need to receive aural rehabilitation and the last five statements will measure how the support from significant others affected the decision to acquire hearing aids. The scores will be divided by 0-20, 21-40, 41-60, 61-80, and 81-100 where getting a lower score will be an indication of perceived Hearing Aid Stigma. This Hearing Aid Stigma assessment tool will determine how satisfied and comfortable the individual with a hearing loss is in a social context and how willing they are to obtain hearing aids.

It will be distributed prior to the appointment by mailing the patient paperwork such as case history, educational consent, etc. The audiologist will be able to review the information given by the patient regarding the stigma along with the case history. This tool will be highly useful to create a better communicative relationship between the Audiologist and the patient. This is because the clinician will have a better understanding on the patient's perspective regarding hearing assistance and will be able to provide appropriate guidance and counseling. It is obvious that the increasing usage of hearing aid devices and the current marketing toward them has made the phenomenon of the Hearing Aid Stigma slowly decrease. It is the hope of this writer, that with appropriate educational tools wearing hearing aids will be eventually normalized . By doing this, the phenomenon will be greatly reduced so individuals with a

hearing loss could take more advantage of hearing technology. Based on the findings of the Hearing Aid Stigma assessment, an audiologist will be able to understand better the patient's emotions before coming to audiological appointments. By offering new educational tools, informing the patient's significant others, and normalizing the use of hearing aids, it is my hope that many people reconsider their decision of acquiring hearing aids for a better lifestyle.

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