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# The Psychosocial Effects of Hearing Loss on Adults

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The Psychosocial Effects of Hearing Loss on Adults

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## **Introduction**

Hearing loss is a medical disability that affects 360 million people worldwide (World Health Organization, 2017). According to Blackwell, Lucas and Clarke (2014), around 15% of American adults report some problems with their hearing. The Canada Community Health Study, a large cross-sectional study, found that the number of people with a hearing impairment “nearly doubles every 10 years, starting at 2.2% in the fourth decade and reaching 50% past the age of 90 years” (Boi et al., 2012, p.443). These findings are in agreement with Davis (1995) and Rosenhall et al., (1999), who reported that hearing loss is strongly related to age (as cited in Strawbridge, Wallhagen, Shema, & Kaplan, 2000). Hoffman and colleagues (2016) agree with this finding and report that the greatest prevalence of a hearing loss is in adults between the ages of 60 and 69. Because hearing loss is so prominent among older adults, it is vital that audiologists understand the far-reaching effects of the disability.

The effects of a hearing loss can manifest in social situations, within the family and even at the workplace. How one copes with their hearing loss can affect how much of an impact their hearing loss has on their lives as well as what rehabilitative programs or assistive technology they may seek out. Adults with hearing loss report experiencing isolation, a decreased satisfaction with their self-image and quality of life, depression, cognitive problems and communication obstacles, all of which are important for audiologists to understand and recognize in order to best help their patients.

## **Psychosocial Effects of Hearing Loss on Adults**

There are many types of hearing loss and just as many psychosocial effects. Many studies have described hearing loss as an unseen handicap that has an enormous effect on self-esteem,

communication, and everyday activities. The psychosocial effects found to be in conjunction with a hearing loss are loneliness, depression, distress, anxiety, somatization, and decreased social functions (Nachtegaal et al., 2009)

### **Hearing Loss Impact on Cognition**

In order to integrate information and store it for future use, a person must be able to receive that information through a sensory input channel such as hearing or vision. If the hearing sense is declining, it can be assumed that the individual will take in less information. Naramura et al., (1999) found that “hearing loss leads to a reduced ability to integrate information from the environment” (as cited in Kramer, Kapetyn, Kuik, & Deeg, 2002). Baltes and Lindenberger (1997) found that the relationship between cognitive status and sensory functioning is amplified in the elderly. This finding suggests that a breakdown in sensory functioning (i.e. hearing) will have more of an impact on the cognitive abilities of an elderly person than a young person. In the same study, it is suggested that a large amount of the biological changes that bring about negative aging effects in sensory functioning are the same biological changes that drive the negative aging of cognition. Strawbridge et al., (2000) reported that sensory function and cognitive function are significantly correlated in the elderly.

Until recently, it was assumed that hearing loss and cognitive decline were “merely contiguous condition; both are functions of age” (Herbst & Humphrey, 1981, p.904). However, new research provides a more nuanced understanding of the conditions. For instance, Bernabei, et al. (2014), investigated the link between hearing loss and dementia in order to determine if hearing loss is directly associated with cognitive decline and concluded that most difficulties understanding speech among senior citizens are due to the changes in hearing and not cognitive

abilities. The researchers also examined the effects of hearing loss on an individual's daily cognitive load. Hearing impairment is associated with a reduction in language activity in the auditory system and increased compensation of language activity in the pre-frontal areas in the brain. The researchers suggest that this increase in cognitive load has the potential to affect the individual in their daily activities and cognitive tasks, which is among the criteria needed to diagnose dementia. These findings suggest that there is a link between hearing loss and dementia, but it is not the hearing loss causing the dementia alone. Instead, it is due to the compensatory activities within the brain that is causing the individual to cognitively work harder to continue their daily activities as normal, thus making the individual seem to fit the criteria for a dementia diagnosis. Allen et al. (2003), agreed with this finding. These researchers found that the presence of a hearing loss in elderly participants increased the effort needed to recognize and understand speech, thus having less neural connections in their brain that are used for the memory functions of rehearsal and, later, recall. This further demonstrates that the cognitive effect of hearing loss is indirect. Audiologists must understand the indirect impact of hearing loss on the brain in order to best counsel their patients who feel as though they may be declining cognitively.

### **Social Effects of Hearing Loss**

People communicate with others to, for example, express or receive information, mediate disputes, convey meaning, collaborate, coerce, comfort and persuade others. Communication can also be used to develop relationships, express feelings, and project one's identity. When the ability to communicate with others is severed, there are likely to be deleterious effects. The consequences of spoiled communication vary from irritating to devastating (Foster, 1998).

Hallberg and Carlsson (1991) found that “social interactions are crucial for maintaining the self-image and the social roles” of a person (p.208). If one suffers a hearing loss and cannot hear others speak and, therefore, does not feel comfortable communicating with others, there are likely to be serious consequences. In a study conducted by Hallberg and Barrenas (1995) the participants reported that social activities, such as going to the movies, theatre and other types of social gatherings, were given up because of their impaired hearing. If social interactions are so important to one’s self-identity, why would anyone avoid the opportunity to communicate with others? Hallberg and Carlsson (1991) found that individuals with a hearing loss perceive their interactions with normally hearing individuals to be not accepting or compassionate. People who suffer from a hearing loss often do not communicate with others because they worry if they mishear or misunderstand the conversation the other person will react in a harsh way. These communication problems appear to cause disadvantages that are directly experienced by the hearing impaired person, such as restricted social involvement, especially in groups, as well as stress and a negative self – image (Hetu, Riverin, Lalande, Getty & St-CY ,1988).

The consequences of spoiled communications are not always dire, but almost always they ensure a feeling of loss. This feeling of loss may be the loss of social connection within a group, the chance to share ideas, or the humor in a joke. Those with a hearing loss are aware that they do not always get all the information that is orally presented. They may be thankful that others try to catch them up, but people with a hearing loss might still feel left out and frustrated (Foster, 1998). Many who suffer from hearing loss and, therefore, a communication loss, feel like they are different and isolated from others (Herth, 1998). This isolation can occur during group conversations in which the person who is hearing-impaired is less involved in the conversation and experiences difficulty (Hetu et al., 1988). These difficulties include increasing difficulty in

understanding spoken communication, requesting repetition too often, and still not being confident that they heard correctly. These difficulties lead to further isolation that, in turn, causes reduced cultural and intellectual stimulation and an increasingly isolated person (Strawbridge et al., 2000). In a study by Eriksson-Mangold and Erlandsson (1984), the participants, “expressed feeling of isolation and loneliness and as if they were not really taking part in the life around them. The surrounding world did not seem quite real” (p.246). Isolation is often felt when communication has been disrupted, but it can also be felt in other social situations. In the same study, it was reported that the inability to hear the faint sounds that create the usual auditory background can cause feelings of loneliness and isolation, as well as a feeling of non-participation in many social settings. This feeling of loneliness and isolation can sometimes lead to withdrawal from all relationships. Unfortunately, these feelings of isolation and loneliness are further exacerbated when those who are normally hearing avoid communicating with people who are hearing impaired. Foster (1998) reported that people who are normally hearing avoid people who are hearing impaired because of the limits of communication on developing a relationship. Therefore, it is important that the individual with a hearing impairment works to educate their communication partners on how to overcome communication obstacles.

One of the most commonly reported communication obstacles is having to ask for repetition. In fact, in a study conducted by Hetu, Lalonde and Getty (1987), 90% of participants who considered themselves to be severely affected by their hearing impairment reported asking for repetition very often during conversations. To make matters worse, when a person asks for repetition during a conversation, it is generally assumed that the person doesn't understand what is being said or that they are not paying attention (Foster, 1998). This assumption can lead to the

person asking for repetition being characterized as incompetent or social inept. It is no wonder that those with a hearing impairment feel isolated.

### **Effect of Hearing Loss on Mental Health**

Hearing loss, specifically the diminished ability to understand speech, can take a toll on the mental health of the person suffering the hearing impairment. In a study by Eriksson-Mangold and Carlsson (1991), it was reported that “an impaired speech discrimination ability could have greater psychological influence than a mere loss of hearing for different frequencies” (p. 737). Other researchers have agreed with this claim. Thomas (1984) studied adults with severe, acquired hearing loss and found that psychological disturbances are four times as likely for these subjects than the general population (as cited in Eriksson-Mangold and Carlsson, 1991). Adults with a hearing impairment experience social and practical issues more often than older adults without a hearing loss, which is likely the cause for the mental health problems reported in this paper (Gopinath et al., 2009).

The most prevalent psychological problems reported to be caused by a hearing loss are anxiety and depression. In adults between the ages of 40 and 49, poorer hearing predicted higher levels of depression, anxiety and distress (Nachtegaal, et al., 2009). Distress is defined by Terluin et al. (2006) as “the direct manifestation of the effort people must exert to maintain their psychosocial homeostasis and social functioning when confronted with stress” (as cited in Nachtegaal et al., 2009,p.32). Symptoms of distress include worry, poor concentration and tension. Thomas (1984) reported that problems with speech discrimination were related to depression and anxiety (as cited in Eriksson-Mangold & Carlsson, 1991). Grimby and Ringdahl (2000) found that a person with a hearing impairment is more likely to feel uneasy in crowds, be

afraid to travel, feel nervous when left alone and having to avoid places. The researchers also found that half of the participants worried beforehand about how to cope in certain situations, primarily due to their hearing loss. Eriksson-Mangold and Carlsson (1991) found similar results from their study, reporting that those with a hearing loss are more likely to feel inferior, feel uneasy when being watched and feel self-conscious. Clearly, this relationship between hearing status and mental health has been established by many researchers. However, in a study by Grimby and Ringdahl (2000) most subjects told them that depressive mood and persistent worry are rare. These contradicting results show that the psychological effects of a hearing loss are individualized, with each person being affected in different ways.

There have been many attempts to find a direct relationship between hearing impairment and depression. Nachtegaal et al., (2009) found a weak but significant relationship between hearing ability and depression and hearing ability and loneliness. For every decibel the signal to noise ratio was reduced, the chance for moderately or profoundly elevated depression increased 1.05 times. This means that for every decibel of the signal to noise ratio reduced, i.e. for every instance where the signal, or what one intends to hear, becomes softer as the background noise gets louder, the chances of the person with the hearing impairment to develop depression increases by 1.05 times. The feeling of powerlessness towards the effects of their hearing impairment is likely the cause of some of the depressive symptoms and a negative self-view (Hetu & Getty, 1991). This matches up with a claim by (Nachtegaal et al., 2009), showing that as hearing ability is reduced, the more powerless the person may feel which, in turn, elevates the possibility of becoming depressed. There is research to show that the relationship between decreased hearing loss and decreased mental health is not always a linear relationship. In a study by Gopinath et al., (2009), symptoms of depression were significantly higher in participants with

a mild bilateral hearing impairment, but subjects with a moderate to severe hearing impairment were not more likely to have depressive symptoms compared to those with normal hearing. The researchers also reported contradicting information, as they did not observe a significant relationship between bilateral hearing impairment and symptoms of depression. Again, this shows that hearing loss can affect the psychological wellbeing of people in different ways.

The age of the person with hearing loss can affect the likelihood of experiencing depressive symptoms. Gopinath et al., (2009) found that women under 70 years old with any kind of hearing loss were significantly more likely to have symptoms of depression than women younger than 70 with normal hearing. This association could not be found in women over the age of 70 years, demonstrating that the younger the hearing-impaired person is, the more likely they are to have depressive symptoms. In the same study, the researchers reported that hearing impaired women younger than 70 years old were 5 times more likely to have depressive symptoms. The same study found that the effects of hearing impairment on psychological wellbeing are found to disappear as the person gets older. However, Gilhome-Herbst and Humphrey (1990) reported a significant relationship between hearing impairment and depression in 365 elderly persons, which nullifies the finding that only younger people have these depressive symptoms (as cited in Kramer et al., 2002). Once again, these contrasting results show that the effects of a hearing impairment cannot be generalized across a population.

It is important for audiologists to understand the effect of hearing impairment on mental health. Not only should audiologists make themselves aware of the symptoms of depression and know the appropriate referrals to make, but they should also understand that not all people who are hearing impaired will experience the same depression or anxiety.

### **Effect of Hearing Loss on Self-Image**

Self - image refers to how a person feels about themselves. After learning about how hearing impairment can affect a person's cognitive ability, social roles and mental health, one could surmise that the self-image of a person with a hearing loss would be poor. Indeed, results from the Hearing Survey, ATD PA and PHP suggested that acquired hearing loss in the elderly participants did alter their self-view of their sense of well-being and psychological adjustment (Scherer & Frisina, 1998). When researchers Hallberg, Passe and Ringdahl (1999) asked what characteristics were important for individuals with a hearing impairment, respondents stressed the importance that they have both physical and psychological strength, likely to deal with the psychosocial impacts of diminished hearing ability.

There are several factors of hearing impairment that influence self-image. A quarter of the subjects of a study conducted by Eriksson-Mangold and Erlandsson (1984) believed that the distortion of their own voice influenced them most of all during the study. Over half of the participants also reported feeling considerably insecure when they could not hear others' nonverbal sounds. Some of the respondents in the survey also reported reduced self-confidence and an increased touchiness as a result of their hearing loss. Another factor that influences self-image are the social effects of hearing loss. Hallberg and Carlsson (1991) found that in interactions between normally hearing and hearing-impaired people, the hearing-impaired person is often defined as deviant. To be stigmatized as deviant means to be perceived as dumb, stupid, mentally disabled or prematurely aged (Hallberg & Barrenas, 1995). The person with the hearing impairments' self-image is threatened when they are stigmatized in this way. In a study of women with varying degrees of hearing loss, they perceived that they were often viewed as

prematurely aged or mentally challenged (Hallberg & Gunilla, 1996). These factors, when combined, can alter the self-image of a person with a hearing loss.

Eriksson-Mangold and Carlsson (1991) studied middle aged and elderly adults with acquired hearing loss and found a relationship between perceived disability and somatic distress and psychological symptoms. They also reported a direct relationship between perceived hearing handicap and the participants general level of somatic and psychological distress. The same study also found that the level of somatic and psychological distress of the participants was somewhat higher than the normal population.

Interestingly, some studies report a direct, positive relationship between hearing impairment and self-image. Nachtegaal et al., (2009) found that “self efficacy increased with decreasing hearing in those aged 40 to 49 years” (p.42). The researchers argued that this makes sense because the ages of 40 - 49 years are a typical age range for people to start recognizing their limits in regards to their hearing status. The subjects’ self-efficacy increased not because they felt they could do anything, but because they had a clearer picture of what they can and cannot do. In another study, Grimby and Ringdahl (2000) reported that half of the subjects with hearing loss said that they felt more self-confident, felt it was easy to make contact with others and felt safer than others in general. Dalton et al., (2003) agreed with this relationship and found that only 22% of people diagnosed with a mild hearing impairment reported a handicap and 56% of participants with a moderate to severe hearing impairment reported a handicap. Although this relationship between self-image and hearing loss has been documented, it is important to mention that self-reported hearing status tends to underestimate the actual hearing impairment population (Bazargan, Baker, & Bazargan, 2001). In a study by Nondahl et al., (1988) they found a 14.8% and 42.7% difference between self-reported hearing impairment and objective measures

(as cited in Bazargan et al., 2001). This finding suggests that it is not uncommon for a person to think that their hearing ability is different than what an audiologist has diagnosed. It is unclear if the person will see themselves as having a lesser or greater hearing impairment. Nevertheless, it is important to note that the self-image of a person with a hearing impairment may be based solely on their self-perception of their hearing loss, not on what hearing loss level they have objectively been diagnosed with. In fact, in a study by Dalton et al., (2003), they found that though “communication difficulties increased with the severity of the hearing loss as measured by audiometry, many people did not report having a hearing handicap or any communication difficulties” (p. 663). This concept is important when considering how a person’s self-image may change as a result of their hearing loss.

It is vital for audiologists to understand the effect hearing loss can have on the self-image of their patients, while also understanding that not all of their patients will have a reduced self-image. Eriksson-Mangold and Carlsson (1991) explains that it is possible for a person’s self-image is to be negatively affected by a hearing loss because they are predisposed to psychological and somatic distress, but it is also possible for the person to be affected only because of the hearing loss. This means that the researchers believe some people experience a reduced self-image because they are psychologically predisposed to react in this way, but they also agree that for some the hearing loss alone caused their negative self-image. Further analysis of data in this study revealed that those patients who had the worst self-image were patients who were, in fact, predisposed to somatic and psychological issues. It is important that the audiologist understands this relationship between hearing loss and self - image and how it may apply to their patients individually. Audiologists must pay special attention to patients with a known history of

psychological problems as they may be more affected by their hearing loss than a patient with no history of psychological issues.

### **Effect of Hearing Loss on Quality of Life**

According to Parmenter (1998) and Brown, Bayer and Mac Farlane (1989) quality of life covers family life, working life and leisure time (as cited in Backenroth, & Ahlner, 2000). Specifically, Brown et al., (1989) defines quality of life as the perceived and objective assessment of individual's achievements and their unmet needs or desires (as cited in Backenroth & Ahlner, 2000). In a study by Herth (1998), many participants, all with varying degrees of hearing loss, described having a hearing impairment as a demeaning experience. The participants also described that there was a loss of connectedness with the world around them, as well as with others. It was constantly expressed that the participants felt they could not relate to people as they had before their hearing loss began. Wiklund and Grimby (1994) found that a severe to profound hearing loss is associated with a decreased quality of life to an extent comparable to chest pain, cardiac infarction and frequent angina (as cited in Ringdahl & Grimby, 2000). Clearly, it is important to consider the effects of hearing loss on the quality of life of older adults, especially those with more severe hearing impairments.

A decreased quality of life can affect a person's physical health and well-being. Ringdahl and Grimby (2000) conducted a study in which they found that the differences in quality of life between hearing impaired and normally hearing subjects are significant enough that a hearing impairment should be considered a risk for fatigue, withdrawal, unhappiness and low-well-being. Statistics Sweden reported that people with hearing loss reported bad health more often than the overall population (Danermark & Gellerstedt, 2004). They also found that

those with a hearing impairment perceive their health to be worse than their peers. This perception of diminished health may not be inaccurate, as Ringdahl and Grimby (2000) found that the psychophysiological effects of the stress caused by a hearing impairment may elevate the amount of stress hormones released, leading to an elevated risk of disease.

Because hearing impairment can result in a lower quality of life overall, it is important to also examine how a hearing loss can affect a person's daily activities. In a study conducted by Dargent – Molina, Hays, and Breart (1996), there was a positive association between reported hearing impairment and physical difficulty. This means that as hearing difficulty increased, so did the physical disability. However, Dalton et al., (2003) concluded that hearing loss is probably not the direct cause of the physical disability, though they did find that people with a hearing impairment had more difficulty in physical tasks.

It may be surprising that hearing ability has such a profound impact on physical health and daily activities. Gildstone and Gildstone (1972) explained that the background noises we hear every day create a sense of 'aliveness' and well-being, even though we may not be aware that we hear them. A person with hearing loss may not be aware that they lost these background sounds, but they can tell that the world has changed in some way. Dargent – Molina and colleagues (1996) explain that auditory cues are more important than previously known for successful interactions with the surrounding environment. A reduced ability to hear means that events seem to happen without warning. Having events feel like they are happening suddenly affects the person's ability to control situations as well as their sense of general well-being. In a study of several people with varying degrees of hearing impairment, they felt that there was a need to be more tense and alert in order to understand the movement patterns of others.

(Eriksson-Mangold & Erlandsson, 1984). This lack of control and need to be more alert has the potential for more unsuccessful interactions with the environment and others.

Several researchers have found that those with hearing impairment share certain negative traits (Gildstone & Gildstone, 1972; Cooper & Curry, 1976). This is caused because individuals who suffer a hearing loss are likely to have similar maladjustment problems and are, therefore, most likely going to exhibit similar personality traits (Gildstone & Gildstone, 1972). Neyhaus (1962) offers an explanation as to why the personality of a person with a hearing impairment changes at all (as cited in Gildstone & Gildstone, 1972). The researcher asserts that because the individual with a hearing loss's perception of the world differs from a person with normal hearing, the individual's view of the world must also change. For those who acquire their hearing loss as adults, this can cause their personality to quickly change. Common personality traits observed by clinicians and researchers include passivity, reclusiveness, insecurity, withdrawing behavior, depression, hopelessness, and hypersensitivity. In a study by Gildstone & Gildstone (1972) common traits were low social ability and reduced emotional stability. These traits are all indications that the people in this study were not adapting well to their hearing loss. Therefore, there is a need to research the personality traits and changes among adults who feel they are adapting well to their hearing loss. Audiologists should understand the typical traits that might manifest due to a hearing loss in order to provide the best care possible. It is important that audiologists offer reassurance and make the appropriate referrals so that the patient understands how and why their personality may have changed as a result of their hearing loss.

### **Effects of Hearing Loss on the Family**

In order to fully understand how hearing loss impacts a person, it is important to examine how it impacts their family. Dalton et al., (2003) agrees that it is beneficial when looking at how hearing loss affects the individual to examine how hearing loss impacts their family as well. In a study by Hetu and Getty (1987), they found that the possibility of a person discussing their own hearing impairment with their spouse increases as their hearing ability diminishes. Shockingly, they also found that even among individuals who feel that they have a severe impairment, some never talked about their disability with their spouse. These contradicting results show that some people are comfortable discussing their hearing loss with their spouse and others are not. In that same study, the researchers found no direct evidence that the spouses try to find mutually agreed upon solutions to the consequences of hearing impairment. This research leads one to believe that spouses will not support their loved one with a hearing impairment, but there might be an underlying cause to this lack of support. In a study by Brooks (1989), only 56% of respondents reported knowledge that their hearing impairment imposes difficulties to their family members and other loved ones. This finding is in agreement with Garstecki (1987), who found that most people who failed a hearing screening and, therefore, had some form of hearing loss, reported no handicap in regards to the influence of hearing impairment on family relationships. This shows that the lack of spousal support may originate with the person with the hearing impairment not realizing the effects of their hearing loss, not that their loved ones are not supportive.

As mentioned above, it has been found that individuals with a hearing impairment and their spouses have difficulty finding mutual solutions to the difficulties associated with hearing loss. This inability to solve problems effectively leads to many problems both caused and felt by the family. Danermark (1998) reported that some of the negative emotions that are a result of a

hearing impairment are commonly felt by significant others. Hetu and Getty (1987) found that the quality of family relationships was indeed impacted by the difficulties experienced by the person with the hearing impairment. Two of the most commonly reported difficulties experienced by the family were asking to repeat very often and the high volume of the television. Another source of irritation within the family was that the spouses perceived their husband's voices as very loud in social settings (Hallberg & Barrenas, 1995). These findings illuminate the importance of understanding how one's hearing loss can affect others, and how it can affect them in return.

Not only did the person with the hearing impairment affect their family, but also the family affects the individual with the hearing impairment. Hetu and Getty (1987) reported that complaints and blame from family members induced feelings of being inadequate and constraining. Most participants in a study by Hallberg and Barrenas (1995) said that family members were especially bad about speaking with unarticulated speech which, in turn, created communication obstacles. When one participant tries to talk slowly, enunciates and repeat things, they report that their family grows tired of their exaggerated behavior (Backenroth & Ahlner, 2000). These communication difficulties, when not addressed, can significantly alter family relationships.

In terms of family relationships, the wife was most often described as the person who was the least understanding. Hallberg and Barrenas (1995) noted that even though the women knew their husband's hearing was diminished, they still often became irritated. Although men often felt that their wife was the least understanding, some of the respondents still joined social gatherings for their sake. The social gatherings caused anxiety and tension related to their hearing impairment and many of the men reported that their wives told them what had been said

at the party afterwards. This is not uncommon, as the spouses in the study were named as the person who takes responsibility for the husband's involvement in conversations and his ability to adequately respond to what has been said. According to Hetu and Getty (1991), families often suffer the consequences of misunderstandings, dissatisfaction and extra burdens placed on the spouse. Audiologists should make sure to pay attention to how family members, especially the spouse, are coping with their loved one's hearing loss. Hopefully, this will facilitate communication within the family and improve their relationships.

### **Effects of Hearing Loss on Working Life**

A hearing loss can be acquired at any time with any level of severity. It is, therefore, important to examine how a hearing loss can affect one's working life. Occupational hearing loss, or noise induced hearing loss suffered in the workplace, is the most common irreversible disease suffered at the workplace. Hetu, Lalonde, and Getty (1987) investigated the number of workers with hearing losses attributable to occupational noise exposure and found that almost one out of every two workers had suffered occupational hearing loss. Auditory fatigue, a similar condition that is temporary, is also common at noisy workplaces. Hetu and Getty (1987) found that the undesirable consequence of daily occupational noise exposure is experienced, even when the damage is only temporary. It is important that workers understand the dangers of working in noisy environments, although that is often not the case.

There are many benefits to working while coping with a hearing impairment. Although the subjects were overwhelmed at work, a majority of the subjects found their jobs to be stimulating (Grimby & Ringdahl, 2000). The respondents also felt that their coworkers, family and management support seemed to play a large role in their adjustment to work and their

hearing loss. The researchers reported that being employed appeared to have a relationship with personal harmony and high self-esteem, as well as freedom from psychosomatic symptoms and anxiety. The same researchers do mention, however, that these individuals possessed the mental and physical requirements for adapting well at work.

There are many benefits to working while having a hearing loss, provided that one is predisposed to coping with their hearing loss well. For those who are not predisposed to successful management and coping of their hearing loss, there are many obstacles to overcome in working life. Hetu and Getty (1987) explain that you cannot use hearing sensitivity level alone to predict the severity of psychosocial effects from occupational hearing loss. After a day's work, an individual with a hearing loss may feel tired and in need of quiet before they are able to participate in family life (Hallberg & Carlsson, 1991). These workers often complain of headaches and tension due to excessive concentration and attention in daily work conversations. This need for quiet and rest after a workday is only one of the effects of occupational hearing loss. In a study by Grimby and Ringdahl (2000) several participants reported feelings of alienation and fatigue. Kramer, Kapetyn, and Houtgast (2006) agree with this finding and reports that individuals with a hearing disability are more likely to miss work due to fatigue, strain and mental distress. These effects could be a result of employees who are hearing impaired feeling that they are less able to control their work environment, especially in regards to making their own schedules, taking breaks or interrupting work after being in a demanding listening environment (Kramer et al., 2006). The researchers reported that individuals with a hearing impairment appeared to be five times more likely than their normally hearing counterparts to give stress related complaints that ultimately resulted in sick-leave. Hetu (1991) explains that

fatigue and distress may be regarded as indirect or secondary effects of hearing loss arising due to the constant need to adapt to, and to compensate for the loss (as cited in Kramer et al., 2006).

Individuals with hearing impairments have been observed to have less opportunities for advancement at work and decreased work performance. Thomas et al (1982) conducted a study to research the problem encountered at work due to hearing loss and found that the majority of the 88 subjects in the study felt that they suffered from a decreased job status (as cited in Karmer et al., 2006). One subject in a study by Hallberg and Carlsson (1991) had to switch jobs due to noise exposure, resulting in a diminished economic situation and social ramifications for their family. Another subject in the same study perceived job hindrance as a result of their hearing impairment and felt that other coworkers were instead encouraged and supported in their careers. Danermark and Gellerstedt (2004) agreed with this report and found that males with hearing impairments were encouraged by employers to develop and improve their skills less often than men with normal hearing. The researchers also found that women with hearing loss experienced abuse and harassment at work more often than women with normal hearing. One participant in a study conducted by Backenroth & Ahlner (2000) reported that they had to reduce their working hours. As audiologists, it is important to know the kinds of treatment patients may receive in the workplace in order to mitigate the negative outcomes of hearing loss on their job status.

Dalton et al., (2003) found that among men under 65 years of age, the individuals with a hearing impairment were less likely to have full-time employment than men who have normal hearing. In another study conducted by Grimby and Ringdahl (2000), full-time workers that were hearing impaired reported a higher level of psychosocial distress, specifically social isolation and lack of energy (as cited in Kramer et al., 2006). This finding leads one to assume that working full-time with a hearing impairment is a mistake, and that those with a hearing impairment

should seek lesser employment opportunities. However, Kramer et al., (2006) found that those individuals who were hearing impaired and worked full time perceived themselves to have a better quality of life than those who work part time. These workers also perceived themselves to have a similar quality of life as their normally hearing counterparts. Although they perceived themselves as having a higher quality of life, full time workers with a hearing impairment still reported feelings of social isolation and tiring easier (Grimby & Ringdahl, 2000). Danermark and Gellerstedt (2004) found that 11% of men and 16% of women with a hearing impairment sought out early health-related retirement. These results show that while full time employment may be too demanding for some individuals with a hearing loss, this is not generalizable to all people who suffer a hearing loss.

Hearing impairments can also affect the relationships between coworkers. There seems to be a lack of social awareness of the problems associated with a hearing impairment and, therefore, a lack of support from coworkers (Danermark & Gellerstedt, 2004). Getu, Getty, Beaudry, and Philibert (1994) report negative attitudes from coworkers and found that normally hearing coworkers used only a small amount of strategies to facilitate communication with their coworkers who had a hearing impairment. This lack of support may not be a result of coworker's unwillingness to help their colleagues who are hearing impaired, but rather coworkers not knowing that their colleagues have a problem at all. Hetu, Getty, Beaudry and Philibert (1994) reported that hearing impairments in the workplace often go unnoticed and a large amount of workers who are at risk for developing an occupational hearing loss do not know that many of their colleagues are already affected. Because relationships between coworkers can be affected by a hearing loss, employers should make sure to put social supports in place to help their employees solve problems effectively.

There are employers who work to help their employees avoid a hearing loss and help those who already have a hearing disability. DeGraaf and Bijil (1999) found that counseling on how to handle a hearing loss at work is one of the most frequently reported needs among Dutch hearing impaired workers (as cited in Kramer et al., 2006). Kramer et al., (2006) recommend that subjective environmental noise, reverberation, distinguishing and identifying sounds, job demand, communicating in noise, job control and effort in hearing need to be involved in the counseling of employees with hearing loss. In workplaces that supply audiological rehabilitation, there was a significant, positive effect on the individual with a hearing impairments' experience of their hearing loss (Backenroth & Ahlner, 1997).

Unfortunately, not all workers and employers search out ways to alleviate the effects of occupational hearing loss. In fact, Hetu et al., (1994) reported that relatively nothing is done to help workers with hearing impairments participate in daily interactions and that most hearing problems are ignored by co-workers. The researchers also reported that if the most damaging consequences of occupational hearing loss are unknown to a majority of the workers who are at risk but have not yet developed a hearing loss, noise will not be considered a damaging factor and very little will be done to prevent exposure. Audiologists should make themselves aware of what kind of help and support their patients are receiving in their workplace in order to provide optimal audiologic care.

### **Common Hearing Loss Coping Methods**

Coping with a hearing loss is a complex, dynamic process. Coping involves cognitive and behavioral efforts used to master, reduce or tolerate internal and external demands and any conflicts that arise between them (Folkman & Lazarus, 1980). Hallberg and Barrenas (1995)

report that the motive for coping is the individual's desire to avoid being perceived as deviant in social situations. How a person copes with their hearing loss cannot be predicted based on their degree of hearing impairment (Gomez & Madey, 2001). Instead, psychosocial factors such as the subject's self-image, perception of their hearing loss and subjective social support can influence how older adults manage their hearing impairment. Folkman and Lazarus (1980) report that how one copes is determined by their personal relationship with the environment. There are several types of coping methods that have been researched and will be examined in this paper.

First, it is necessary to stress that an important principle of coping is the awareness of the problem. Brooks (1989) reported that the individuals in their studies did not feel that they were handicapped and believed that all that was needed was more effort and tolerance by others. It is important for audiologists to understand that even though a person comes to them for auditory testing, it does not mean that they feel they have a hearing loss.

The first coping model we will investigate is problem - focused and emotion-focused coping. Folkman and Lazarus (1980) attest that this coping method has two main goals: to regulate the emotions caused by stress (emotion-focused) or to manage or change the person's relationship with the environment (problem - focused). A person will use problem-focused coping in order to handle a stressful situation in a constructive and active way. Emotion - focused coping, however, is used to relieve the emotional problems that result from a stressful situation (Hallberg & Barrenas, 1995). Examples of emotion-focused coping are avoidance, looking for the humor in the situation, detachment, and assigning blame to others or themselves. Examples of problem - focused coping strategies are taking direct action, looking for information and trying to get help (Folkman & Lazarus, 1980). One cannot expect to cope effectively if they only use emotion - or problem - focused coping methods. Folkman and Lazarus (1980) agrees

with this and reported that a person does not use only problem - or emotion - focused coping, but instead uses a combination of the two. Though a person uses both kinds of coping to meet their social and emotional needs, there are certain situations where either emotion or problem focused strategies are more commonly used. For example, in situations that are viewed as unchangeable, such as health related concerns, emotion - focused coping is more common whereas problem - focused coping was associated with difficulties that can be fixed or changed, such as workplace issues. Both emotion- and problem - focused coping are useful in coping with a hearing loss, but they are not the only researched strategies to manage a hearing impairment.

The next coping strategy model, to control or to avoid the social scene, is a coping method that is both active and passive. The concept “to control the social scene” is characterized by managing the social situation, and to plan personal activities in order to prevent a ‘disturbed’ interaction (Hallberg & Carlsson, 1991). In order to control the social scene, one must take responsibility for their hearing loss, meaning that they may need to instruct others on how to communicate in difficult auditory situations, inform them about their hearing loss and ask for repetition. This is a similar concept to problem - focused coping. However, the researchers found that while it is comparable, it is a different coping strategy in that problem - focused deals with the person-environment relationship and does not include communication partners. Avoidance of the social scene is defined as making an attempt to avoid an auditory situation that is deemed demanding or threatening. Examples of this way of coping are avoiding confrontation, using nonverbal communication, and minimizing the disability. This coping model can help a person cope with their hearing loss, but it also has been reported to have caused negative effects. The researchers found that avoiding the social scene leads to a diminished ability to maintain social roles and ultimately results in isolation. Hetu et al. (1998) hypothesized that long-term social

isolation caused by avoiding the social scene can result in an altered self- image (as cited in Hallberg & Carlsson, 1991). Hallberg and Carlsson (1991) found in their study of individuals with a hearing loss that using strategies to control the social scene resulted in an increased awareness and perception of their hearing disability.

The final coping model we will examine is adaptive and maladaptive coping. Adaptive behaviors are ones that work to improve communication, whereas maladaptive behaviors do not improve communication (Gomez & Madey, 2001). These strategies are similar to both of the previous coping models except that it does not have an avoidance or emotion - focused component. The use of adaptive strategies was influenced by perceived effectiveness of the strategy. This makes sense, as an adaptive strategy improves communication so if one perceives a strategy as effective, they will most likely continue to use it. This correlation was not found with the use of maladaptive strategies. Again, this makes sense as one does not generally think that strategies that do not improve communication are effective. Instead, the use of maladaptive strategies was influenced by the perceived behaviors and attitudes of others as well as by one's own adjustment to their hearing impairment. The psychosocial effects mentioned in this paper were more strongly related to the use of maladaptive strategies than adaptive strategies. After learning how damaging it can be to use maladaptive strategies, one might wonder why a person would use them to cope with a hearing loss. It is thus important to note that Gomez and Madey (2001) found those who use maladaptive strategies may not be perceive their actions as maladaptive. This shows the importance of strong social support, as one with strong social support is less likely to use maladaptive strategies to cope.

Audiologists need to be knowledgeable about the common ways of coping with a hearing impairment to best help their patients. By understanding how their patient is coping with their

hearing loss, audiologists can step in and support their patients to improve their experiences with hearing loss.

### **Hearing Aids and Rehabilitation for Individuals with Hearing Loss**

How a person will emotionally and psychologically adjust to their hearing impairment has been reported to be highly variable (Hallam et al., 2006). Scherer and Frisina (1998) found that the way a person will adjust depends on their life experiences, level of sociability and usual way of managing challenges. Researchers found that audiologists were often thought of as useful and the help received when diagnosed with their hearing loss was deemed the most helpful (as cited in Hallam et al., 2006) Hallam and colleagues (2006) stressed that the overall life situation of the person is rarely the focus of their encounter with an audiologist, but they experienced empathy from their audiologist regarding their life situation. The least used form of help in this study was counselling or psychotherapy to alleviate the psychosocial effects of their hearing loss. It is important that audiologists understand their role in helping their patients, as well as the perception of them being among the most helpful to the patient. All participants in a study by Herth (1998), regardless of their gender, age, hearing impairment, educational level or employment type, reported that coming to terms with their hearing impairment was a lonely struggle that appeared to many to have no ending point. Seeking support helped the participants feel connected to others and help them understand how others were helping them to deal with their loss. By seeking out and using assistive technology such as hearing aids or audiologic rehabilitation, the psychosocial effects of their hearing loss may be mitigated.

## **Rehabilitation Programs**

Newman, Jacobsen, Hug, and Sandridge (1997) asserted that rehabilitation services for those with a hearing loss should be focused on supporting both the spouse and the victim.

Humphrey et al., (1981) believes that rehabilitative intervention should first begin when patients first notice their hearing difficulty, even if they have not yet been diagnosed with a hearing loss (as cited in Newman et al., 1997). The researchers also suggest that this early intervention may promote acceptance of the hearing loss and amplification later in life.

Hetu and Getty (1987) support the idea that family members should be a part of rehabilitation programs. Several other researchers also agree that due to reports of increased loneliness, family members should be involved in the rehabilitative process (Kramer et al., 2002). For the spouses that are a part of the rehabilitation, a better understanding of the hearing problems resulted in better adjustments and alleviated issues that often happened in the home (Getty & Hetu, 1991).

De Graff and Bijil (1999) found that rehabilitation based on teaching coping strategies and self-efficacy may promote more successful progress in terms of quality of life (as cited in Kramer et al., 2002). Ringdahl and Grimby (2000) agree that auditory rehabilitation may improve quality of life. All participants in a study by Herth (1998) agreed that the ability to talk with another person who understood their experiences with hearing loss, as found in support groups, helped them overcome their feelings of isolation. In a case study analysis by Backenroth and Ahlner (2000), subjects were asked what they felt were the outcomes of rehabilitation. Two subjects answered that rehabilitation increased their self-confidence because they had a place they could talk openly about the difficulties associated with their hearing loss. Generally, rehabilitation was found to help with the damaging effects of psychosocial variables on the

individual with hearing loss, as well as their families. It is important that audiologists supply this information to their patients so that they can not only seek out help, but also so that they have realistic expectations for their rehabilitation.

### **Hearing Aids Effect on Hearing Loss**

The item most commonly associated with a hearing loss is hearing aids. Hearing aids have shown to benefit patients in terms of decreasing hearing handicap (Hallberg & Carlsson, 1991). Allen et al., (2003) asserts that patients diagnosed with dementia and a hearing loss benefit from the use of a hearing aid. It has also been confirmed that communication was improved through the use of hearing aids (as cited in Backenroth & Ahlner, 2000). Scherer and Robert (1998) stress that even though hearing aids may not be able to completely restore hearing, they are able to provide a sense of connection to the social world. However, Tesch - Romer (1997) explain that there is evidence that hearing aid use has little effect on domains such as social activities, well- being, satisfying social interactions and cognitive functioning. This shows that the effects of hearing aids on psychosocial variables are dependent on the individual with the hearing loss.

### **Conclusion**

To understand the experience of a hearing loss, one must look into all aspects of the life of a person with a hearing impairment. This includes examining the psychosocial effects on the individual and their family. It is important for audiologists to not only understand these effects, but also how individuals commonly cope with their hearing problem. Finally, if audiologists can understand the effects of a hearing impairment and how their patients are likely to cope, they will

be able to make better recommendations for treatment. This paper was intended to be a comprehensive look at the life of those with an acquired hearing loss. It does not supply any new information or ideas on this topic, but it does illuminate the importance of understanding that those with a hearing loss are affected in many ways other than a diminished ability to hear. Further research should be conducted on this topic to ensure that medical professionals have the most recent information on how individuals are affected by their hearing loss.

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