Application of the Stages-of-Change Model in Audiology

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The transtheoretical model of intentional behavior change is a combination of intentional change theories in which the central constructs of the model are the stages of change and the processes involved in making a change. Researchers from a variety of fields have documented the success of this model in addressing problem behaviors such as smoking, drug addiction, obesity, and lack of exercise. The model offers a method of looking at the change in attitudes, behaviors, and intentions that an individual cycles through as part of making the decision to change behavior. From the audiologist’s standpoint the problem behavior is the individual’s reluctance to seek professional hearing health care and/or to use hearing aids. An understanding of the transtheoretical model of stages of change could be useful for audiologists as they assist individuals who are making the decision about whether to seek and employ professional help for their hearing problems. This article provides a blueprint of how an audiologist could incorporate the model into the delivery of audiological services, and may serve as a catalyst for research to validate its application.

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Given the effects of untreated hearing loss, the under-utilization of hearing aids and professional hearing health services is a major concern to audiologists. Two recent studies highlight the effects of hearing loss on the quality of life of older adults. Using participants in the Longitudinal Aging Study in Amsterdam, who ranged in age from 55 to 85 years, Kramer, Kapteyn, Kuik, and Deeg (2002) found that self-reported hearing impairment was positively correlated with increased reports of depressive symptoms, lower self-efficacy and mastery, feelings of loneliness, and a smaller social network. Similarly, Joore, Potjewijd, Timmerman, and Anteunis (2002) found that hearing loss in older adults compromised quality of life scores and, further, that after being fitted for hearing aids for the first time, overall quality of life and psychological well-being in elders with hearing loss were significantly improved. Given this kind of positive outcome, audiologists are often puzzled and challenged by the reluctance of people with hearing loss to seek treatment or to follow through with hearing aid recommendations.

The reasons for under-utilization of hearing aids vary. Audiologists can gain a better understanding by first assessing an individual’s readiness for hearing aids or hearing health care. Just because an individual schedules an appointment does not mean that he or she is ready for a hearing aid. An argument can be made that the decision to obtain and use hearing aids requires a major shift in attitude, acknowledgment of the hearing loss, and recognition of its social and/or emotional effects. Do these individuals think the benefits of wearing hearing aids outweigh the burdens associated with hearing aid use? Do they think they can learn to manipulate and take care of the hearing aids? Our experiences in the audiology clinic have led us to the realization that a person’s readiness for hearing aids is an important aspect to consider during pre-fitting counseling. By using person-centered methods, health care professionals can help people make the decision to seek and employ hearing health care. The purpose of this article is to apply a model that has been used in the psychology and health promotion fields to the audiological rehabilitation setting, in order to understand the process of making behavioral change.

**Transtheoretical Model of the Stages of Change**

The transtheoretical model of intentional behavior change is a combination of intentional change theories in which the primary focus is on the stages of change and the processes involved in making a change (DiClemente, 1993). The model was developed by studying daily human experiences and by integrating existing psychotherapy models. The name transtheoretical was chosen because the model combines change variables from across existing counseling theories (DiClemente, 2002; J.O. Prochaska, DiClemente, & Norcross, 1992; J.O. Prochaska, Norcross, & DiClemente, 1994). The model is based on the premise that the
process of changing a behavior involves five stages that an individual will move through: precontemplation (no thoughts or plans to change the behavior), contemplation (aware of the problem that the behavior creates), preparation (intending to take action in the next 30 days), action (overtly changing the behavior), and maintenance (has maintained the changed behavior for over 6 months). The model is widely referred to as the Stages-of-Change Model; however, DiClemente (2002) indicated that the model should be referred to as the Stages of Intentional Change because it relates to intentional behavior change as opposed to forced behavior change. The model offers a method of looking at the changes in attitudes, behavior, and intentions that are part of deciding to change behavior (J.O. Prochaska & DiClemente, 1992).

The Transtheoretical Model of Intentional Behavior Change has been applied to varied national and international populations. The model has been validated extensively for smoking cessation with white, African-American, Mexican-American, Australian, German, and Swiss groups. The success of the model with smoking cessation led to its use with other health behaviors such as dieting and weight control, cocaine use, exercise, sunscreen use, alcohol abuse, mammography screening, stress management, and condom use (DiMatteo et al., 1993; J.O. Prochaska & DiClemente, 1992; J.O. Prochaska, Norcross, et al., 1994; J.O. Prochaska, Velicer, et al., 1994). In addition to applications involving personal change, the model has been useful in understanding changes in institutional, organizational, and service delivery realms (J.M. Prochaska, Prochaska, & Levesque, 2001).

Within the model, stages are problem specific because, for every problem behavior, an individual is likely to be in a different stage of change (J.O. Prochaska & DiClemente, 1992). For example, an individual who smokes and drinks excessively may be preparing to attend a 12-step program to deal with drinking but may not have given any thought to stopping smoking.

The stages are listed at the top of Figure 1. The following example provides a brief overview of the stages for someone who does not use sunscreen. If this individual has not given any thought to the dangers of skin cancer from sun exposure, the person is said to be in the precontemplation stage. When the person starts to pay attention to public service ads and gives more serious thought to the advisability of using sunscreen to prevent skin cancer, the person is in the contemplation stage. In the preparation stage, the individual looks into options such as types of sunscreens, costs, and advantages/disadvantages of various sunscreens. In the action stage, the person actually buys and uses the sunscreen. The maintenance stage is the point at which sunscreen is used routinely as part of the person’s lifestyle. The Transtheoretical Stages-of-Change model delineates the cognitive and behavioral processes an individual goes through in making the decision to change a problem behavior. The model also provides strategies to educate and help move the individual through the stages.
The stages of change are represented by a timeline, with each stage representing a time period and a set of tasks to be completed in order to move to the next stage. The time spent in each stage varies, but the tasks to be accomplished do not change. Processes are broad strategies that encompass various techniques, activities, methods, and interventions and are specific to particular stages, as illustrated in Figure 1. For example, strategies used in the action stage should not be used in the precontemplation stage. Ten processes have been identified to help change one’s view of the problem behavior and assist with movement through the stages. Figure 1 shows the stages of change when each process is most effective. 

**Figure 1. Stages of change when each process is most effective.** *Note.* From “Stages of Change in the Modification of Problem Behaviors,” by J.O. Prochaska and C.C. DiClemente, 1992, in M. Hersen, R. Eisler, and P. M. Miller. (Eds.), Progress in Behavior Modification, p.184-214, Sycamore, IL: Sycamore Publishing Company. Copyright 1992 by Sycamore Publishing Company. Adapted with permission.

### THE STAGES OF CHANGE

Each stage represents a time period as well as a set of tasks to be completed in order to move to the next stage. The time that a person spends in each stage varies, but the tasks to be accomplished do not change (J.O. Prochaska & DiClemente, 1992). The processes are broad strategies that encompass various techniques, activities, methods, and interventions and are specific to particular stages, as illustrated in Figure 1. For example, strategies used in the action stage should not be used in the precontemplation stage. Ten processes have been identified to help change one’s view of the problem behavior and assist with movement through the stages. The model enables the professional to identify the current stage and the steps needed to progress to the next stage. Some processes overlap, as noted in Figure 1, and pertain to more than one stage. For example, the processes for the precontemplator and contemplator are essentially the same, but are different than the processes used in the action and maintenance stages.

Progress through the stages is not necessarily linear. Individuals sometimes cycle back and forth between stages. J.O. Prochaska and DiClemente (1992) reported in one study that some smokers stayed in the contemplation stage for an average of almost 2 years. Options for the recycling individual usually consist of additional educational materials and counseling.

### Precontemplation

Precontemplation is the first stage in changing a behavior. In this stage, the individual has not given any thought to making a change in a health behavior and
may be unaware of the behavior or unwilling to change it. At times, the precontemplator may be the last one to recognize a problem that supervisors, spouses, children, and other members of society have already identified (DiClemente, 1993). Precontemplators do not believe that the negative aspects of the problem outweigh the positive aspects of the problem. Some reasons that an individual may remain a precontemplator include:

- Reluctance to change (I don’t know if I really need to change)
- Rebellion against outside pressures (no one is going to make me change)
- Resignation (I’m too old to change)
- Rationalization of the problem (it’s not that bad).

Individuals in the precontemplation stage may not believe that they have a hearing loss or may believe that they only have difficulty hearing in some situations, and thus conclude that there really is no need to get professional audiological assistance. Any hearing difficulties are attributed to people who mumble or speak too softly. In order to move ahead, precontemplators must acknowledge the problem, take ownership of it, and/or increase their awareness of the negative aspects of the problem (DiClemente et al., 1991; J.O. Prochaska & DiClemente, 1992). Suggestions for accomplishing this for the precontemplating individual are offered below in the explanation of the processes of change.

**Contemplation**

Contemplation involves active consideration of the prospects of change. For example, an individual may wonder, “Would things be any different if I got hearing aids?” Individuals in contemplation look at the personal dimension of the problem as they consider the possibility of change and its consequences. During this stage they actively seek out information. They start to evaluate themselves and think more about the negatives and positives of the problem behavior. Whereas precontemplators are not yet concerned or upset about their problems, contemplators are beginning to have concerns (DiClemente et al., 1991; J.O. Prochaska & DiClemente, 1992). To move to the next stage, contemplators must decide to take action at some future point in time and to make preliminary moves such as visiting an audiology clinic for information, participating in a community hearing screening, or talking to friends who wear hearing aids.

**Preparation**

In the preparation stage, the individual indicates a readiness to change, which involves attitudes as well as behavior. During this stage the individual is ready to set goals and priorities (DiClemente et al., 1991; J.O. Prochaska & DiClemente, 1992). If the individual is not planning to start the change in the next
30 days, then he or she is still a contemplator. The individual in the preparation stage may make an appointment to seek professional help and ensure the required funds are available to purchase hearing aids. The individual in the preparation stage may seek information at the library or on-line regarding hearing loss, hearing aids, and hearing health care providers. Audiologists can assist the individual in this stage by providing appropriate educational materials.

Action

Action involves an overt act of doing something about the problem. During this stage, self-efficacy is critical. Individuals must believe that they have the ability to make the necessary change. They must be aware of problems that may undermine their efforts for effective action and must have effective strategies to prevent relapses back to earlier stages (DiClemente et al., 1991; J.O. Prochaska & DiClemente, 1992). In the audiology clinic, individuals in the action stage may purchase hearing aids, but should not stop there. They also need to attend classes on how to use the hearing aids and how to live with hearing loss. This is a time when support from the audiologist, family, and friends is crucial.

Maintenance

Maintenance (the last stage) requires using the new behavior for 6 months to 3 years. The change is now part of the individual’s life. The individual in the maintenance stage accentuates the positive benefits of change (DiClemente et al., 1991; J.O. Prochaska & DiClemente, 1992). Sustaining a new behavior is difficult because, even after 6 months, the problem behavior may not be completely gone and it is easy to relapse into earlier stages. In the audiology clinic, individuals in maintenance are those who have integrated the use of hearing aids and possibly assistive listening devices into their lifestyle. They are comfortable dealing with their hearing loss, applying self-advocacy strategies, and asking for assistance when necessary.

PROCESSES OF CHANGE

As mentioned previously, the Transtheoretical Model identifies 10 processes of change. If the professional has an understanding of the processes, then appropriate educational intervention can be used to promote change in attitude toward the problem behavior. The stages of change represent a time dimension that indicates when a particular shift in attitude has occurred (J.O. Prochaska et al., 1992). The processes of change describe mechanisms by which attitude shifts occur. There are two broad categories of the processes of change: cognitive and behavioral. The processes are covert and overt activities and experiences that individuals engage in when they try to change problem behaviors (J.O. Prochaska et al., 1992). Cognitive processes, which are effective primarily during the precontemplation and contemplation stages, are consciousness raising, dramatic relief, environ-
mental reevaluation, social liberation, and self-reevaluation. Behavioral processes, which are effective in the preparation, action, and maintenance stages, are counter-conditioning, helping relationships, reinforcement, stimulus control, and self-liberation (DiClemente & Scott, 1997; J.O. Prochaska, Norcross, et al., 1994). Cognitive processes are internally focused on what the individual is thinking and/or feeling about the health behavior. In contrast, the behavioral processes, which focus directly on behavioral change, are things that the individual can do to deal with the problem behavior (DiClemente & Scott, 1997; J.O. Prochaska, Velicer, et al., 1994).

Cognitive Processes

Audiologists can facilitate progression through the stages of change by using several cognitive strategies. Consciousness raising is an effort to increase the level of awareness of the problem through observations, confrontation, and bibliotherapy (J.O. Prochaska et al., 1992). The audiologist can give the individual information (e.g., statistics) about the effects of hearing loss on quality of life, as well as about the causes of hearing loss as they relate to that particular individual. For example, if the cause of the hearing loss is occupational, the discussion could focus on the percentage of people of the same age with noise-induced hearing loss. The audiologist’s goal is to increase the precontemplator’s awareness of the problem of hearing loss in general and specifically the status of the person’s hearing. The discussion could focus on Erber’s Eight Conversational Occurrences (Erber, 1996), which describe problems that a person with hearing loss may experience, such as completely misunderstanding a message, hearing only parts of a message, or confidently hearing a message that makes no sense (e.g., I cooked the suit in that cot for I cooked the soup in that pot). This helps the precontemplator realize that hearing loss does not mean a total lack of hearing, but instead may result in levels of misunderstandings during conversations. With an explanation of common conversational occurrences, individuals may start noticing (i.e., contemplating) their own conversational breakdowns. Additionally, the audiologist may provide information about the prevalence of hearing loss, causes of hearing loss, and perhaps provide a hearing screening or a full audiological evaluation. Another means of consciousness-raising is the administration of a self-assessment measure such as the Hearing Handicap Inventory for the Elderly-Screening Version (HHIE-S; Ventry & Weinstein, 1982). Although the individual may not acknowledge the hearing loss, questions on the HHIE-S such as, “Does a hearing problem cause you to have arguments with family members?” may lead the individual to be more aware of family disagreements and the role that hearing loss might play in family discord.

Dramatic relief is the expression of how the individual feels about the problem, as well as the solutions to the problem. That expression can be facilitated through role-playing. A discussion between the audiologist and the individual
may center on how the person feels about hearing loss and the communication difficulties that result. More importantly, however, there should be some discussion about how the individual feels about the solution to the problem. By listening more than talking, the audiologist enables individuals to articulate their views about their hearing status and solutions to the problem.

*Environmental reevaluation* is an assessment of the effect of the problem on the person’s personal and physical environments, such as the financial cost of hearing loss to society and the emotional cost of the hearing impairment to the family (J.O. Prochaska et al., 1992). The National Council on the Aging study (1999) might be used to illustrate the negative effects that untreated hearing loss may have on the person, such as anxiety and depressive symptoms, which in turn may negatively affect family life. In this study of over 2,000 older adults with hearing loss (the majority of whom did not use hearing aids), the effects of untreated hearing loss on the quality of life of senior citizens were explored. The negative effects of untreated hearing loss were dramatically apparent, with non-hearing aid users reporting significantly greater depressive symptoms, anxiety, frustration, and significantly reduced social interaction and feelings of security compared to older adults with hearing loss who wore hearing aids. While reviewing the results of this study, the individual with hearing impairment is encouraged to consider whether untreated hearing loss is affecting his or her quality of life.

The *self-reevaluation process* focuses on how individuals feel and think about themselves with respect to the problem behavior. It involves clarifying values, internal imagery, and emotional experiences with regard to the problem behavior (J.O. Prochaska et al., 1992). This process involves some self-confrontation about the problem behavior: “How do you feel about people with hearing loss and the growing realization that you are one of those people?” The audiologist should have a frank discussion about the stigmatization and myths associated with hearing loss. In association with this process, an effective method for observing movement is to have the individual create a decisional balance scale by listing all of the *pros* of wearing hearing aids (e.g., won’t have to strain to hear as much, wife won’t nag as much), as well as the *cons* of hearing aid use (e.g., cost too much, make me look old). The challenge for the audiologist is then to address concerns (negative feelings about hearing aids) and increase knowledge of the positive aspects of hearing aid use, so that the person’s decisional balance scale tips more toward a constructive outlook on hearing aid use.

*Social liberation* is awareness or realization that society in general is starting to be more understanding and accepting of individuals who are addressing the problem behavior. In the case of hearing impairment, it would be a realization of the increase in television commercials that address hearing loss, high profile individuals publicly addressing their hearing loss (e.g., Bob Dole), or the wider use of TDD telephone systems.
Behavioral Processes

The behavioral processes of change are behaviors that an individual can undertake to support changing behavior. *Self-liberation* is the individual’s commitment to change the problem behavior, based on the belief that one can change; for example, demonstrating self-efficacy regarding successful use of hearing aids (DiClemente & Scott, 1997; J.O. Prochaska, Norcross, et al., 1994). In this instance, a video such as *Getting the Most Out of Your Hearing Aids* (Koop, Gans, Gorsuch, & Rogers, 1994), may be used to start discussions about purchasing hearing aids. Additionally, the individual and significant other may want to attend a Self Help for Hard of Hearing (SHHH) local chapter meeting or other consumer organization meetings. This will give the individual an opportunity to interact with others who have taken steps to address hearing loss.

*Reinforcement* can involve rewarding one’s self or being rewarded by others for making the effort to change (DiClemente & Scott, 1997; J.O. Prochaska, Norcross, et al., 1994). Brackett and Kricos (2002) reported the benefits of using a 21-day booklet to aid the new hearing aid user in adjusting to hearing aids and to reinforce continued hearing aid use. The booklet also contains consumer friendly advice about the need for realistic expectations; strategies for communication success for new hearing aid users and their families, friends, and other communication partners; and the value of self-help groups.

*Counter-conditioning* is the process of using more positive experiences to address anxiety related to the behavior (DiClemente & Scott, 1997; J.O. Prochaska et al., 1994). For example, when a person is upset about communication problems caused by hearing loss, use of relaxation techniques can help to reduce anxiety. The person may also attend support groups for new hearing aid users and their families where they can discuss anxiety-producing situations and ways to cope.

*Stimulus control* is restructuring the environment to minimize exposure to the problem (DiClemente & Scott, 1997; J.O. Prochaska, Velicer, et al., 1994). The significant other should be asked to attend group support programs and/or hearing aid orientation programs with the new hearing aid user so that the highest level of support and encouragement can be offered during the hearing aid adjustment period. The new hearing aid user should also be taught how to employ assistive listening technology to the fullest.

Another process involves the formation of *helping relationships* with people who understand and support efforts made toward changing the behavior (DiClemente & Scott, 1997; J.O. Prochaska, Norcross, et al., 1994). The individual may benefit from support groups for new hearing aid users, on-line chat groups such as the Say What Club (http://www.saywhatclub.com/), or Self Help for the Hard of Hearing meetings.

Two important variables that influence success and movement through the
stages of change are decisional balance and self-efficacy. Decisional balance is like a balance sheet on which the advantages and disadvantages of changing the problem behavior are compared. Only when the pros outweigh the cons of changing will a decision be made to take action. For example, the use of hearing aids may result in less stress, less family friction, and greater ease in communicating with friends. The disadvantages, however, are that hearing aids are costly, they make the person’s voice sound strange at first, they require care and learning of new skills, they occasionally squeal, they may be associated with aging, and so on. Usually the disadvantages of changing the problem behavior outweigh the pros in the precontemplation stage. In the action stage, the advantages of changing the behavior are greater than the disadvantages (DiClemente, 2002; J.O. Prochaska, Norcross, et al., 1994). It is recommended that the person’s decisional balance scale be determined periodically (e.g., is it tipping more toward the benefits or the burdens that are associated with hearing aid use? [DiClemente, 2002]). Individuals must believe they have the ability to make the necessary changes, and the facilitator’s efforts should be geared toward building their confidence (DiClemente, 2002). Dispensing audiologists frequently hear individuals say things such as, “I can’t get the hearing aid in my ear right,” “I can’t get used to the sound of my own voice when my hearing aids are in my ears.” Utterances such as these may indicate that the person’s self-efficacy for successful hearing aid use is compromised and that an effort should be made to improve the person’s confidence in the ability to adjust to hearing aid use. Smith, West, and Kricos (2003) developed the Measure of Rehabilitation Self-Efficacy for Hearing Aids (MARS-HA), a paper-and-pencil test in which new or prospective hearing aid users rate their confidence in learning various hearing aid skills, their likelihood of adjusting to hearing aids, and their confidence in their abilities to master hearing aid use satisfactorily in various aided listening situations. Tools such as the MARS-HA may assist audiologists in determining the need for educational efforts to improve self-efficacy.

**Application of the Model in Audiology**

The transtheoretical model has been used successfully in other areas, such as drug addiction, in which the consequence of not changing the health behavior can be severe; however, the basic concepts of determining stage of readiness to change and design of interventions are universal. The first step in the application of the model would be to conduct a hearing test to determine whether the person has a significant hearing loss that can be helped with amplification. The next step is to determine the individual’s stage of readiness for hearing aid use by asking a yes-no question (J.O. Prochaska et al., 1992) such as this:

Which best describes your thinking about getting hearing aids?

1. I am not ready for hearing aids at this time. (Precontemplation)
2. I have been thinking that I might need hearing aids. (Contemplation)
3. I have started to seek information about hearing aids. (Preparation)
4. I am ready to get hearing aids if they are recommended. (Action)
5. I am comfortable with the idea of wearing hearing aids. (Maintenance)

Individual are to pick one answer that best describes their attitude toward hearing aid use. Then the activities listed in Table 1 are selected, depending on the current stage. For example, individuals who indicate they do not want to start using hearing aids would be designated as precontemplators. Interventions that address consciousness raising, dramatic relief, or environmental and self-evaluation would be the starting point for helping these individuals move to the contemplation stage. It is up to the audiologist to develop new tools or use existing intervention tools toward that end. The model provides an understanding of the behavioral change process from the individual’s point of view and a rationale for selecting a particular strategy to facilitate acceptance of hearing aids.

The model is relatively easy to incorporate into the typical clinical practice and it could become part of a practice’s marketing efforts. For example, a contemplator is seeking information. The audiologist can provide educational materials, as well as have the individual complete the HHIE-S at home. The individual is asked to contact the clinic to schedule an appointment to go over the results. Follow-up contact is essential, whether it is face-to-face in the dispensing clinic, by telephone, or even a postcard. As the audiologist has more contact with the individual, the staging question is re-administered in order to monitor changes in attitude toward getting a hearing aid.

The audiologist should discuss the model with family members in order to help them understand the processes that have to occur before hearing health care can be beneficial to the individual, even though they want their family member to wear hearing aids. The audiologist can provide the precontemplator’s family members with coping strategies such as getting the person’s attention before speaking, not talking from another room, and using clear speech in order to relieve any friction due to the hearing loss. The audiologist can also provide the family with literature to read and discuss with the individual. Above all, the audiologist should encourage family members to accept their loved one’s reluctance to wear hearing aids and to avoid nagging.

DISCUSSION

Prendergast and Kelly (2002) surveyed audiologists to determine what type of audioligic rehabilitation services were offered to individuals who came to their hearing aid clinics. The top three services rendered were information about assistive listening devices, communication strategies training, and educational counseling. The survey results also indicated that audiologists were usually using only one or two types of rehabilitation intervention. For example, as part of the hearing aid fitting, some audiologists provided only information about assistive
Table 1
Stages of Change and Accompanying Processes Involved at Each Stage

<table>
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<tr>
<th>Stage of change</th>
<th>Process of change</th>
<th>Example of activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation and contemplation</td>
<td>Consciousness raising</td>
<td>• Review the <em>Beyond Hearing Loss</em> video (see Appendix), which gives an overview of hearing loss issues.</td>
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<td>• Give statistical information, for example, what percentages of Americans have hearing loss.</td>
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<td>• Provide a listing of reading materials that would inform the individual about hearing loss (Bibliotherapy).</td>
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<td>• List the advantages and disadvantages of getting help for a hearing loss.</td>
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<td></td>
<td></td>
<td>• HHIE screening.</td>
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<td></td>
<td></td>
<td>• Hearing test.</td>
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<tr>
<td>Dramatic relief</td>
<td></td>
<td>• Discuss how communication misunderstandings impact the individual.</td>
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<td></td>
<td></td>
<td>• Try stock hearing aids or assistive listening devices.</td>
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<tr>
<td>Environmental reevaluation</td>
<td></td>
<td>• Use Erber’s Eight Conversational Occurrences (Erber, 1996) to discuss communication issues and hearing loss.</td>
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<tr>
<td>Social liberation</td>
<td></td>
<td>• Discuss ways that society at large is assisting hearing impaired individuals.</td>
</tr>
<tr>
<td>Environmental reevaluation</td>
<td></td>
<td>• Use role-playing in which the SO plays the part of the person with the hearing loss, and vice versa, to show the impact of hearing loss on the family.</td>
</tr>
<tr>
<td>Self-reevaluation</td>
<td></td>
<td>• Discuss the stigmatization of hearing loss and/or hearing aids.</td>
</tr>
<tr>
<td>Preparation</td>
<td>Self-liberation</td>
<td>• Use the video <em>Getting the Most Out of Your Hearing Aids</em> (Koop et al., 1994) to start discussions about getting hearing aids.</td>
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<td>• Have individual and SO attend consumer help group meetings such as Self Help for the Hard of Hearing.</td>
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<td>• List the advantages and disadvantages of getting hearing aids.</td>
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<td>• Provide websites that the individual can use to gather information about hearing aids and the purchase of hearing aids (e.g., <a href="http://www.audiology.org">www.audiology.org</a>).</td>
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<tr>
<td>Action</td>
<td>Reinforcement management</td>
<td>• Individual purchases hearing aids.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Individual and SO attend hearing aid use training.</td>
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listening devices and communication strategies. The transtheoretical model provides a context in which to use more of the rehabilitative services that are at the audiologist’s disposal, consistent with the individual’s readiness for hearing aid use, and beyond audiometric results. When one considers that only about 20% of elders who potentially could benefit from hearing aids actually use them (Kochkin & Rogin, 2000), it appears that the hearing care professional is not hearing what individuals are saying about their attitudes toward and readiness for hearing aid use. The transtheoretical model puts the emphasis on finding out the individual’s wants, desires, needs, and fears regarding hearing aids.

The model offers a way to help individuals achieve readiness for hearing aids before the actual fitting. The model gives weight to how the individual is feeling and thinking about hearing loss and the need to educate on an individual basis. We acknowledge that many of the interventions that we have suggested, such as bibliotherapy, have been used for some time by clinicians. We have referenced these and other resource materials in the Appendix. The important point is that the materials may be differentially effective depending on the stage. The strategies in Table 1 can assist clinicians with the selection and development of stage-appropriate interventions for adults who live with hearing loss.

The Transtheoretical Stages-of-Change Model has not been empirically tested with individuals with hearing loss, although the efficacy of the model with other

<table>
<thead>
<tr>
<th>Stage of change</th>
<th>Process of change</th>
<th>Example of activity</th>
</tr>
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</table>
| Maintenance     | Counter-conditioning | • Attend support group programs for new hearing aid users with SO.  
|                 |                   | • Detail positive experiences of hearing aid use in a diary.  
|                 |                   | • Learn relaxation techniques when experiencing anxiety because of hearing loss and/or learning how to use hearing aids. |
| Stimulus control|                   | • At 30-day follow-up appointment with audiologist, provide additional instruction on hearing aid use if necessary.  
|                 |                   | • Continue to attend support group programs for new users. |
| Helping relationships |                   | • Spouse/SO complete HHIE to compare results to previous HHIE results. |

Note. HHIE = Hearing Handicap Inventory for the Elderly; SO = significant other.
clinical populations has been well documented. We plan to continue our work in this area by designing rigorously controlled research paradigms that may provide outcomes-based evidence compared to traditional hearing aid orientation and counseling protocols.

REFERENCES


**APPENDIX**

**RESOURCES FOR AUDIOLOGIC REHABILITATION WITH ADULTS**

**Organizations for Consumer Information**

American Academy of Audiology
8300 Greensboro Drive, Suite 750
McLean, VA 22102-3611
(800) 222-2336
http://www.audiology.org

American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
(800) 498-2071
www.asha.org

Association of Late Deafened Adults (ALDA)
2600 W. Peterson Ave., Suite 202
Chicago, IL 60659
http://www.alda.org

HealthyHearing
www.healthyhearing.com

Say What Club
http://www.saywhat.org

Self Help for Hard of Hearing People, Inc. (SHHH)
7901 Woodmont Ave., Suite 1200
Bethesda, MD 20914
(301) 657-2248 – Voice
(301) 657-2249 – TTY
http://www.shhh.org
Reading Resources for Consumers


Resources for the Professional

*Beyond hearing loss* [Videotape]. (Available from Johns Hopkins Center for Hearing and Balance, 410-955-6680)