

- **Clinical Report: Evaluating the Efficacy of a Group Audiologic Rehabilitation Program for Adults with Hearing Loss Using a Goal Attainment Scaling Approach**
- **Compte rendu clinique : Se servir d'une approche d'évaluation de l'atteinte des objectifs pour évaluer l'efficacité d'un programme de groupe de réadaptation audiolinguistique pour adultes ayant une perte auditive**

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#### Abstract

This clinical report describes the application and outcomes of Goal Attainment Scaling (GAS) within a 6-session, group-based audiologic rehabilitation (AR) program for older adults with acquired hearing loss. GAS is a technique that provides a framework for organizing the rehabilitation process by involving all parties (client, clinician, significant others) in setting goals that address the specific difficulties experienced by the client. It provides a means of quantitative and qualitative documentation of rehabilitation outcomes.

Forty-six adults between the ages of 62 and 93 years with hearing loss and hearing aids participated in the program. The 6-session AR program included information, discussion, and training in the use of assistive technologies and communication strategies. GAS goals were set individually prior to group participation and outcomes were monitored within 2 weeks and at 6 months following the completion of the AR program.

AR group participants made gains in goal attainment following AR program participation when compared to pre-program functioning levels and continued to make gains at 6 months post-program. The application of GAS as a framework and a measure of change for current models of AR is discussed. Further research to investigate the efficacy of GAS within group-based AR programs is warranted.

#### Abrégé

Le présent rapport clinique décrit la mise en œuvre et les résultats d'une approche d'évaluation de l'atteinte des objectifs [Goal Attainment Scaling – GAS] utilisée durant un programme de réadaptation audiolinguistique de groupe en six séances pour des aînés ayant une perte auditive acquise. La GAS fournit un cadre pour organiser le processus de réadaptation en impliquant toutes les parties (client, clinicien, proches) à l'établissement d'objectifs liés à des difficultés précises vécues par le client. Elle fournit un moyen de consigner par écrit les résultats quantitatifs et qualitatifs de la réadaptation.

Quarante-six adultes entre 62 et 93 ans ayant une perte auditive et un appareil auditif ont pris part à ce programme. Le programme de réadaptation de six séances comprenait de l'information, des discussions et de la formation entourant l'utilisation de technologies d'aide de suppléance et de stratégies de communication. On a fixé les buts de la GAS individuellement avant la participation en groupe et on a suivi les progrès durant deux semaines et 6 mois après la fin du programme.

Les participants au groupe de réadaptation audiolinguistique ont fait des progrès vers l'atteinte de leurs objectifs après leur participation au programme quand on compare avec leur niveau de fonctionnement antérieur, et ils ont continué à faire des progrès six mois après le programme. On discute de l'utilisation de la GAS comme cadre et comme mesure de changement pour les modèles actuels de réadaptation audiolinguistique. Il est justifié de poursuivre la recherche sur l'efficacité de la GAS au sein des programmes de groupe de réadaptation audiolinguistique.

**Key words:** Goal Attainment Scaling (GAS), Audiologic Rehabilitation (AR), older adults, acquired hearing loss

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The purpose of this study was to explore the application of Goal Attainment Scaling (GAS) to adult audiologic rehabilitation.

Hearing loss is highly prevalent internationally, and the number of people with hearing loss is expected to rise, primarily because of the growing global population and longer life expectancies (World Health Organization, 2005). The National Advisory Council on Aging (1997) reports that hearing loss affects an estimated 4 out of every 100 Canadians. It is also one of the most commonly reported chronic disabilities for older adults, affecting approximately 30% of Canadians over the age of 65 and 40–50% of those over the age of 75 (National Council on the Aging, 1999; Public Health Agency of Canada, 2006; Statistics Canada, 1992). In a 2001 survey, The Canadian Hearing Society (2002) found that the average age of persons who experience hearing loss is 51. The fastest growing age group in Canada is persons over the age of 65. Trends in the population growth indicate that in the near future, the elderly will comprise a larger proportion of the Canadian population, with numbers expected to grow to an estimated 6.9 million by the year 2021 (Canadian Council on Social Development for the Division of Aging and Seniors, 1998). The prevalence of hearing loss internationally will grow as the population of elders grows.

“Audiologic/aural rehabilitation (AR) is an ecological, interactive process that facilitates one’s ability to minimize or prevent the limitations and restrictions that auditory dysfunctions can impose on well-being and communication, including interpersonal, psychological, educational, and vocational functioning” (American Speech-Language-Hearing Association, 2001). AR services are provided to adults with hearing loss on an individual basis, in a group setting, or both and often include significant others (Preminger, 2003). AR services follow the initial auditory diagnostic tests performed by an audiologist (Schow & Nerbonne, 2007). Unfortunately, AR services are often not available to older adults with hearing loss. The majority of the services provided by audiologists end after the hearing aid fitting. Typical components of AR services are the provision of technological devices beyond hearing aids, speech perception training, and communication management training. Communication management training includes communication strategies, conversational fluency, assertiveness training, stress management, information, and personal adjustment counseling (Gagné & Jennings, 2008). Currently, there has been a renewed interest in the provision of auditory training to adults with hearing loss (Sweetow & Palmer, 2005).

Contemporary models of AR view it as a process that takes place and evolves over the lifetime of the person with hearing loss. Awareness of hearing difficulties, specific difficulties encountered, and communication demands and needs, all change as a function of time (Garstecki & Erler, 1995; Héту, 1996; Hyde & Riko, 1994; Kyle, Jones, & Wood, 1985). Although there are common situations in which persons with acquired hearing loss have difficulty (for example, in noisy settings), each individual will have

his or her own unique set of situation-specific difficulties related to the types of activities engaged in on a day-to-day basis. As a result, AR must be specific to the issues experienced by the individual in a time-sensitive manner, and the methods used to assess the outcomes of AR must be client-specific (Gagné & Jennings, 2008). The effectiveness of adult group AR programs has been a focus of research for many years. Typically, the outcome measures that are used include hearing handicap scales, diaries, and other questionnaires such as those focusing on quality of life (e.g., Abrams, Chisolm, & McArdle, 2002; Andersson, Melin, Scott, & Lindberg, 1995a, 1995b; Beynon, Thornton, & Poole, 1997; Brickley, Cleaver, & Bailey, 1996; Chisolm, Abrams, & McArdle, 2004; Hallberg & Barrenäs, 1994; Kricos & Holmes, 1996; Norman, George, Downie, & Milligan, 1995). A systematic review of the evidence for the effectiveness of these programs (Hawkins, 2005) concluded that adult group AR participation resulted in short-term decreases in self-perceived hearing handicap and benefits in the use of hearing aids and communication strategies. However, there is limited evidence that these programs provide better benefit than hearing aid provision alone over time.

Goal Attainment Scaling (Kiresuk & Sherman, 1968; Kiresuk, Smith, & Cardillo, 1994) is a technique used with a variety of populations and in a variety of settings. It was originally designed for use in the evaluation of mental health programs and has been used successfully in pediatric therapy programs (Cusick, McIntyre, Novak, Lannin, & Lowe, 2006; King, McDougall, Palisano, Gritzan, & Tucker, 1999; Mailloux et al., 2007; Novak, Cusick, & Lowe, 2007; Sakzewski, Boyd, & Ziviani, 2007; Steenbeek, Ketelaar, Galama, & Gorter, 2007), inpatient rehabilitation and health promotion programs for persons with multiple sclerosis (Becker, Stuijbergen, Rogers, & Timmerman, 2000; Khan, Pallant, & Turner-Stokes, 2008), health promotion programs for independently living elderly adults (Kloseck, 2007), and elderly adults in long-term care facilities (Bravo, Dubois, & Roy, 2005; Gordon, Powell, & Rockwood, 1999; Rockwood, 1995; Stolee, Stadnyk, Myers, & Rockwood, 1999). Goal Attainment Scaling has also been used as an outcome measure for rural health services (Cox & Amsters, 2002; Rockwood et al., 2003), programs to manage chronic pain (Fisher, 2008), and cognitive rehabilitation programs (Rockwood, Joyce, & Stolee, 1997), as well as to assess outcomes in drug trials with Alzheimer’s patients (Rockwood, Fay, Gorman, Carver, & Graham, 2007; Rockwood, Fay, Song, MacKnight, & Gorman, 2006). GAS can provide a framework for organizing the rehabilitation process by involving all relevant parties (client, clinician, significant others) in setting goals specific to difficulties as they are encountered. It also provides a means of quantitative and qualitative documentation of rehabilitation outcomes.

In a critical review, Schlosser (2004) pointed out that GAS is rarely used in the field of communication disorders and encouraged its use. Dillon et al. (1991a, 1991b) used GAS to assess specific hearing difficulties at initial

intake with adults who were undergoing hearing testing and hearing aid prescription and fitting. Participants were asked to state their communication needs and to rate their level of functioning at intake, at a final appointment, and again at a 3-month follow-up appointment. Results indicated that most participants made improvements at the final appointment and that these improvements were maintained at follow-up. The potential for the application of goal setting to AR has been described but not studied systematically (McKenna, 1987; Roberts & Bryant, 1992). There is currently no published research that uses GAS in the AR of older adults.

GAS provides a framework for organizing the rehabilitation process for all stakeholders by setting clear rehabilitation goals and defining incremental steps to reach the goals. The framework states clearly who will do what, under what conditions, and to what degree of success. Goals set must be relevant, understandable, measurable, behavioural, and attainable within a specific time frame (McDougall & King, 1999). GAS allows clients and clinicians to collaboratively set individual goals and levels of attainment.

GAS also evaluates change over time (Ottenbacher & Cusick, 1993). The GAS procedure involves specifying a range of levels of attainment, which can be quantified using rating scales. Cardillo and Smith (1994) recommend an ordinal rating scale with five levels ranging from -2 to +2. Baseline performance on a goal becomes a *much less than expected outcome* with a score of -2. A *less than expected outcome* on a goal has a score of -1. The *expected outcome after intervention* on a goal has a score of 0. A *greater than expected outcome* on a goal has a score of +1. A *much greater than expected outcome* on a goal has a score of +2. These levels are presented in Table 1. The intervals between each of the levels of attainment must be perceptually equal. The amount of change between levels must be clinically relevant and specify an observable behaviour (McDougall & King, 1999).

A client's needs and available resources, including time, will influence the number of goals set with a client (McDougall & King, 1999). Each goal selected can be given a relative weight based on prioritizing or ranking of goals

(Ottenbacher & Cusick, 1993). However, Cardillo and Smith (1994) strongly advise against differential weighting of GAS goals. A summary score (the average of the GAS final attainment scores) that provides information on the overall goal attainment of the individual can be calculated. If goals are not weighted, a summary score can be converted to an aggregate *T*-score using either a formula or a conversion table developed by Kiresuk and Sherman (1968). The formula for computing the *T*-score assumes a relatively low correlation among goals of .30 and yields a standard deviation of 10 units. Aggregate *T*-scores can be used to compare individuals to others and to compare GAS results to other standardized outcome measures.

Concerns have been raised about GAS related to goal setting, grading, and outcome assessment (Becker et al., 2000; Cytrynbaum, Ginath, Birdwell, & Brandt, 1979; Gordon et al., 1999; Grenville & Lyne, 1995; MacKay, Somerville, & Lundie, 1996; McDougall & King, 1999; Ottenbacher & Cusick, 1993). Those who employ GAS need to understand and to take into consideration the strengths and weaknesses of the procedure. Weaknesses include potential concerns related to reliability (ability of goal setters' judgment to set GAS levels) and validity (GAS has been criticized as being a way for goal setters to set easy, clinically irrelevant goals). In spite of these weaknesses, there is much support for the clinical utility of GAS and its use for assessing performance on personal goals over time (Donnelly & Carswell, 2002; Forbes, 1998; Hurn, Kneebone, & Cropley, 2006; King et al., 1999; Ottenbacher & Cusick, 1993; Stolee, Zaza, Pedlar, & Myers, 1999). In addition, there are ways to improve reliability and validity that include involving experienced goals setters, ensuring goals are well written, using raters who have no personal investment in the outcome score, and supplementing GAS with standardized measures to provide a comprehensive assessment of outcome (McDougall & King, 1999). The development and use of a list of goals that are common to a specific population has also been suggested in an attempt to deal with measurement issues and health care provider time pressures (Tennant, 2007; Yip et al., 1998). The strengths of GAS include the cooperative setting of goals, its ability to evaluate individualized longitudinal change, and its role in the qualitative analysis of services (Gordon et al., 1999; Grenville & Lyne, 1995; MacKay et al., 1996; Malec, 1999; Ottenbacher & Cusick, 1993; Rockwood, 1995; Sheldon & Elliot, 1998).

**Table 1**

*Goal Attainment Scaling Containing 5 Levels of Attainment*

Goal score	Level of attainment
-2	Baseline performance/much-less than expected outcome after intervention
-1	Less than expected outcome after intervention
0	Expected outcome after intervention
+1	Greater than expected outcome after intervention
+2	Much greater than expected outcome after intervention

## Purpose

This clinical report describes the outcomes of a group-based AR program for adults with acquired hearing loss using a GAS approach.

## Method

### Participants

Participants constituted a convenience sample of individuals who elected to participate. They were referred from the community or from the university speech and hearing clinic. Audiologists in the community recruited

participants during appointments. Participants were also recruited through mailing of project information, posting of information in waiting rooms and in public institutions catering to older adults, and advertising in the local media. Individuals were screened over the telephone to confirm that they met the project participation criteria prior to the first interview. The research project was approved by the University of Western Ontario Health Sciences Research Ethics Board.

A total of 46 adults (25 male; 21 female) aged 62 to 93 years ( $M = 78.4$ ,  $SD = 7.6$ ) participated in the AR program and GAS. The majority (76%) of the participants were native English-language speakers, with 24% speaking one or more other language in addition to English. The majority of the participants (96%) had formal education levels at the high school or post-secondary level. Participants in this project represented the heterogeneous nature of hearing loss in the adult population. A summary of the participants' pre-treatment characteristics is presented in Table 2. The high frequency better ear pure tone average (1000, 2000, and 4000 Hz) of participants indicated hearing loss ranging from mild to severe-to-profound. Participants had a wide range of years of living with hearing loss and with using hearing aids, although the majority (65%) had been using hearing aids for fewer than 10 years. A wide variety of styles of hearing aids were used by the participants, and the majority of participants were either in-the-ear (43%) or behind-the-ear (30%) hearing aid owners. Slightly more of the participants (59%) owned binaural hearing aids, compared to monaural (41%) hearing aids, with the majority of hearing aids (80%) being less than 5 years old. Hearing aid ownership was not always indicative of hearing aid use, and a small number of participants (6%) reported never using their hearing aids. The number of occasional users (46%) was similar to the number of consistent users (48%). The majority of participants (52%) owned no additional assistive devices, and 32% of participants owned one additional device.

### Audiologic Rehabilitation Program

Because of the receptive communication difficulties of participants with hearing losses, the maximum number of participants in each AR program was limited to 8 per group in order to provide an auditorily accessible communication environment. In total, 10 groups were run, with group size ranging from 4 to 8 participants ( $M = 6$ ). Non-research participant spouses were included in these groups. Two of the groups had no spouses in attendance. Between 1 and 3 spouses attended the other groups ( $M = 1.3$ ). Each group met once a week for between 90 and 120 minutes during a 6-week period.

The AR program developed for this research included standard information components (Gagné & Jennings, 2008). Information presented by the facilitators included the effects of hearing loss on communication and relationships, environmental factors that have an impact on communication, practical aspects and realistic expectations of hearing aid use, the use of assistive listening devices at home

**Table 2**  
*Summary of Participants' Pre-treatment Characteristics*

	Total (SD)	Males (SD)	Females (SD)
Number of participants	46	25	21
Mean age	78.4 (7.6)	78.5 (8.1)	78.2 (7.0)
Mean years of hearing loss	16.9 (13.5)	20.8 (14.7)	12.3 (10.3)
Mean years of hearing aid use	10.9 (10)	12.8 (10.7)	8.7 (8.7)
Mean better ear high freq PTA	54.3 (12.2)	57.8 (12.0)	49.9 (11.2)

and in public places, obtaining and promoting the use of assistive listening devices, the use of telephone and alerting devices at home and in public places, how to inform others about hearing loss, and communication strategies.

Audiology students who had completed a course in AR in their masters level training program facilitated the program. Facilitators worked in pairs, and a total of 10 students facilitated the groups. The facilitators were trained and supervised by the researcher and followed the curricula developed by the researcher. The researcher was an audiologist with more than 20 years experience in the areas of adult AR and goal setting with adults with acquired hearing loss.

### Procedures

All data were collected in an interview format by the researcher. Participants were interviewed at three points in time – initial intake into the study (pre-program), immediately following the AR program (post-program), and 5 to 7 months later (6-months post-program). During the initial intake interview, participants were asked to describe specific situations in which difficulties with communication were encountered. Participants were then asked which of these situations they would like to see improve as a result of attending the AR program. For each of these situations, the participants were asked to describe who was involved in the situation (the person with hearing loss and any other persons), the specific environment in which the situation occurred, and what the participant and any other persons were currently doing to deal with the problem (baseline performance). Next, participants were asked to specifically identify what they would be willing to do to improve communication in the situation by the time they had completed the program (expected outcome). The participant was asked to specifically identify who was responsible for the action, what the specific action was, how often the action would be performed and in what time period, and the environment in which it would be performed. As a result, GAS goals were set and the baseline (pre-program) performance on each goal, as well as the expected outcome on the goal at post-program,

were determined by the researcher in conjunction with the participant and significant other (if in attendance) at the initial interview. The researcher determined the remaining levels of attainment on each goal (less than expected outcome, greater than expected outcome, much greater than expected outcome) based on the criteria set by Cardillo and Smith (1994). Examples of four goals set by participants can be found in Appendix A. King et al.'s (1999) checklist was used to ensure the technical quality of the goal. Attainment of goals was rated by the researcher, the participant, and the significant other (if in attendance) at the two post-program interviews. Goal attainment was monitored based on participant diary documentation of specific examples of behaviour regarding the goal over time. Raw GAS scores could range from -2 (much less than expected outcome, used to define a participant's baseline) to +2 (much better than expected outcome), with a score of zero indicating a participant's expected performance on the goal at post-program. These raw scores were averaged to create a summary score. The summary score and number of goals set by the individual were used to generate a GAS *T*-score using tabled values (Cardillo & Smith, 1994; Kiresuk & Choate, 1994). The GAS *T*-score reflected the average goal attainment for each research participant. A GAS summary score of 0 yields a GAS *T*-score of 50 regardless of the number of goals set; a GAS summary score of -2 yields a GAS *T*-score of approximately 20 and varies depending on the number of goals set by the participant. GAS summary scores of -1 and -2 indicate that a participant has not attained the expected goal performance after an intervention program.

## Results

At the initial interview, the AR program participants set between one and four goals ( $M = 1.98$ ,  $SD = 0.91$ ), with the greatest number of participants (39%) setting two goals. The goals identified by the participants dealt with personal participation restrictions and focused on specific activity limitations within specific environments. The use of strategies to deal with communication in difficult listening environments (such as in groups and meetings) made up 45% of the goals identified by the participants; 20% of the goals were related to the use of strategies to deal with communication over the telephone, 19% of the goals were related to using hearing aids on a more consistent basis, 9% of the goals were related to the use of strategies to deal with one-to-one communication (including with spouses, adult children, and grandchildren), and 7% of the goals were related to the use of strategies to deal with stress, isolation, and self-confidence.

The GAS *T*-scores post-program and 6-months post-program were compared to participant baseline performance on the goals. These results are illustrated in Figure 1. The mean baseline GAS *T*-score for the participants was 26.05 ( $SD = 3.2$ ), the mean post-program GAS *T*-score was 53.97 ( $SD = 12.4$ ), and the mean 6-months post-program GAS *T*-score was 62.99 ( $SD = 11.9$ ). In total, 75% of participants met or exceeded the expected goal

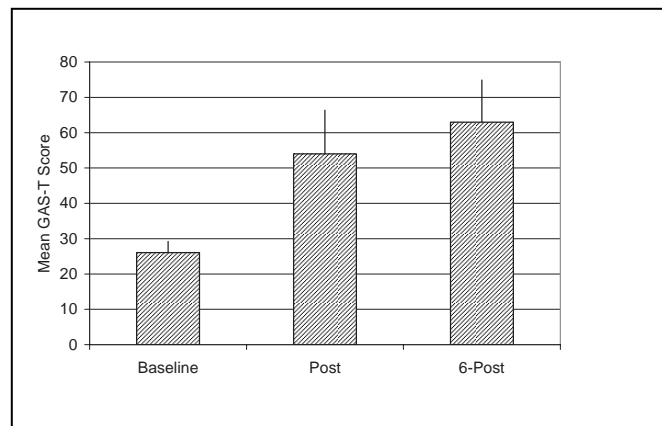


Figure 1. GAS *T*-Scores compared to baseline by time for AR group participants.

performance at post-program, and 90% of participants met or exceeded the expected goal performance at 6-months post-program.

## Discussion

Overall, the results suggest that participants made gains in goal performance following AR program participation when compared to pre-program functioning levels and had continued to make gains at 6-months post-program.

GAS is not simply used to evaluate change over time; it also provides a framework for organizing the rehabilitation process. Therefore, it would be difficult to evaluate GAS as simply an assessment tool (Kiresuk, Smith, & Cardillo, 1994). In the current research, only those who participated in an AR program were involved in GAS. As such, it was not possible to compare these results to a group of participants who participated in GAS and not in group AR. The importance of testing inter-rater reliability (Gordon et al., 1999) and the use of an independent examiner (Ottenbacher & Cusick, 1993) who has not been involved in the treatment program or the goal setting process have been discussed as considerations in the use of GAS. Although a checklist was used to ensure the technical quality of the goals (King et al., 1999), inter-rater reliability was not checked in the current research. The researcher who was involved in the initial goal setting was the one who assessed the outcomes in partnership with the research participants. The researcher was not directly involved in the rehabilitation programs with the participants. This procedure was deemed reasonable as the researcher had extensive experience using goal setting with adults with hearing loss and also had extensive knowledge of the unique situation and needs of this population. The research participants were actively engaged in the goal setting procedure and in assessing their own post-treatment performance. Wright (2000) suggests that although clients come to see clinicians with unique, individual concerns, client-specific measures that allow clients to express, rate, rank, and quantify their concerns and treatment outcomes have not been used widely in audiological and AR practice. Contemporary models of AR for older adults with acquired hearing loss describe

AR as a situation-specific, client-specific problem-solving process (Gagné & Jennings, 2008), within which GAS can provide a framework for the rehabilitation process and be used to monitor change over time. The current project is the first to use the GAS procedure with adults with hearing loss as part of a group AR program. Gordon et al. (1999,) suggest that, "... when a clinically relevant but individualized measure is used, the achievement of important goals can be demonstrated when treatment is successful" (p. 279). The results suggest that GAS was an effective technique in the AR of older adults with hearing losses within this project.

Outside of audiology and AR, GAS has been used widely with a variety of populations in a variety of settings. Therefore, audiologists who work in settings that already use GAS can assist supervisors and administrators in understanding AR outcomes within their facility.

GAS has been used to measure change in performance following involvement in interventions that are based on health promotion and self-efficacy theory (Becker et al., 2000; Sheldon & Elliot, 1998). Goal setting has been described as a self-efficacy building technique (Becker et al., 2000; Redland & Stuifbergen, 1993). Bandura (1986) described interventions that build self-efficacy as those that involve participants in graded experiences that provide them with successes and teach them how to manage lack of success. GAS facilitates this process by helping participants focus on realistic, graded goals. By setting goals collaboratively with clinicians, persons with hearing loss can increase their awareness of various actions that might be undertaken in an attempt to deal with difficult listening situations and thus develop greater self-regulation and self-efficacy (Redland & Stuifbergen, 1993). Goal setting is also believed to maintain motivation and adherence to a rehabilitation program because the person who makes an explicit and formal commitment to changing their behaviours will likely be more successful than a person who has not made this commitment (Evans & Hardy, 2002; Redland & Stuifbergen, 1993; Stolee et al., 1999). Goal attainment is also most successful when the goals are short-term, realistic, and set in a partnership between the patient and the clinician (Redland & Stuifbergen, 1993; Sheldon & Elliot, 1998). Bandura (1986) stated that, "When people play a significant role in selecting goals, they hold themselves responsible for progress toward these goals and thereby engage self-evaluative mechanisms in the process" (p. 479). Self-efficacy has been identified as a predictor of positive emotions and goal performance (Bandura, 1989; Becker et al., 2000). Positive experiences and emotions gained during the process of striving to attain goals may also reinforce and maintain goal attainment (Sheldon & Elliot, 1998). The current research supports this notion, as participants continued to make gains on goals in the 6 months following AR program participation.

Persons with hearing loss do not always seek AR services for themselves. In this case, their significant others are often the catalyst for the visit to the audiologist. As a result, the

goals may often be decided upon by services providers and significant others. If decisions such as the purchase and the use of a hearing aid do not involve the patient, they may either not be followed through or the result may be a hearing aid that is not used. According to Sheldon and Elliot (1998) goals that are set related to external pressures are goals that will likely be abandoned.

In conclusion, the results of this study support the usefulness of GAS as a framework and a measure of change for the contemporary model of group AR for older adults, as it was used in this project. Further work to investigate the use and procedures for GAS and to document the efficacy of GAS in adult AR is warranted.

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**Appendix A.**
*Examples of 4 goals set using Goal Attainment Scaling for group-based audiologic rehabilitation participants*


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Raw goal attainment scaling score	Goal one	Goal two	Goal three	Goal four
Much less than expected -2	Answer the telephone 0% of the time when at home alone during the course of one week.	Use the hearing aid telecoil with the telephone 0% of the time at home during the course of one week.	Remind spouse to speak more slowly 25% of the time at home during the course of one day.	Ask for the topic of conversation when entering into a group conversation with family at home 25% of the time during the course of one day.
Somewhat less than expected -1	Answer the telephone 25% of the time when at home alone during the course of one week.	Use the hearing aid telecoil with the telephone 25% of the time at home during the course of one week.	Remind spouse to speak more slowly 50% of the time at home during the course of one day.	Ask for the topic of conversation when entering a group conversation with family at home 50% of the time during the course of one day.
Expected level (program goal) 0	Answer the telephone 50% of the time when at home alone during the course of one week.	Use the hearing aid telecoil with the telephone 50% of the time at home during the course of one week.	Remind spouse to speak more slowly 75% of the time at home during the course of one day.	Ask for the topic of conversation when entering a group conversation with family at home 75% of the time during the course of one day.
Somewhat better than expected +1	Answer the telephone 75% of the time when at home alone during the course of one week.	Use the hearing aid telecoil with the telephone 75% of the time at home during the course of one week.	Remind spouse to speak more slowly 100% of the time at home during the course of one day.	Ask for the topic of conversation when entering a group conversation with family at home 100% of the time during the course of one day.
Much better than expected +2	Answer the telephone 100% of the time when at home alone during the course of one week.	Use the hearing aid telecoil with the telephone 100% of the time at home during the course of one week.	Remind spouse to speak more slowly 100% of the time in a public place during the course of one day.	Ask for the topic of conversation when entering a group conversation with family in a public place 100% of the time during the course of one day.

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