

# THE POLISH VERSION OF THE APHAB METHOD

SS - PSY – 04

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## ABSTRACT

The Abbreviated Profile of Hearing Aid Benefit (APHAB) is a self-assessment scale, which can be used for quantifying the disability associated with a hearing loss and the reduction of disability associated with a hearing aid. The original American of the APHAB was directly translated into Polish and administered to 220 native Polish speaking adults. Significant differences were noted between the normative data for the American and Polish versions.

Key Words: Benefit, hearing aid, handicap, self-report questionnaire

Abbreviations: APHAB = The Abbreviated Profile of Hearing Aid Benefit

## INTRODUCTION

The Abbreviated Profile of Hearing Aid Benefit (APHAB) was developed by Cox et al. (1995) at the University of Memphis Hearing Aid Research Laboratory in order to more accurately measure the benefits of wearing a hearing aid. The APHAB was normalized on English (American) speaking adults during acts of communication with other people, or perceived difficulty with sound recognition in various conditions.

The APHAB method consists of twenty-four elements (questions) divided into four subgroups (six questions per group). The subgroups include:

- Ease of communication (EC – Ease of Communication),
- Communication in rooms with echo and/or reverberation (RV – Reverberation),
- Communication in the presence of high pitch sounds in the background (BN – Background),
- Lack of acceptance of unexpected sound coming from the environment (AV – Aversion).

Each question can be responded to by the hearing impaired individual in two ways. One way as if the individual was wearing a hearing aid and secondly as if they were not wearing a hearing aid. By comparing the two responses, it is hoped that the scale can be used as a measure of efficacy for the hearing aid fitting, that is, does a reduction in disability across the four subgroups occur as a result of hearing aid fitting (Fig. 1) (Cox and Alexander, 1996).

Each item is in the form of a question. For example, "When I am in small office, interviewing or answering question, I have difficulty following the conversation". The task of hearing - impaired individual is to decide how often the situation described in the question is true for them. The response to each question is made on a seven-point scale ranging from never to always. Each alternative's descriptive words are associated with a percentage from 1 % to 99% of occasions to help the patient interpret the word. If patient chooses „always", this means a lot of problems in this situation. If a question describes a situation which the hearing impaired person has not experienced, a similar situation which has been experienced can be substituted.

An individual profile of responses is constructed which can be compared to typical responses from any of three normative groups. The normative groups include:

1. Elderly users of hearing aids (moderate hearing loss; binaural hearing aid fitting, wore aids for at least one year, wore aids at least four hour per day)
2. Elderly individuals with little or no hearing problem (as determined by self-report);
3. Young individuals with normal hearing.

The purpose of this study was to compare the American normative data on the APHAB with a Polish translation of the APHAB using young and elderly adults with normal hearing.

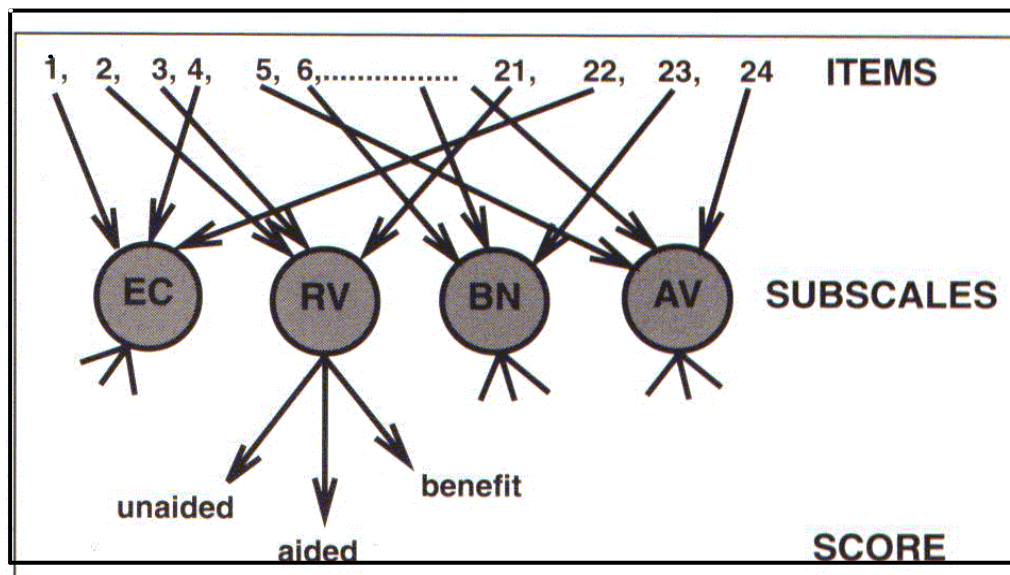


Fig. 1. Diagrammatic representation of the APHAB (Cox & Alexander, 1996)

## METHODS AND PROCEDURES

Investigations leading to elaboration of norms for Polish language were carried out in two stages. The aim of the first stage was to answer a question about an influence of questionnaire translation on subject's answers. Subjects were divided into two groups. Each group consisted of sixty-five normal hearing aged (20 - 25). There were 30 women and 35 men in the first group, and 32 women and 33 men in the second group. Each group fulfilled only one (of two possible) translation of questionnaire.

The aim of the second stage was to build Polish norms for two groups differing in age, and compare them to American norms (Cox and Alexander, 1996).

130 young adults with normal hearing aged (20 – 26) (62 women and 68 men), and 90 elderly people (54 women and 35 men) with normal hearing ranging in age from 60 to 90 years (mean – 71) participated in the studies.

## RESULTS AND DISCUSSION

### First Stage

An analysis performed on the obtained results shown, that in each group under investigation there were significant differences between women and men. Therefore, results women and men are presented separately. Analysis of results obtained for both groups of subjects shown that there were no significant differences on the significance level of  $\alpha = 00,5$  (see Fig. 2). Thus, it might be concluded that the way in which a questionnaire was translated did not influence obtained results.

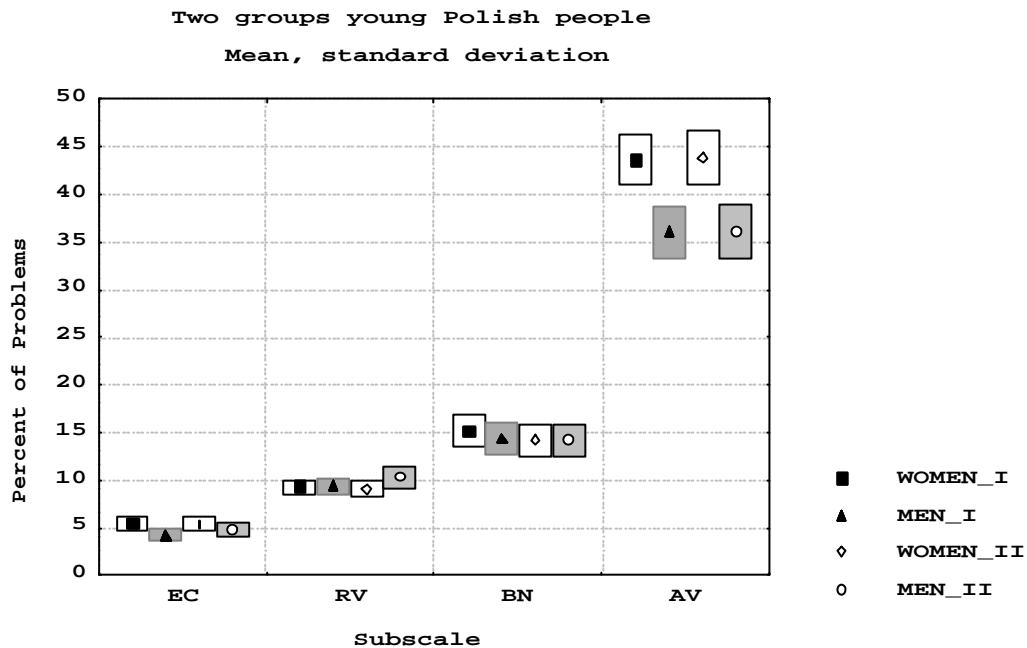


Fig. 2. Comparison of two groups native Polish speaking adults

### Second Stage

The aim of investigation performed in the second stage was to create of normative profiles for Polish subjects established for Poles at the appropriate age and to compare them to American norms. An analysis of results was performed in group separately. In the group of young people significant differences in answers given by women and men were found for AV category (see Fig. 3). Women seemed to express bigger aversiveness to unpleasantness sounds coming from environment than men. Based on obtained results two different norms for women and men were developed. The results were compared to American norms (see Fig. 4). In the Fig. 4 norm profiles for Polish women and men are shown as well as profiles for American listeners. A significant difference was found between the Polish and American versions on the APHAB, with greatest differences found in the AV subscale, both for women and men. From Fig. 4 it can be seen that 80 percent of Polish women (aged 20 – 26) maintain that unpleasantness sounds coming from environment are in 87 percent or less a direct reason of lack the acoustical environment acceptance. Similarly, 80 percent Polish me (aged 20 – 26) maintain that unpleasant of sounds coming from environment are in 75 percent or less a direct reason of the lack the acceptance of the acoustical environment. In the same age group of American subjects there is only 40 percent or less reason of the lack of environment acceptance. Similar analysis was performed for elder people. It was found that there were also significant discrepancies for answers given by women shown bigger than man problems in communication when the level of the acoustic background was high enough. On the other hand, the men show bigger than women problems when the stain of communication is under relatively favorable conditions. The

results served as the basis for different threshold values for elder women and elder men. A significant difference was found between the Polish and American versions of the APHAB for elderly people, with greatest differences found in the BN, especially for Polish women, and AV subscales for Polish men and women (see Fig. 6).

It is speculated that these differences may be related to how elder Polish and American people perceive background noise and how they perceive adversity of noise in the environment (Fig. 4, 6) for young and elderly native Polish speaking. This interesting difference will require further study. Another interesting difference was found when Polish men and women responses were compared. Why should Polish men and women respond differently to adversity of noise in the environment for young people (Fig. 3 and 4) and EC and background noise for elderly people (Fig. 5 and 6)? Hypothetically one might suggest that women might be better listeners and so background noise would affect them more and environmental sounds might be more irritating or adverse for them. Again further study is needed to clarify the reason for difference.

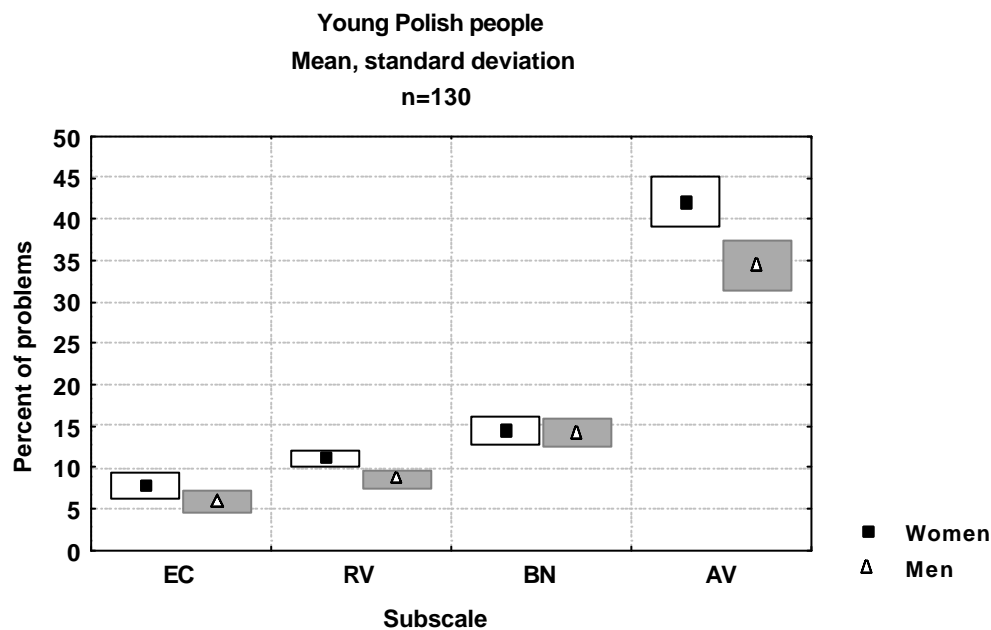


Fig. 3. Young Polish people

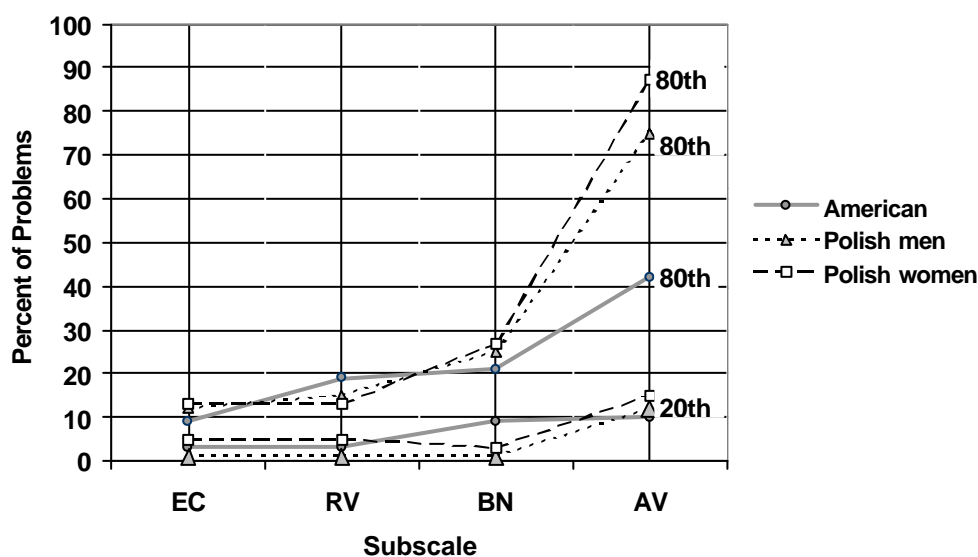


Fig. 4. The American and Polish normative data on APHAB for young people

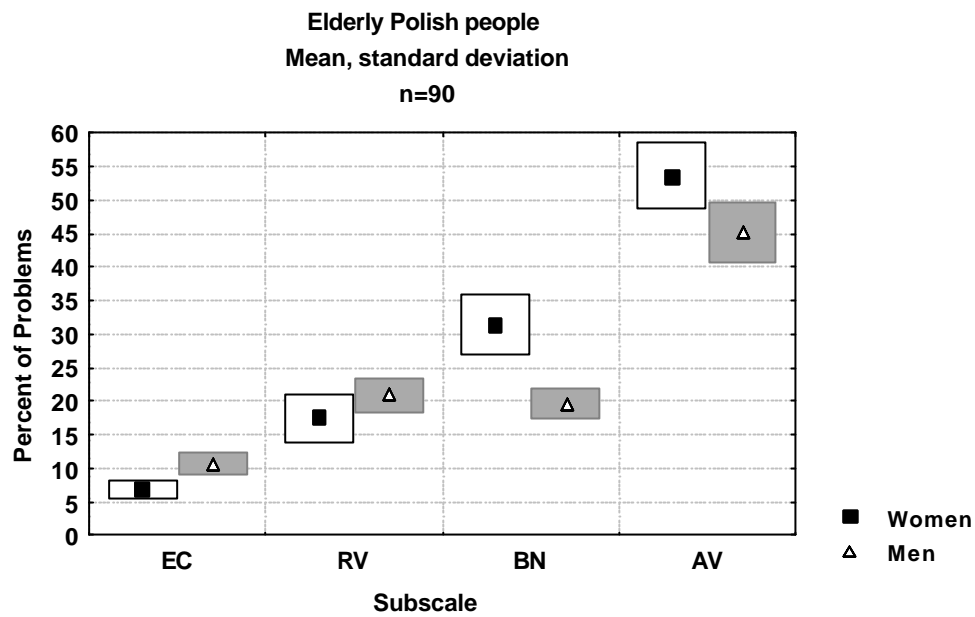


Fig. 5. Elderly Polish people

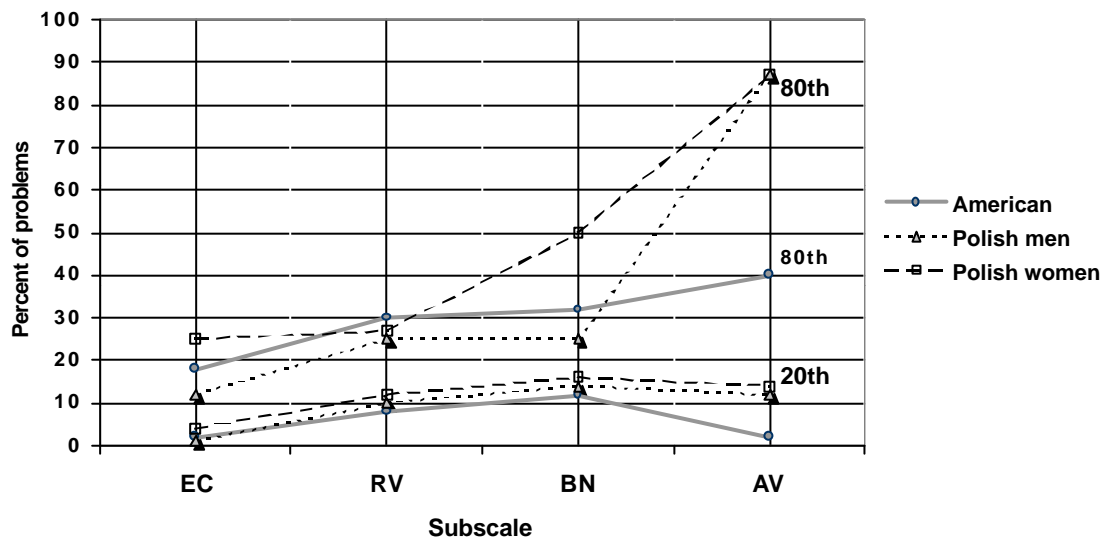


Fig. 6. The American and Polish normative data on AAPHAB for elderly people

## GENERAL CONCLUSIONS

The research of AAPHAB method resulted in the following conclusions:

1. The normative data for English (American) language are not appropriate for Polish language for BN and AV subscales for elderly people and AV for young people.
2. The Polish version of the AAPHAB result in two separate standards for women and men.

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