

The TPARTI: A Brief Assessment for Hearing-Related Responsivity Barriers to Group Treatment

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Abstract: The TPARTI was designed to quickly and cheaply assess the hearing ability of sex offenders entering group treatment at a specialist treatment facility for men who have sexually offended against children. Despite hearing loss being common in prison populations and hearing ability being vital for success in treatment groups, the assessment of hearing is not common practice in considering suitability for such groups. The assessment requires groups of up to ten men to write down word lists played at approximately 60 dB in a treatment group room, thus testing their hearing in a naturalistic setting. 150 offenders were assessed, producing a mean score of 84% correct, and a distribution resembling half a normal curve. Subjects scoring 70% or lower were further assessed. After low scores due to literacy issues were eliminated, the remaining subjects were provided with low-cost assistive devices to enable them to function in their treatment groups.

Keywords: hearing, responsivity, group treatment, sexual offending

Introduction

Group therapy has long been regarded as the preferred treatment for sex offenders, for many reasons, including efficiency, the ability to practice new behaviors in a social context and the possibility of receiving feedback from others with shared experiences, among others. Most of the curative factors in group therapy are thus based in verbal communication between group members, and the ability to communicate effectively is crucial to success in the treatment group. Although it is obvious that group members must be able to hear what is being said in the group for this to work, an assessment of auditory responsivity is not typically part of pre-group assessment.

Although most prison systems appear to have a policy of providing audiological testing, such assessments are expensive and difficult to arrange, and the standard practice in most jurisdictions appears to be that this testing is only provided upon request, not as a standard assessment. Even then, it has been reported that this assessment can consist of nothing more than observation of the ear canal with no further assessment (Dahl, 1994). In practice, this tends to result in only those offenders who are severely and obviously impaired being identified and assessed. Unfortunately, partial hearing impairment is not readily identified, and many persons with such impairment do not

readily disclose it, if indeed they were aware of it themselves. However, partial hearing impairment is widespread, with reported prevalence rates in Britain of roughly 16% of the population having at least a mild impairment of >25 dBHL loss (Davis, 1989). Similar results were found in an Australian sample, with 17% having a loss of more than 25 dBHL in the better ear, and 7% having a loss of more than 35 dBHL, the level at which the user would typically benefit from wearing a hearing aid (Wilson et al., 1999). Furthermore, these estimates appear to be considerably higher in prison settings. According to the American Speech and Hearing Association, at least 10 to 15% of prison inmates have hearing loss to the degree that would constitute a major communication handicap (Jensema & Friedman, 1988). Other studies estimated the prevalence of hearing impairment in prison populations to be as high as 36 to 48% (Belenchia & Crowe, 1983). Interestingly, sex offenders seem to be particularly overrepresented in these statistics, although this is mostly drawn from studies of the profoundly deaf (Vernon & Greenberg, 1999).

The Te Piriti Auditory Responsivity Test Inventory (TPARTI) was created in early 2006 in response to an identified need to quickly and cheaply assess the hearing of sex offenders entering group treatment at a specialist treatment facility operated by the New Zealand Department of Corrections for men who have sexually offended against children. The majority of the treatment provided is in a group format, and some offenders had progressed significantly through the program before reporting difficulties hearing in the group. Such men would frequently be described as prone to not listening in group, being reluctant to accept feedback or appearing detached or disinterested. Although these are certainly common behaviors in treatment groups, they take on a different significance if it turns out that the offender is hearing impaired. The TPARTI, then, was created to screen offenders for unreported hearing loss, to provide a baseline assessment of ability in case of later reported difficulties in group, and to assess whether any assistive devices provided actually helped.

An initial literature review was conducted, and there appeared to be no assessment available that could assess auditory responsivity in a group setting. Auditory assessment is the province of audiologists, who use an individual assessment consisting of pure tones across a range of frequencies and volumes, along with two types of spoken word lists at a range of volumes. The first type of word list is used for Speech Recognition Threshold Testing (SRT), and consists of two-syllable words (e.g., cowboy) at low volumes. The second is used for Speech Discrimination (SD) testing, where lists of single-syllable phonetically balanced (PB) words are read at a comfortable volume, usually about 40 dB over the SRT for the individual (Bauman, 2005). The complete package is an excellent assessment and produces a full profile of hearing ability. However, it is also expensive and time consuming and requires specialized

training and sophisticated equipment. In addition, such an assessment is overkill if all one wants to know is whether someone can hear well enough to function in a group setting.

Since the TPARTI was designed only to assess responsivity barriers to group treatment, spoken-word comprehension was considered more relevant than pure-tone or speech detection, and comprehension at normal speech volume was considered more important than comprehension at an individually comfortable volume. Various spoken word lists were considered for this purpose, and the Northwestern University Test No. 6 (NU-6), consisting of 200 consonant-nucleus-consonant [CNC] words, was chosen on the basis that the list could be found in published sources (Thomson, 2002). Thomson (2002) had checked the list to ensure that it represented words actually in use in her area through comparison with local newspapers. That procedure was followed for the TPARTI, resulting in a list consisting of 30 of the original NU-6 words along with ten additional CNC words commonly used in the New Zealand Herald. This was divided into two 20-word lists.

These two-word lists were recorded onto digital videotape by a male intern with a New Zealand accent. He was asked to speak clearly, at a normal volume. The recordings were then transferred to VHS tape. The tape contained the two lists both as an audio-only track and with the speaker's face visible. During an assessment, subjects are seated in groups of five along the back wall of a normal group room. The audio track of the tape is played on a VCR connected to a TV sitting against the front wall of the room. The sound level is set to 60 dB at the far side of the room using a readily available Digital Sound Level Meter. Subjects are provided with a response form and asked to write down the words as they hear them. The scoring consists of adding the number of words that appear to have been heard correctly. Incorrectly spelled but identifiable words are counted as correct.

Two standardization samples were used. The first consisted of six staff members. Their individual item scores were checked, and only one word (south) was misheard by more than two people. Four people heard this word wrong, but the two correct were younger, so it was felt that this word would be left in the assessment to assist discrimination. The second sample consisted of 66 offenders. Their individual items were also checked, and the number of times a word was misheard ranged from 2 to 13 times on list one (n=38) with a mean of 5.4 and 0 to 14 on list two (n=25), with a mean of 4.4. The worst performing word on list one, "said," was misheard by 37% of the sample, whereas the worst on list two, "fall," was misheard by 56% of subjects. A T test comparison was made between list one and list two, and it was found that there was no significant difference between responses to the two lists.

Results

The scores of the first 150 offenders assessed using the TPARTI ranged from 0% correct to 100% correct, with a mean of 84%. The frequency distribution of the scores is presented in Figure 1.

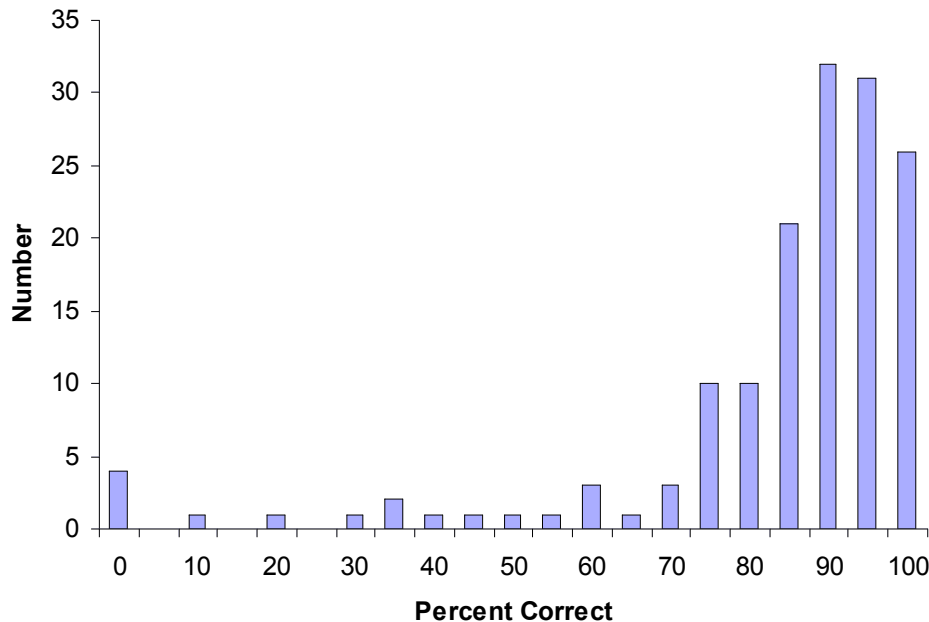


Figure 1: Frequency of Scores on the TPARTI.

The results appear to accurately discriminate normal subjects from impaired subjects. The graph appears to represent the lower half of a normal curve, which is to be expected given that the assessment is not intended to identify superior hearing.

Those subjects scoring 70% or lower (13% of the sample) were further assessed through interview and the use of the audiovisual version of the alternate list to the one with which they had been assessed. Because the assessment is based on subjects writing their responses, it serves as an excellent screen for illiteracy as well. Several of the low scores in the sample were traced to this. Those subjects were assessed individually with the examiner recording their spoken responses and demonstrated normal hearing. Some subjects were assessed as having minor hearing loss that did not cause them difficulty, while others could not hear the audio track well, but could lip-read if they could see the speaker's face. In these cases, the treating therapists were

advised of the difficulty and potential ways to assist the offender, such as ensuring that the group was aware of the need to speak clearly. The few remaining subjects were provided with low-cost assistive devices and reassessed. In most cases, they were able to elevate their scores to an acceptable level and retained the devices for use in their treatment groups.

Discussion

The main design drivers for this assessment were that it be fast, cheap, and accurate. Although it met those requirements, it cannot be described as an audiology assessment. There are several limitations that are particularly important. Firstly, the administration procedure involves everyone sitting in different places, so the actual volume perceived by the subjects varies depending on where they sit. Secondly, the assessment is set to approximately 60 dB, but the actual spoken volume varies by several dB from word to word depending on variations in the speaker's voice. Finally, the assessment was not recorded on professional equipment, and contains a noticeable hum. These alone prevent this assessment from accurately measuring hearing ability. In practice, however, these limitations result in an assessment that more closely resembles an actual group environment than a traditional individual assessment in a soundproof room would. As a result, the TPARTI has proven to be extremely valuable in identifying offenders who might have difficulty participating in a group environment.

Although hearing impairment is clearly a responsivity barrier, it has been suggested that hearing impairment may be part of the reason why these individuals became offenders in the first place (Dahl, 1994). In the case of child sex offenders, it is reasonable to assume that hearing impairments may contribute to difficulties establishing and maintaining appropriate relationships. This would suggest a need to address hearing impairments as a treatment need in addition to a responsivity barrier. Of course, such impairments would need to be identified before this could be done, which is not standard practice at present. The TPARTI offers a quick and cheap way to do this, and is far superior to relying on an impairment being noticed over the course of a group.

It must be emphasized that this procedure is not intended to substitute for a professional audiological examination. These procedures are intended as screening tools only, and the assistive devices provided as a result of the assessment are intended as affordable substitutes for offenders whose financial situation precludes their acquiring professionally fitted hearing aids. All offenders identified as having hearing impairments are strongly encouraged to obtain professional advice and assistance when their circumstances permit.

More detailed instructions and supplementary materials for replicating this assessment are available from the author. Any jurisdictions wishing to use the TPARTI would be advised to record a version using their own staff accents.

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References

Bauman, N (2005). Help, I've Memorized the Word List!— Understanding Hearing Loss Speech Testing. <http://www.hearinglosshelp.com/articles/wordlists.htm>

Belenchia, T.A. & Crowe, T.A. (1983). Prevalence of speech and hearing disorders in a state penitentiary population. *Journal of Communication Disorders*, 16, 279-295.

Dahl, M (1994). Under-identification of hearing loss in the Canadian federal inmate population. *Correctional Service of Canada Forum on Corrections Research*, 6,2.

Davis, A.C (1989). The prevalence of hearing impairment and reported hearing disability among adults in Great Britain. *International Journal of Epidemiology*, 18, 911-917.

Jensema, C. K., & Friedman, R. W. (1988). Criminal justice and the deaf, part II. *The Voice*, 4, 19–22. cited in Vernon and Greenberg, (1999).

Thomson, S (2002). Comparison of Word Familiarity: Conversational Words v. NU-6 list Words. http://www.audiologyonline.com/articles/arc_disp.asp?article_id=350

Vernon, M. & Greenberg, S.F. (1999). Violence in deaf and hard-of-hearing people: A review of the literature. *Aggression and Violent Behaviour*, 4, 259-272.

Wilson, D.H., Walsh, P.G., Sanchez, L., Davis, A.C., Taylor, A.W., Tucker, G. & Meagher, I. (1999). The epidemiology of hearing impairment in an Australian adult population. *International Journal of Epidemiology*, 28, 247-252.