

## ***Effects of Interpersonal Psychotherapy on Self-Assessed Performance of Hearing Aids Usage amongst Students with Hearing Impairment in Jos, Nigeria***

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### **Abstract**

*This study was aimed at examining the extent to which Interpersonal Psychotherapy (IPT) can change low/negative Self-Assessed Performance (SAP) of Students with Hearing Impairment (SWHI). One research question and one hypothesis were raised to guide the study. The study adopted true experimental design type of Pretest-Posttest Control Group Design. 20 SWHI were shared into experimental and control groups, with each having 10 subjects. IPT was the treatment. The Instrument for data collection at pre and post-tests was "Amount of Daily Hearing Aids Usage Scale." Simple frequency count, mean score, percentage and bar charts were used to answer the research question, while Analysis of Covariance was used to test the hypothesis at 0.05 level of significance. Results revealed that, after treatment, the experimental group showed a high extent of positive SAP of hearing aids usage. It is recommended, among others, that Educational Audiologists and Psychotherapists should carryout massive enlightenment campaigns that IPT improves SAP of hearing aids usage of SWHI.*

**Keywords:** interpersonal, psychotherapy, self-assessed, performance, hearing, impairment

### **Introduction**

Self-assessed performance is an individualized evaluation on benefits of hearing aids usage done or completed by a student with hearing impairment. Otana (2018) affirmed that self-assessed performance is a personal opinion poll with items in a questionnaire meant to determine personal hearing aids usage. This self-assessed performance instrument (questionnaire) takes a quick assessment of hearing, hearing aids usage, benefits of hearing aids usage and so on; by answering questions, then scheduling an appointment for a professional hearing assessment based on the self-assessed performance. In other words, self-assessed performance is the self-valuation and appraisal of hearing; used for screening, diagnostic audiology, rehabilitation evaluation, planning of therapy, referral and post hearing aid fitting satisfaction ratings (Jurmang, Jatau & Jikukka, 2012). Oyedele (2011) opined that self-assessed

performance is seen by way of assessing then judging and testifying the assistance a student with hearing impairment derives from hearing aids usage, and it helps a clinician to ascertain the progression or retrogression of an audiology strategy, rehabilitation therapy or counselling approach.

Self-assessed Performance of hearing aids usage is often used for screening, diagnoses and rehabilitative audiology. Otana (2018) emphasized that self-assessment in audiology often discusses a kind of questionnaire adapted from American Academy of Otolaryngology, from self-assessment tool and instrument that address the disabilities and handicaps associated with auditory impairments, used in audiology practice. Otana furthermore stressed that self-assessed performance instrument on hearing aids usage is usually given to students or clients to make a quick assessment of their own hearing, hearing aids usage, hearing aids needs and the like; by answering simple questions on the instrument (questionnaire), then scheduling an appointment for a professional hearing assessment or audiological assessment. Jikukka (2020) highlighted that self-assessed performance of students with hearing impairment towards hearing aids is enjoying an unprecedented emphasis in the USA. Many audiologists are discovering the usefulness of this approach and incorporating its procedures in their routine in screening, diagnoses and rehabilitative audiology. Jikukka further gave uses of hearing self-assessed performance as follows: to identify those with auditory/language processing disorders (screening); to identify appropriate hearing aid candidates (diagnostic); and as part of an extensive rehabilitation evaluation in the planning of therapy, post-treatment assessment, and post hearing aid fitting satisfaction ratings (rehabilitation).

Jurmang, Jikukka and Elemukan (2014) and Jabbe (2019) said that counselling plan such as Interpersonal Psychotherapy (IPT) is a psychoanalytic procedure for rehabilitating students with hearing impairment (SWHI) who have low or negative self-assessed performance of hearing aids usage. Weisman, Markowitz and Klerman (2007) stressed that IPT is a treatment on psychological symptoms such as depressed mood and even hate for materials like hearing aids. IPT, in this work, is a specially designed ten weeks counselling and therapy programme intended to counsel, give therapy and very importantly, equip SWHI during psychoanalysis and when carrying out self-assessment of hearing aids usage. Goldin, Ziv, Jazaieri, Hahn and Heimberg (2013) and Weisman (2006) averred that IPT is a relational interactive communication; in this case, the face-to-face or one-to-one communication precedes the mass communication which is embodied with counselling, pleas, encouragement, pieces of advice and persuasion, geared towards attitude change. In this work, IPT is a treatment and therapy programme for counselling and rehabilitating students with attitude of disuse or under-use of hearing aids. JRank Articles (n.d.) said that the cognitive aspects

of attitude, especially where it has to do with self-assessed performances are generally measured by surveys, interviews, and other reporting methods.

Taylor (2002) said that each counselling situation, as in IPT, is a “process,” made up of stages or steps developed to be followed until the relationship between the counsellor and the client is developed and served the purpose. Jikukka (2020) advocated that a questionnaire approach can be used to investigate issues such as self-assessed performance of hearing aids usage and, to some extent, identify the factors that are likely to diminish acceptance and effective and enjoyable use of the hearing aids, and also pave way for a carefully planned counselling/therapy that can best be commenced, preferably before and after the hearing aid is fitted.

Hearing aids are electro auditory pieces of equipment usually fitted behind the users’ ears, on bodies or as cochlear implant. Others are in the ear, in the canal and so on. In each case, it serves as a sound-amplifying device. Jikukka (2012) found that 80% of SWHI that were fitted with hearing aids, disused or under-used those aids in less than four months, for reasons based on lack of interest, shame, fear of stigmatization and so on. These students also face psychological problems, disagreement with self and low or negative self-assessed performance. The focus of IPT approach is to encourage the use of hearing aids; that is why this researcher investigated effects of IPT on self-assessed performance of hearing aids usage amongst SWHI in Jos metropolis, Nigeria.

SWHI who have low or negative self-assessed performance of hearing aids usage experience so many developmental problems. Ajala and Emmanuel (2014), and Mallubu (2004) avowed that SWHI go through public conflicts and stigmatization, leading to emotional and psychological trauma or problems. They often experience embarrassment, nervousness, shame and loneliness. The problem here is that the negative or low self-assessed performance of hearing aids usage simply affects the students socially, psychologically, academically and in general development; it prevents students from living normal lives in society. Another problem is whether IPT can be used to change self-assessed performance of hearing aids usage of SWHI. The specific objective of this study is to examine the extent to which IPT can be used to enhance self-assessed performance in hearing aids usage amongst SWHI.

### **Research Question**

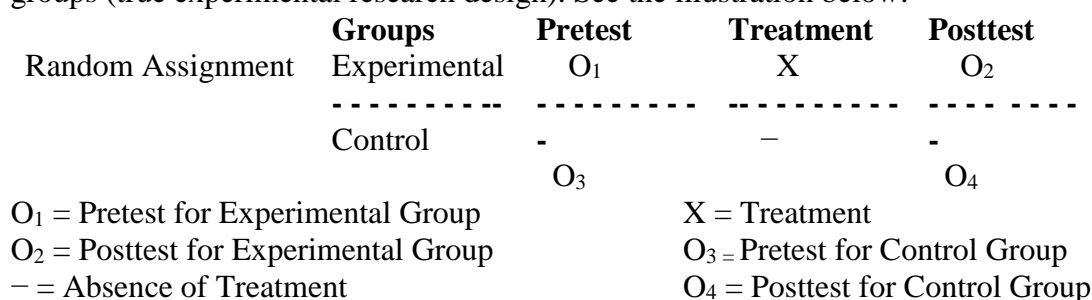
1) What is the extent of self-assessed performance in hearing aids usage amongst SWHI before and after exposure to IPT?

### **Hypothesis**

**Ho1:** There is no significant mean scores difference between SWHI in Experimental and Control groups on self-assessed performance in hearing aid usage before and after treatment.

### **Methodology**

This research was an experimental research. The pretest-posttest control group design was used. There was random assignment of samples into experimental and control groups (true experimental research design). See the illustration below:



The reason for using pretest–posttest design was that it helped evaluate the gain scores of the Experimental and Control groups. The overall population of students with hearing impairment in the school under investigation was 474, while the target population in this study area was the 46 students in Senior Secondary School I. Twenty (20) subjects with low (negative) self-assessed performance of hearing aids usage were gotten from this target population which formed the sample size. Ten (10) subjects were assigned to each of the two groups before the treatment.

The instrument used for data collection was Amount of Daily Hearing Aids Usage Scale (ADHAUS). The researcher designed and developed ADHAUS; this was divided into Sections A and B. The tool was validated by two experts in the fields of Research and Evaluation (Test and Measurement), and Special Education and Rehabilitation Sciences, University of Jos. Section A. was made up of the Bio-data of the respondents and Section B was made up of ten (10) items. Items in section B sought to collect the self-assessed performance of the respondents towards hearing aids usage. This self-assessed performance was confined to the relationship between pre-fitting self-assessed performance and post-fitting self-assessed performance. Respondents were asked to tick items from the options that best communicate their minds. ADHAUS is a five points Likert Scale rated: Strongly Agreed (SA: 5 points), Agreed (A: 4 points), Undecided (U: 3 points), Disagreed (D: 2 points) and Strongly Disagreed (SD: 1 point); but when the item is in negative form: SA: 1 point, A: 2 points, U: 3 points, D: 4 points and SD: 5 points. The validity of ADHAUS was obtained using

Kendal Tau statistics, while the reliability was obtained using Cronbach's Alpha ( $\alpha$ ) Coefficient; their indexes were 0.888 and 0.89 respectively.

The data collected from the field was analysed using both descriptive and inferential statistics. The bio-data (Section A), was presented using the simple percentage, while Section B was analysed using simple mean, and tabled to x-ray frequencies. This brings to bear the methods used in analysing the data and testing the hypotheses. In testing the hypothesis raised, the Analysis of Covariance (ANCOVA) was used to test the hypothesis at 0.05 level of significance. Ezeanochie (2015) alleged that the analysis of variance is an effective way of determining the means of one or two independent samples which are drawn from populations having the same mean.

$$H_0: \mu_1 = \mu_n; \quad \text{Where } n = 1, 2, 3 \dots$$

While screening for sample, the Otoscope helped in determining that only students with clean auditory canal are picked as samples, for proper hearing aids functioning. The Audiometer helped in ensuring that only those with moderate and severe (41 dB – 90 dB) hearing losses form the sample. Hearing aids were fitted on each sample before the pretest.

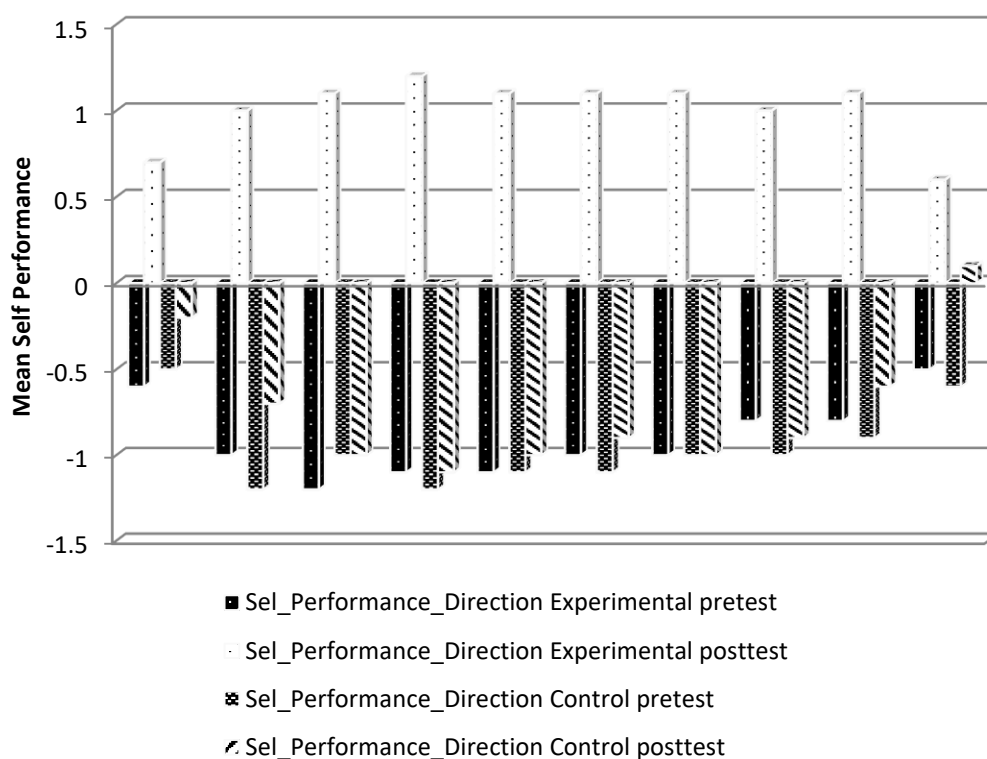
Both the experimental and control groups were subjected to pretest and posttest on Amount of Daily Hearing Aids Usage Scale (ADHAUS) to collect the respondents' responses (data) before the experimental group was exposed to treatment. The IPT programme was both counselling and rehabilitation treatment package: 80% and 20% of the sessions were individualized and group counselling sessions respectively. Those in the control group were also given hearing aids, but not exposed to IPT -treatment. After the ninth week and precisely in the tenth week of the whole exercise, posttest on ADHAUS was administered to both the experimental and control groups.

## **Presentation of results**

**Research Question One:** What is the extent of self-assessed performance in hearing aids usage amongst SWHI before and after exposure to IPT?

**Table 1:** Extent of Self-Assessed Performance in Hearing Aids Usage amongst SWHI before and after Exposure to IPT

Test	Self-Assessed Performance Experimental Group			Self-Assessed Performance Control Group		Total
	Negative	Positive	Total	Negative	Positive	
Pretest	10 (100)	0(0.00)	10 (100)	10 (100)	0(0.00)	10 (100)
Posttest	0(0.00)	10 (100)	10 (100)	9 (90.00)	1(10.00)	10 (100)



**Figure 1:** Bar Chart showing the extent of Self-Assessed Performance of SWHI on hearing aids usage before and after exposure to IPT.

Table 1 and Figure 1 revealed that both experimental and control groups had 100% high extent of negative (low) Self-Assessed Performance of hearing aids, before IPT.

But after IPT, all the students in experimental group had 100.00% high extent of positive self-assessed performance of hearing aids usage; while, majority of the SWHI in control group had 90.00% high extent of negative self-assessed performance of hearing aids usage.

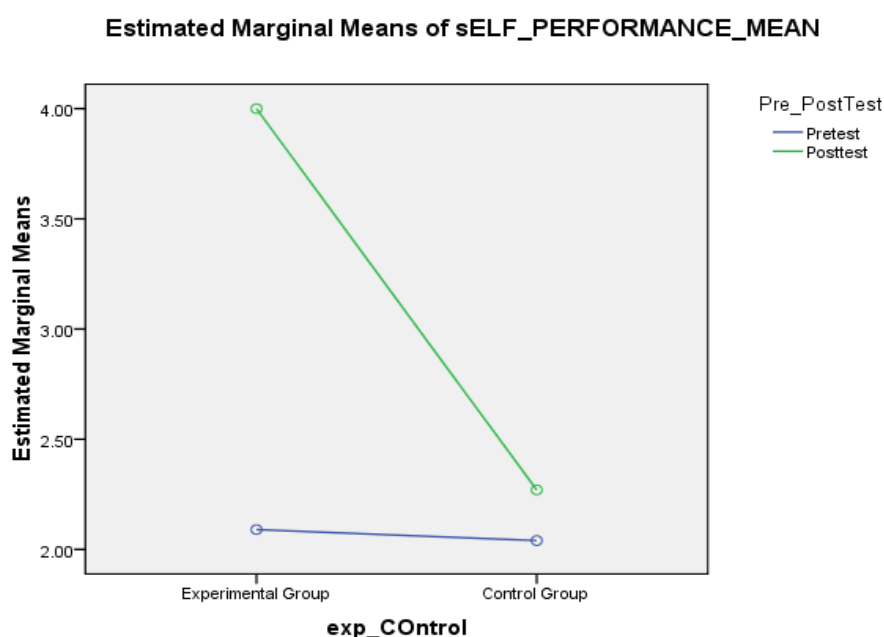
**Ho1:** There is no significant mean scores difference between SWHI in Experimental and Control groups on self-assessed performance in hearing aids usage before and after treatment.

**Table 2:** ANCOVA Analysis of Self-Assessed Performance Mean Scores Difference between SWHI in Experimental and Control Groups Before and After Intervention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	26.426 <sup>a</sup>	3	8.809	116.843	.000	.907
Intercept	270.400	1	270.400	3586.735	.000	.990
Exp_Control	7.921	1	7.921	105.069	.000	.745
Pre_PostTest	11.449	1	11.449	151.866	.000	.808
Exp_Control * Pre_PostTest	7.056	1	7.056	93.595	.000	.722
Error	2.714	36	.075			
Total	299.540	40				
Corrected Total	29.140	39				

a. R Squared = .907 (Adjusted R Squared = .899)

Table 2 showed that a significant ANCOVA reflected that difference existed between experimental and control groups, with calculated F-value of 105.069 and p-value of 0.000. Since the p-value was less than 0.05, therefore there was a significant effect of IPT on the Experimental group posttest mean scores. The null hypothesis was rejected and alternative hypothesis accepted.



**Figure 2:** Line Graph showing Self-Assessed Performance of Hearing Aids amongst SWHI

Figure 2 showed that at pretest, both experimental and control groups had estimated marginal means of 2.10 and 2.00 respectively, but after intervention, the experimental and control groups had estimated marginal means of 4.00 and 2.30 respectively.

**Table 3:** Adjusted Mean of Self-Assessed Performance amongst SWHI

<b>Group</b>	<b>Adjusted Mean</b>
Experimental Group	31.25
Control Group	21.38

Table 3 showed the adjusted mean of self-assessed performance of hearing aids usage amongst students. Experimental group had 31.25 adjusted mean, while control group had 21.38. These indicate that there was a significant adjusted mean difference of self-assessed performance of hearing aids usage of SWHI between experimental and control groups after exposure to IPT. This means the treatment was effective in improving the self-assessed performance of hearing aids usage.



## **Discussion of findings**

Result of Research Question One in Table 1 revealed the Self-Assessed Performance of hearing aids usage of students in experimental and control groups; before intervention, both had negative (low) Self-Assessed Performance towards hearing aids usage. After intervention, most of the students in control group still had negative (low) Self-Assessed Performance of hearing aids usage, while majority of those in experimental group showed a high extent of positive self-assessed performance of hearing aids usage. Results from hypothesis One in Table 2 showed that a significant ANCOVA difference existed between experimental and control groups. The treatment was effective in improving the self-assessed performance of hearing aids usage of SWHI. This finding confirmed the assertion by Otana (2018) that self-assessed performance of hearing aids usage provides information on what to counsel SWHI more precisely on, as to their prognosis for successful hearing aids usage. Self-assessed performance of hearing aids usage makes it possible to track any improvement, before and after hearing aid fitting or rehabilitation. Otana further asserted that self-assessed performance of hearing aids usage has a potential for providing assistance during treatment, counselling and managing students with hearing aids and in measuring the success of the rehabilitation efforts.

## **Conclusion**

The findings revealed that Interpersonal Psychotherapy (IPT) have helped to change the Self-Assessed Performance of hearing aids usage of students with hearing impairment, positively and highly. The treatment was effective in improving the self-assessed performance of hearing aids usage of SWHI.

## **Recommendations**

- i. Professionals such as Educational Audiologists and Psychologists should carry out a massive campaign on the fact that students with hearing impairment who have low or negative self-assessed performance responses on hearing aids usage can be changed or improved significantly through Interpersonal Psychotherapy (treatment). This massive campaign would educate, inform and enlighten parents, teachers, communities and stakeholders at large.
- ii. Teachers and parents of students with hearing impairment should adequately be given information on Interpersonal Psychotherapy, self-assessed performance of hearing aids usage and the effects of IPT on self-assessed performance on hearing aids usage, so that these teachers and parents can help these students with hearing impairment with negative or low self-assessed performance of hearing aids usage to overcome their psychological, social and mental problems of life. It will help these students live a meaningful and purposeful life in the society.

## References

- Ajala, E. M. & Emmanuel, T. O. (2014). Emotional intelligence, job satisfaction and perceived workers' productivity in selected workplace organizations: empirical evidence from Nigeria. *Jos Journal of Social Issues*, 7(1), 91 – 112.
- Ezeanochie, B. C. (2015). *Effects of comprehension habits instruction on struggling readers' acquisition of literacy and entrepreneurial skills in secondary schools in Jos, Nigeria*. An unpublished PhD thesis, University of Jos, Nigeria.
- Goldin, P. R., Ziv, M., Jazaieri, H., Hahn, K. & Heimberg, R. (2013). Impact of cognitive-behavioural therapy for social anxiety disorder on the neural dynamics of cognitive reappraisal of negative Self-beliefs. *JAMA Psychiatry*, 70(10), 56 -70.
- Jikukka, J. L. (2012). *Effects of hearing aids on performance of students with hard of hearing in mathematics in Plateau State School for the Deaf, Bassa*. Unpublished M. Ed. Thesis, University of Jos.
- Jikukka, J. L. (2020). *Effects of Interpersonal Psychotherapy on Attitude towards the use of Hearing Aids amongst students with hearing impairment in Jos, Nigeria*. An unpublished PhD thesis, University of Jos, Nigeria.
- JRank Articles (n.d.). *Attitudes and attitude change - information processing theory, social perception and people*. Retrieved March 4, 2018 from <http://psychology.jrank.org/pages/53/Attitudes-Attitude-Change.html#ixzz4Ko9hEaWK>.
- Jabbe, J. A. (2019). *Career choice and counselling in secondary schools*. Jos: Eriba Publishing Company.
- Jurmang, I. J., Jatau, N. M. & Jikukka, J. L. (2012). *Inclusive education in Nigeria: The Jos Otana model*. Jos: Otana Hearing and Edu-Health Services.
- Jurmang, I. J., Jikukka, L. J. & Elemukan, I. S. (2014). Hushed factors causing hard-of-hearing in Jos conurbation. *Jos Journal of Social Issues*, 7(1), 263 – 279.
- Mallubu, B. E. (2004). *Monograph on introduction to audiology II*. Department of Special Education, University of Jos.
- Otana, A. O. (2018). Self-assessed Performance and self-satisfaction in audiology. An oral discussion on pertinent issues on investigations in audiology (28th July).
- Oyedele, S. O. (2011). *Principles and practices of pastoral care and counselling*. Ogbomosho: Samak Press and Publishers.
- Taylor, H. (2002). *Tend my sheep*. London: The Society for Promoting Christian Knowledge.
- Weisman, M. M. (2006). A brief history of interpersonal psychotherapy. *Psychiatric Annals*, 36(8), 13-17. Retrieved on the 27<sup>th</sup> August, 2013 from [www.researchgate.net/profile/Myrna](http://www.researchgate.net/profile/Myrna).
- Weisman, M. M., Markowitz, J. C. & Klerman, G. L. (2007). *Clinicians' Quick guide to interpersonal psychotherapy*. New York: Oxford University press.