

Correlation between self-efficacy and audiologic appointment scheduling in hearing aid and tinnitus patients



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Background



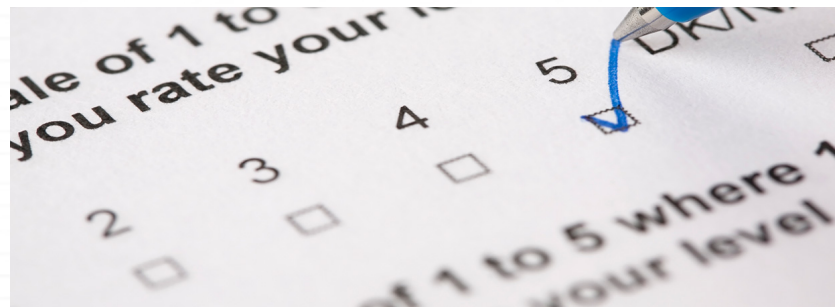
- ✦ Hearing loss is an important problem to be addressed
- ✦ The National Health Survey showed that only 1.1-3.3% of those who had at least moderate hearing loss adopted hearing aids (MOH, 2011)
- ✦ Poor benefit, unmet expectations, cost, technical difficulties, maintenance cost, **poor self-efficacy** and source of motivation (Kochkin, 2005)
- ✦ Low hearing aid self-efficacy as key reason for non-use of hearing aids (West & Smith, 2007)

Self-efficacy



Self-efficacy questionnaires

- ✦ **MARS-HA** (Measure of Audiologic Rehabilitation Self-efficacy for Hearing Aids)
- ✦ **SMRT** (Self-Efficacy for Managing Reactions to Tinnitus)



Specific aims of the study



1. Study the correlation between self-efficacy scores for hearing aids (MARS-HA) and tinnitus (SMRT) and the behavior of scheduling an HAE and/or TM appointment
2. Identify factors influencing the decision to schedule an audiologic appointment

Hypothesis

- ✦ Individuals with higher hearing aid/tinnitus mean self-efficacy scores in MARS-HA/SMRT would have a higher likelihood of scheduling appointments for HAE/tinnitus management.



Significance of the study



- ✦ Determining whether a relationship exists between **self-efficacy** and **intended behavior** for hearing aids and tinnitus could have an impact on how services are delivered in clinics
- ✦ The scores from MARS-HA and SMRT questionnaires could be used as a guide in hearing rehab
- ✦ Reduce the number of no-shows
- ✦ Aid in patient centered-care



Participants and Recruitment

- ✦ NUH ENT patients referred to audiology rehabilitation triage
- ✦ 130 participants

Inclusion criteria:

- ✓ Adults aged 21 years and above
- ✓ Adults referred by physician for HAE and/or tinnitus management
- ✓ Adults who can read and understand English



NUH Triage System

Patients with hearing loss and/or tinnitus referred to Audiology triage

Complete a set of triage forms



Pre – Triage Questionnaire

Patients are provided with the necessary information (**TRIAGE SESSION**)

Schedule appointment for HAE and/or tinnitus management

Post – Triage Questionnaire

Thesis Questionnaires



Pre-Triage Questionnaire (3 parts)

✦ Part 1: Background and socioeconomic factors

(Gender, race, language, age, education level, type of housing, marital status, physical and mental health)

✦ Part 2: MARS-HA

✦ Part 3: SMRT

Post-Triage Questionnaire

✦ Decision of scheduling audiologic appointment and the factors influencing the decision

Data Collection

26th Dec 2018- 22nd Feb 2019
(~3months)

Total number of participants =130

Population 3
(Hearing Loss
& Tinnitus)

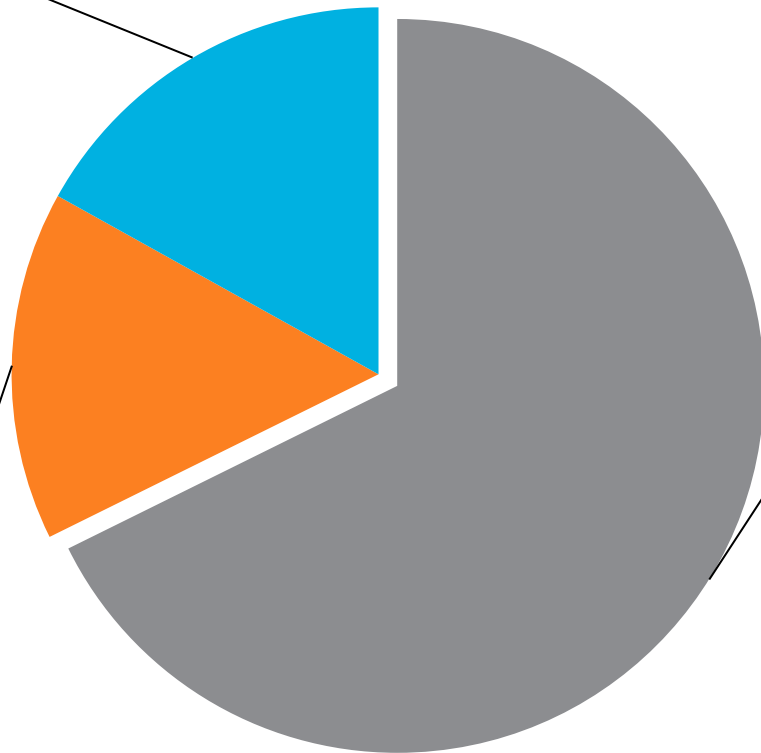
n=22
17%

Population 2
(Tinnitus)

n=20
15%

Population 1
(Hearing Loss)

n=88
68%



Statistical Analysis



- ✦ Logistic regression was performed on Population 1 to study the association between self-efficacy scores and HAE appointment scheduling
- ✦ The significance of any interactions was assessed at $P < 0.05$ significance level
- ✦ Odds and odds ratio calculated → probability of scheduling an HAE appointment was plot on scatterplot

Key Finding 1

Logistic Regression Model 1:

Both **HHIE score** and **MARS-HA** average score had statistical correlation to the behavior of scheduling an HAE appointment while accounting for age, gender and race.

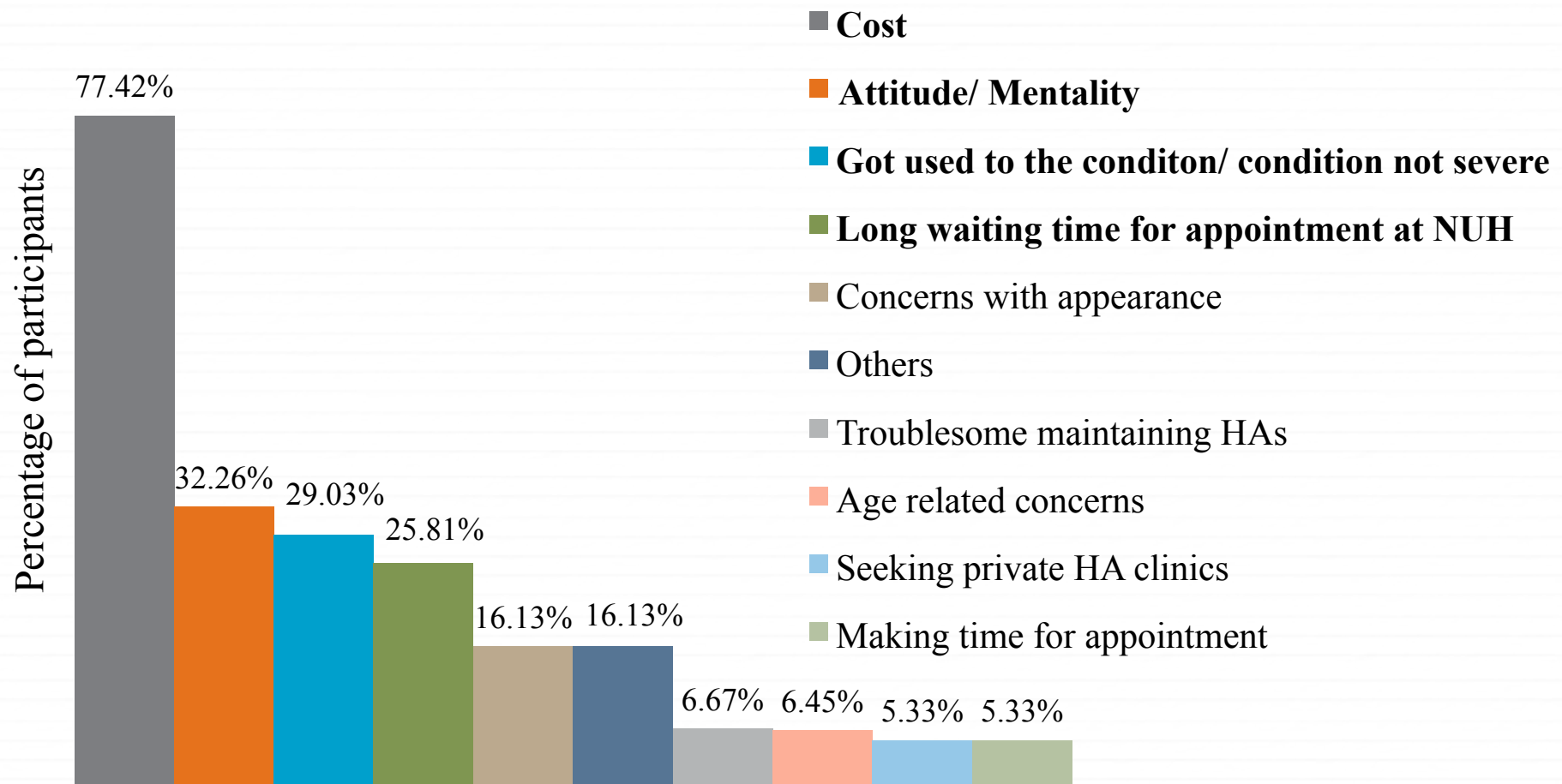
Key Finding 2

Logistic Regression Model 2:

Only **MARS-HA average score** had statistical correlation to the behavior of scheduling an HAE appointment while accounting for age, gender, race and education.

Factors influencing decision to schedule an audiological appointment

(no. of participants= 31)



Percentage of individuals who scheduled an audiologic appointment after triage session across all 3 populations

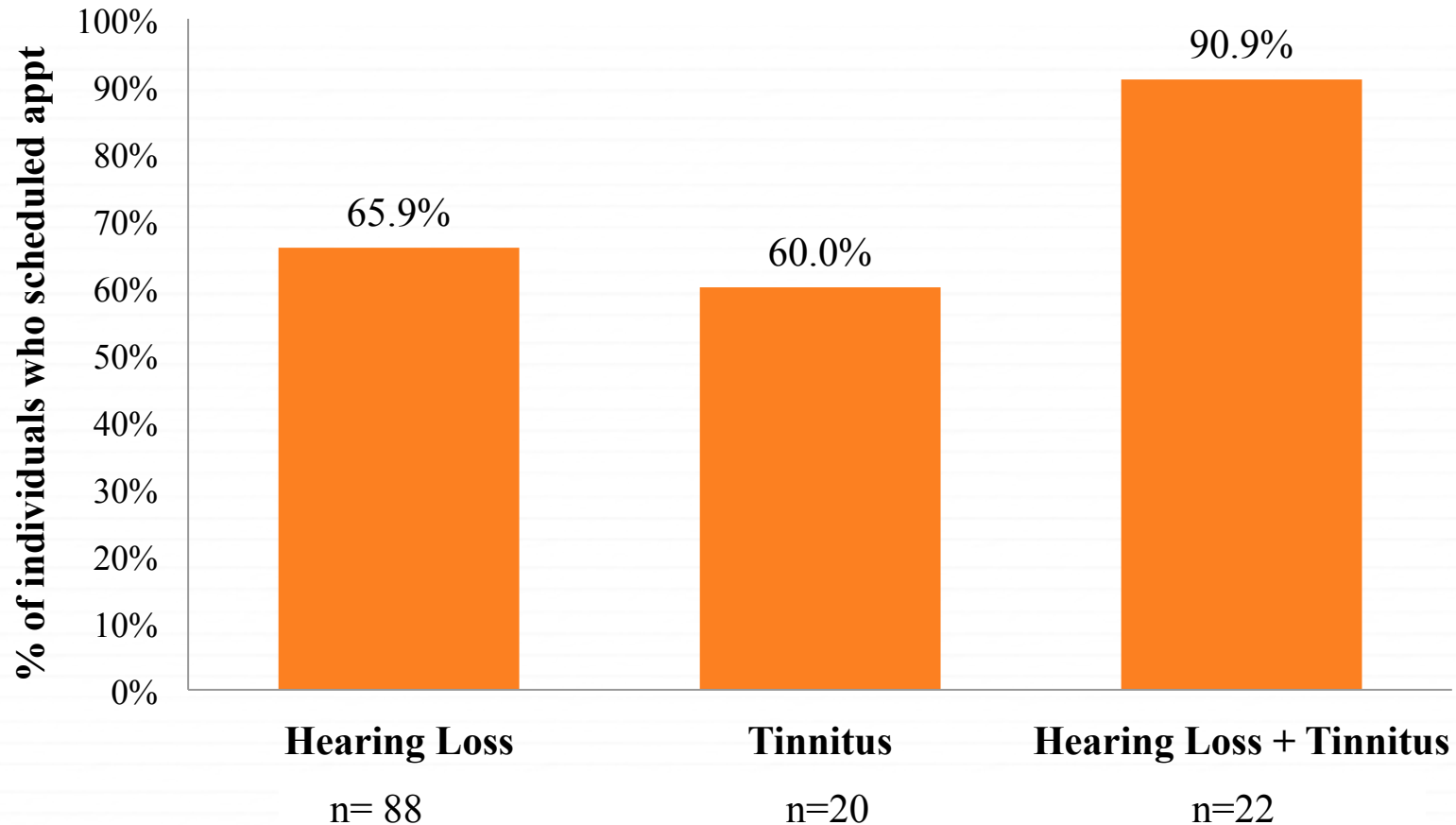


Figure 3. Percentage of individuals who scheduled an audiologic appointment across all 3 populations

Obstacles encountered

Obstacles:

- ✦ Change of triage personnel
- ✦ Possibility of insufficient time for data collection
- ✦ Challenges with statistical analysis



Resolution:

- ✦ Estimated participants based on previous research
- ✦ Obtained triage schedule to estimate number of patients per day (~123 patients per month , ~5/6 patients per day)
- ✦ Work a schedule to maximize data collection in the given time
- ✦ Familiarization with logistic regression and research on previous studies



Limitations & Future Study



- ✦ Small sample size
- ✦ Only age, education, gender and race were accounted for when performing logistic regression analysis
- ✦ Intended behavior might not be representative of actual behavior of attending the audiologic appointment
- ✦ Bigger sample size
- ✦ Account for cost (SMF subsidy), attitude/mentality and long waiting time at NUH
- ✦ Long term study
- ✦ Detailed analysis on Population 3 to identify the reason why participants scheduled an appointment



Key Findings (1)



✓ **MARS-HA** self-efficacy questionnaire scores were found to be significantly correlated to the behavior of scheduling an HAE appointment, while accounting for age, gender, race and education.

✓ **HHIE-S scores** were also found to be significantly correlated to the behavior of scheduling an HAE appointment while accounting for age, gender, race and MARS-HA scores.

Key Findings & Conclusion (2)



✓ Factors identified to influence the decision of scheduling an audiologic appointment were: (1) cost, (2) attitude/mentality, (3) severity of condition, (4) long waiting time for an audiologic appointment at NUH.

✓ The study highlights that self-efficacy plays an important role in the behavior of scheduling an audiologic appointment.

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Q&A