INTRODUCTION

Self-report questionnaires are a frequently utilized method of evaluating hearing aid outcomes. Studies have shown that personality can account for 10-30% of the variance in response to self-report measures (e.g., Gatehouse, 1994; Saunders and Cienkowski, 1996; Cox et al., 1999; Barry and Barry, 2002; Hutchinson et al., 2005; Cox et al., 2007). Personality influences are not necessarily a bad thing, as many have been shown to have positive outcomes. Studies have shown that personality can account for 10-20% of the variance in response to self-report measures (e.g., Gatehouse, 1994; Saunders and Cienkowski, 1996; Cox et al., 2005). The DOSO was developed (Cox et al., 2014). The DOSO contains six subscales related to the amplification device and its technology independent of the user’s personality. This association has been investigated by the creators of the DOSO; however, it has not been replicated by a third party. The purpose of this study was to examine the relationship between personality and the DOSO.

METHODS

Participants

- 77 adults (42 from University of Iowa; 35 from University of Washington-Seattle)
- Aged 32-79 yrs (mean = 69.1 yrs; SD = 7.3 yrs)
- 23 males and 54 females
- All wore bilateral hearing aids for at least two hrs per day (mean = 10.9 hrs; SD = 4.8 hrs)
- 100% of participants were experienced hearing aid users (use 26 mos) and wore their own hearing aids (fit at private practices, clinics, hospitals, and laboratories - NOT fit specifically for this study)
- Participants’ hearing aids represented 12 brands, at least 53 models, 4 styles (ITE, ITC, RIC, BTE), a wide range of directionality and noise reduction, and aided SII (65 dB SPL input) ranging from 26-87.

Procedure

- Each participant completed questionnaires using a pen and paper response format.
- Questionnaires were completed during a series of two-three hour sessions as part of a larger study.

RESULTS

- Correlations were calculated between each DOSO subscale and each NEO-FFI personality factor, and the coefficients are shown in Table 1 (below).

Table 1: The correlation coefficients for combined data (Iowa and Washington)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Neuroticism</th>
<th>Openness</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
<th>Extraversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>0.29**</td>
<td>0.12</td>
<td>0.14</td>
<td>0.02</td>
<td>-0.38**</td>
</tr>
<tr>
<td>% Satisfaction with Device Orientation</td>
<td>0.21</td>
<td>0.07</td>
<td>0.12</td>
<td>0.11</td>
<td>-0.21</td>
</tr>
<tr>
<td>% Satisfaction with Hearing Aid Use</td>
<td>0.20</td>
<td>0.14</td>
<td>0.13</td>
<td>0.08</td>
<td>-0.15</td>
</tr>
<tr>
<td>% Satisfaction with Hearing Aid Comfort</td>
<td>0.20</td>
<td>0.13</td>
<td>0.12</td>
<td>0.08</td>
<td>-0.15</td>
</tr>
<tr>
<td>% Satisfaction with Hearing Aid Convenience</td>
<td>0.22</td>
<td>0.10</td>
<td>0.13</td>
<td>0.07</td>
<td>-0.21</td>
</tr>
</tbody>
</table>

Figure 1: Composite audiogram for participants

Table 2: DOSO scores (developed by Cox et al., 2014)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Use</th>
<th>% Satisfaction with Device Orientation</th>
<th>% Satisfaction with Hearing Aid Use</th>
<th>% Satisfaction with Hearing Aid Comfort</th>
<th>% Satisfaction with Hearing Aid Convenience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coch et al. (2009)</td>
<td>55.0</td>
<td>75.0</td>
<td>70.0</td>
<td>65.0</td>
<td>70.0</td>
</tr>
<tr>
<td>Present Study</td>
<td>50.0</td>
<td>70.0</td>
<td>65.0</td>
<td>60.0</td>
<td>65.0</td>
</tr>
</tbody>
</table>

Figure 3: These data suggest that all of the subscales, with the exception of Use, are significantly related to personality. It is important to note that the Positive and Negative Affect Schedule (PANAS) was used to collect the self-report measures. The data bars represent the highest percent variance explained across all personality traits measured.

Figure 4: The extent to which personality can explain the variance in outcomes in this study was compared to those found in Cox et al. (2007). The NEO-FFI was used to collect personality data. The data bars represent the highest percent variance explained across all personality traits measured.

DISCUSSION

- We examined the relationship between personality and the six DOSO subscales, seeking to replicate previous study outcomes and understand the effects surrounding the DOSO.
- Results indicated that the DOSO is more related to personality than previously thought. Specifically, data suggest that all of the subscales, with the exception of Use, are significantly related to personality.
- We also examined the relationship between personality and three additional questionnaires, seeking to replicate previous study outcomes.
- Results corroborate previous findings that some aspects of other personality scores are related to personality, and that a certain amount of variance can be explained by this.
- Questionnaires differ in their strength of their link to personality, and some subscales within each questionnaire are more closely linked to personality than others.
- The results of the Cox et al. (2007) study were not replicated. There are several potential explanations for this:
  - Different study populations: however, the results of the other questionnaires were similar to Cox et al. (2007)
  - Different personality scales: NEO-FFI (Cox et al., 2009) vs. PANAS (Cox et al., 2009)
  - Because similar results were obtained for the other three questionnaires, the DOSO results are probably not due to different study populations. It is likely that the use of different personality questionnaires has a bigger role in these equivocal findings.

CONCLUSIONS

- The DOSO is affected by personality.
- The degree by which personality affects the DOSO is similar to other hearing aid outcome questionnaires.
- When interpreting DOSO data, researchers and clinicians should not assume that the results are personality-free.

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REFERENCES