iJam, iListen, iHear: iPod Use and Hearing Among College Students


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Background

• Personal Listening Devices (PLDs) have increased in popularity in recent years.
• There is a lack of agreement on the effects of PLDs on hearing.
• Evidence suggests that using PLDs long-term can increase the likelihood of developing noise-induced hearing loss.1
• Some PLD users experienced temporary threshold shifts in hearing following short periods of noise exposure.2
• However, college students who were exposed to PLDs and other recreational noise were found to have normal hearing thresholds and believed to be at low risk of hearing loss.3
• Danhauer et al. (2009) surveyed college students from Division I schools and found that only a small portion engaged in behaviors considered as risk factors for developing hearing loss.4
• The purpose of this study was to investigate the knowledge, opinions, and behaviors of college students with respect to iPods and hearing, and to compare responses with the Danhauer et al. study.

Research Questions

1. Do college students engage in iPod listening behaviors that put them at potential risk for developing hearing loss?
2. Are there demographic differences in iPod knowledge and use among students?
3. Are students in communication-related majors more knowledgeable about hearing health and iPods than students in non-communication-related majors?
4. Are the responses of Bloomsburg University students comparable with Division I students from Danhauer et al. (2009)?

Methods

• 459 Bloomburg University students (147 males, 312 females)
• Completed 27-item survey adapted from the Personal Listening Device and Hearing Questionnaire by Danhauer et al. (2009).
• Survey was divided into four sections:
  1. Demographic information
  2. Practices, knowledge, and opinions about iPods
  3. Symptoms of potential hearing loss
  4. iPod listening behaviors
• Two scales were used: a 6-point rating scale ranging from (1 = never to 6 = always) and a 6-point Likert scale ranging from (1 = strongly disagree to 6 = strongly agree).
• Surveys were administered during classes in general education courses and collected immediately after completion.
• Incentives for participation included a lottery to win gift certificates and extra credit in select courses.
• Data were analyzed using chi-square tests.

Results

1. Do college students engage in iPod listening behaviors that put them at potential risk for developing hearing loss?
   - 4.5% of participants reported listening for more than 4 hours.
   - Only a very small portion (less than 2%) reported listening for more than 4 hours.

2. Are there demographic differences in iPod knowledge and use among students?
   - Male participants and nonwhite participants indicated setting iPods at higher volumes (75 to 100% of maximum volume level).
   - More than 34% of participants reported listening with earbud-style headphones. A previous study found that users were most likely to listen at higher volume levels with this headphone style than others.
   - Nearly half of participants indicated that they were surprised from the volume setting of their previous use and over 70% reported that their volume level was affected by their mood.
   - Over 90% of participants indicated turning up their iPod volume when in noisy backgrounds, consistent with previous findings.
   - Results suggest that few participants are at high risk for developing noise-induced hearing loss based on iPod use.
   - Users who listen in noisy backgrounds and who use earbud-style headphones may be more in need of education about hearing loss.

3. Are students in communication-related majors more knowledgeable about hearing health and iPods than students in non-communication-related majors?
   - Students in communication-related majors were more likely to listen at higher volume levels with this headphone style than others.
   - Few participants reported symptoms related to hearing loss.
   - These results could possibly be related to differences in sensory environment and earphone style of preferred listening levels of normal hearing adults.

4. Are the responses of Bloomsburg University students comparable with Division I students from Danhauer et al. (2009)?
   - 45% of participants reported using an iPod.
   - Male and nonwhite participants indicated setting iPods at higher volumes (75 to 100% of maximum volume level).
   - More than 34% of participants reported listening with earbud-style headphones.
   - More than 90% of participants indicated turning up their iPod volume when in noisy backgrounds.
   - Results suggest that few participants are at high risk for developing noise-induced hearing loss based on iPod use.
   - Users who listen in noisy backgrounds and who use earbud-style headphones may be more in need of education about hearing loss.

Conclusions

- Recommendations for future research.
- Future Directions.

Future Directions

- Obtain more balanced cultural sample for repeated study.
- Conduct longitudinal studies about hearing health.
- Implement educational awareness programs about safer PLD listening practices and the potential dangers of long-term use.

References