High-frequency hearing acuity among adolescents

Psychology

The paper " High-Frequency Hearing Acuity among Adolescents " is an excellent example of an essay on psychology. Experimental research on hearing acuity has been undertaken by many psychologists, with results demonstrating that animals vary in their capacity to hear high-frequency sounds due to head size and capability to localize sound. In the discussed research, the researcher attempted to test the high-frequency hearing acuity of a group of adolescents' two-days before exposure to high-frequency sound (concert) and two-days after exposure. The main hypothesis of the study was that adolescents hear better before exposure to high-frequency sound than after exposure to the sound. The researcher used a pre-test post-test experimental research design on a group of 12 adolescents to test this hypothesis. The findings of the experiment confirmed that exposure to high-frequency sound (concert) leads to decreased hearing acuity (poor hearing) among adolescents. Drawing from this finding, it is important for adolescents to use hearing protection devices when exposed to high-frequency sound to prevent diminished hearing acuity. The available research on hearing acuity shows that animals vary in their capability to hear high-frequency sounds due to several factors, which include the size of head and capacity to localize sound through the utilization of the binaural spectral-difference cue, pinna cues, or both (Heffner & Heffner, 2008). In the same vein, research has found a positive relationship between high-frequency sounds and decreased hearing acuity among older persons due to factors such as slow audio processing capability, weakened working-memory capacity, and an abridged capacity to inhibit interference (Wingfield, Tun, & McCoy, 2005). However, as demonstrated by Carpenter and Huffman (2009), only a few studies have attempted to study the relationship between high-frequency sounds and

hearing acuity in adolescents and young adults. The discussed study attempted to fill this gap by testing the high-frequency hearing acuity of a group of adolescents' two-days before exposure to high-frequency sound and two-days after exposure. Through the study, the researcher intended to show that adolescents hear better before exposure to high-frequency sound than after exposure to the sound. The researcher employed a pre-test post-test experimental research design on a sample of 12 adolescents to test her hypothesis. The environmental stimulus employed in the experiment was a music concert. The results of the experiment confirmed that exposure to high-frequency sound (concert) leads to decreased hearing acuity (poor hearing) among adolescents. Most adolescents were found to rank highly on post-concert scores than on pre-concert scores, meaning that the high-frequency sound during the concert affected their hearing acuity as high scores represented poorer hearing capabilities. The findings of this particular researcher reinforce other research studies that have found a positive relationship between high-frequency sounds and diminished hearing acuity among people. The findings prove that the mechanics of the environment (e. g., exposure to music concert) has the capacity to influence a person's audio processing capability because the human ears have a nonlinear response to sounds of diverse intensity levels (Comastri et al., 2008). Specifically, the results reinforce the findings of other scholars who have found that loud sounds may indeed lead to hearing impairment (Weiner, Graham, & Naglieri, 2012) and that listening acuity diminishes with exposure to high-frequency sounds (Carpenter & Huffman, 2009). In their recent study, Yong and Wang (2015) found that the presence of high-frequency sounds in the daily activities of soldiers due to firearms and explosives substantially impairs

their capability to hear important acoustic cues due to mechanical disruption of the stereocilia, direct damage to the ear's sensory cells, as well as metabolic damage to the ear's cochlea. An important implication revolves around the use of hearing protection devices when exposed to high-frequency sound to prevent diminished hearing acuity or noise-induced hearing loss.