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A Comparison of Proxemics and Postural Head Movements during Pop Music versus Matched Music Videos

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Abstract : Introduction: Proxemics is the study of how people perceive and use space. It is commonly proposed that when people like or engage with a person/object, they will move slightly closer to it, often quite subtly and subconsciously. Music videos are known to add entertainment value to a pop song. Our hypothesis was that by adding appropriately matched video to a pop song, it would lead to a net approach of the head to the monitor screen compared to simply listening to an audio-only version of the song. Methods: We presented to 27 participants (ages 21.00 ± 2.89, 15 female) seated in front of 47.5 x 27 cm monitor two musical stimuli in a counterbalanced order; all stimuli were based on music videos by the band OK Go: Here It Goes Again (HIGA, boredom ratings (0-100) = 15.00 ± 4.76, mean ± SEM, standard-error-of-the-mean) and Do What You Want (DWYW, boredom ratings = 23.93 ± 5.98), which did not differ in boredom elicited (P = 0.21, rank-sum test). Each participant experienced each song only once, and one song (counterbalanced) as audio-only versus the other song as a music video. The movement was measured by video-tracking using Kinovea 0.8, based on recording from a lateral aspect; before beginning, each participant had a reflective motion tracking marker placed on the outer canthus of the left eye. Analysis of the Kinovea X-Y coordinate output in comma-separated-variables format was performed in Matlab, as were non-parametric statistical tests. Results: We found that the audio-only stimuli (combined for both HIGA and DWYW, mean ± SEM, 35.71 ± 5.36) were significantly more boring than the music video versions (19.46 ± 3.83, P = 0.0066 Wilcoxon Signed Rank Test (WSRT), Cohen's d = 0.658, N = 28). We also found that participants' heads moved around twice as much during the audio-only versions (speed = 0.590 ± 0.095 mm/sec) compared to the video versions (0.301 ± 0.063 mm/sec, P = 0.00077, WSRT). However, the participants' mean head-to-screen distances were not detectably smaller (i.e. head closer to the screen) during the music videos (74.4 ± 1.8 cm) compared to the audio-only stimuli (73.9 ± 1.8 cm, P = 0.37, WSRT). If anything, during the audio-only condition, they were slightly closer. Interestingly, the ranges of the head-to-screen distances were smaller during the music video (8.6 ± 1.4 cm) compared to the audio-only (12.9 ± 1.7 cm, P = 0.0057, WSRT), the standard deviations were also smaller (P = 0.0027, WSRT), and their heads were held 7 mm higher (video 116.1 ± 0.8 vs. audio-only 116.8 ± 0.8 cm above floor, P = 0.049, WSRT). Discussion: As predicted, sitting and listening to experimenter-selected pop music was more boring than when the music was accompanied by a matched, professionally-made video. However, we did not find that the proxemics of the situation led to approaching the screen. Instead, adding video led to efforts to control the head to a more central and upright viewing position and to suppress head fidgeting.

Keywords : boredom, engagement, music videos, posture, proxemics
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