

Effect of Touch-produced Sounds on Surface Texture Perception

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Abstract: Texture is an important source of information for distinguishing surface properties. We are able to perceive various textural properties of surfaces from tactile or visual inputs. However, it is unclear how touch-produced sounds influence the various surface texture perceptions. In this study, we examined whether the touch sounds produced by different surface textures influence the various surface perceptions. Consequently, the surface textures with high height and wide interval resulted in rough, bumpy, soft and cool perceptions and the surface textures with the low height and narrow interval resulted in smooth, flat, hard and warm perception. Also, there were statistically significant differences in these measures between two surface texture groups. Furthermore, significantly positive correlations were found in “rough – smooth”, “bumpy – flat”, “sticky – slippery”, “wet – dry” and “unpleasant – pleasant” measures between touch-produced sounds and actual touch. This indicates that the touch-produced sounds influence various surface perceptions.