Effects of Aging on Movement Time in Discrete and Reciprocal Aiming Tasks

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This study examined the effects of aging on movement time in a discrete and reciprocal aiming task. A total of 80 men and 61 women were classified into six age groups (25-35-45-55-65-75 years). All subjects were healthy and without prior history of motor system disorders. Both aiming tasks employed three different target sizes (4, 12, and 32 mm); movement amplitude was held constant at 8 cm. Results indicated for both aiming tasks that greater age was strongly associated with slower movement times. Moreover, for the discrete aiming task, target size exhibited varying degrees of sensitivity to increased age (i.e., the smaller the target the larger the effect of age) but for the reciprocal aiming task the effect of age was independent of target size. These results are discussed in terms of age-related effects on preparing and controlling aimed hand movements.

Effects of temporal parameters of the movement on reaction time: An overview

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This paper is concerned with the effects of the temporal parameters of the movement on reaction time in aiming tasks. After pointed out the importance and contribution of the chronometric method for the study motor programming and control, we present a review of recent studies about the effects of temporal parameters on reaction time. These empirical works allow us to provide answers to four main questions. First, where in the information processing system can we localize the effect of temporal parameters? Second, what are the relations between temporal and spatial parameters in the motor programming stage? Third, what are the respective effects of movement velocity and movement duration on reaction time? Fourth, can movement velocity and movement duration to be considered as a parameters specified in the motor program? A force-time model is discussed that can incorporate divergent findings concerning movement velocity and movement durations effects.