

## Brief Report: The Effect of Verbalising and Voluntary Movements on Left Hemisphere

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**Abstract.** The aim of this study was to examine the interference effect of a verbal task and a tap task (voluntary movement) on the left hemisphere. The participants ( $N = 6$ ; 4 females and 2 males) are psychology students. This present study excluded the left-handed. As part of a between subject design, the participants were randomly assigned into two groups and each group did the experiment twice. The hypothesis that right-handed students who were only tapping (the control group) would have higher overall mean than when students were tapping and at the same time verbalising (the experimental group) is not reflected by the results. It was concluded that verbal and voluntary movement tasks did not have interference effects on the left hemisphere, though the overall mean gained for the experimental group were slightly higher than the control group, i.e. 8.333 and 8.167, respectively.

Key words: left hemisphere, interference effect, verbal task, tap task

**Abstrak.** Tujuan studi ini adalah mencermati akibat interferensi tugas verbal dan tugas tepukan (gerakan volunter) terhadap hemisfer kiri. Para peserta ( $N = 6$ ; 4 perempuan dan 2 pria) berasal dari kelas laboratorium psikologi, Universitas Massey. Studi ini tidak mengikutsertakan yang kidal. Sebagai bagian dari desain antar-subjek, para partisipan dipilih secara acak dan dikelompokkan menjadi kelompok eksperimen dan kelompok kontrol, dan setiap kelompok melakukan percobaan dua kali. Hipotesis bahwa mahasiswa bukan kidal yang hanya menepuk (kelompok kontrol) mempunyai rerata menyeluruh yang lebih tinggi daripada mahasiswa yang melakukan keduanya, yaitu tugas menepuk dan tugas verbal sekaligus, tidak didukung oleh hasil studi. Disimpulkan tugas verbal dan tugas gerakan volunter tidak mengakibatkan interferensi pada hemisfer kiri, sekalipun rerata menyeluruh kelompok eksperimen agak lebih tinggi daripada kelompok kontrol, berturut-turut 8.333 dan 8.167

Kata kunci: hemisfer kiri, efek interferensi, tugas verbal, tugas ketukan

The cerebrum is the largest region of the human brain and is divided into right and left hemispheres. These two hemispheres are not functionally identical and carrying out particular functions. Speech and language are mainly attributed to left-hemisphere. According to Weiten (2007), the left hemisphere is implicated in the control of language and speech, and it usually characterized as the "dominant" hemisphere; controlling the mental processes, such as reasoning, remembering, planning, and problem solving. The right hemisphere usually is better on tasks involving nonverbal processing, such as spatial, musical, and visual recognition tasks (Wei-

ten, 2004). The perceptual information from the eyes, ears, and the rest of the body is sent to the opposite hemisphere, and the motor information sent out the body also comes from the opposite hemisphere (Corballis, 2003; Gazzaniga, 2000). Thus, the left hemisphere controls and works with right hand, right forearm, right eyebrow, right leg, and right arm, while the right hemisphere controls and works with all the left side of the body.

According to Springer and Deutsch (1998) and based on a classic research (Gazzaniga, Bogen, & Sperry, 1965), handedness is related in complex ways to the distribution of functions between the left brain and the right brain. The brain asymmetry must deal with this handedness problem. Handedness reflects the undisputed uneven distribution of functional behaviour (Hellige, 1993a, 1993b). The

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