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МАТЕРИАЛЫ КОНФЕРЕНЦИИ И ШКОЛЫ

RELATIONSHIP BETWEEN HEMISPHERIC CHARACTERISTICS OF INFORMATION SELECTION AND EFFICIENCY OF CONVERGENT AND DIVERGENT THINKING: ROLE OF HANDEDNESS

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Researches linking hand laterality and cognitive abilities have provided contradicting evidences about the role of handedness in thinking efficiency. We used the lateralized presentation of hierarchically organized verbal stimuli to investigate the handedness effect on relationship between hemispheric characteristics of information comparison and the efficiency of convergent and divergent thinking. The convergent thinking was rated by testing of verbal and figural intelligence scores. The efficiency of divergent thinking was assessed by indices of verbal and figural originality while creativity testing.

According to a multiple regression approach, the characteristics of the hemispheric information comparison mostly at the local level appeared to be the predictors of thinking efficiency. Intelligence was mostly associated with selective processing in the left hemisphere (Fig. 1a) whereas originality of thinking was predicted by the characteristics of information selection at the global and local levels in both hemispheres (Fig. 1b). The handedness was more important to divergent thinking efficiency than convergent one, and originality increased together with a decrease of the right-handedness dominance.

It can be concluded that the effectiveness of convergent thinking is mostly determined by the characteristics of the left-hemisphere information selection at the local level, and for high divergent performance, the integration of functions of the left and right hemispheres with the corresponding specifics of information selection at the local or global level and with a decrease of motor asymmetry according to the right-handedness index are required.

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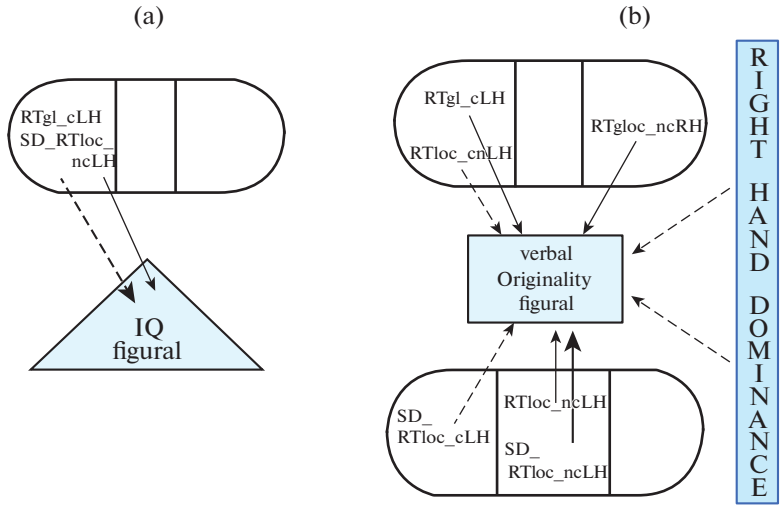

Fig. 1. Relationships between hemispheric characteristics of information selection and effeciency of convergent (a) and divergent (b) thinking.