

# INTUITION AND ABSTRACT THINKING IN LEARNING AND UNDERSTANDING

Mátyás Káplár<sup>1</sup>  
Lilla Dézma<sup>1</sup>  
Szidalisz Teleki<sup>1</sup>  
Krisztina Csókási<sup>1</sup>  
Enikő Csilla Kiss<sup>1</sup>

<sup>1</sup> University of Pécs, Faculty of Humanities, Institute of Psychology  
Pécs, Hungary

**Background** Based on dual process theory the prerequisite of effective learning is that the students are able to use their implicit, automatic processes of information management as well as the active processes of recognition and understanding. Previous studies revealed that intuition and intuitive information processing plays an important role in students' performance. This ability which is based on the individual's previous experiences and his/her ability to use the results of affective information processes provides an opportunity to effectively select among the pieces of information of the given environment and optimally find a relevant understanding of the situation. In our study, we examined the effect of different types of intuition on unconscious recognition and decision-making.

**Method** Fifty-nine participants, all university students, were asked to fill the Types of Intuition Scale (Pretz et al., 2014) which measures four different types of intuition (Holistic-Big Picture, Holistic-Abstract, Inferential, Affective). The participants were also asked to watch an animation in which a neutral white dot, representing themselves, is passing through a labyrinth searching for a rose. Each time the dot changed its direction a masking stimulus appeared breaking the animation. With the masking a picture of a red rose appeared subliminally in three designs (after right turns, after left turns, control (no subliminal stimulus)). At the end of the animation, the participants had to decide at a crossroad in which direction to turn. Accuracy and reaction time was measured.

**Results** There was a clear priority of choosing right direction regardless of the dominant hand of the participant. Participants choosing the primed direction showed higher level of Holistic-Abstract intuition type meanwhile the other types of intuition did not influence choice accuracy. Analyzing the simple direction choices participants turning right reached higher score on the Affective intuition type scale. Reaction time measures showed that in priming situations the participants made their decision faster than in the control group.

**Conclusions** The priority of right direction in our culture (reading, traffic) had a big influence on the decisions in our cognitively uncertain direction task. Participants who had higher ability to use their Holistic-abstract intuition showed better performance, could overwrite the information coming from their general experiences. However, the presence of the subliminal stimulus made the participants more confident in their decisions and their choice was made faster. The relation of choosing direction right and Affective intuition type shows that affective intuition is deeply rooted in everyday experiences even though people recognize it as an affective stimulus. The results of our study strengthen the idea that in teaching holistic and abstract thinking abilities need to be developed in order to reach a thinking level where students over superficial understanding can use their analogical thinking in problem-solving and decision-making.

Pretz, J. E., Brookings, J. B., Carlson, L. A., Humbert, T. K., Roy M., Jones, M. & Memmert, D. (2014). Development and Validation of a New Measure of Intuition: The Types of Intuition Scale. *Journal of Behavioral Decision Making*, 27, 454-467.