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Evaluation of PhD Thesis of Kiril Kostov

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The PhD thesis of Kiril Kostov focuses on original, PhD-level research on cognitive psychology investigation on attentional factors in the handle orientation effects. The work is framed within the state of the art of experimental and theoretical investigation on stimulus-response compatibility effects (Simon effect, Handle/microaffordance effects) and attentional and perceptual mechanisms.

The four chapters of the literature review provide a very thorough and easy-to-read analysis of the state of the art on the Simon Effect (Chapter 2) and on the Handle orientation effect (Chapter 3). The thesis is directly related to the seminal work by Ellis and Tucker on microaffordance effects. However, in the thesis their work is framed as a spatial/perceptual phenomenon, given the student's main hypothesis of the influence of low-level attentional mechanisms in these effects. The subsequent two chapters look at attentional phenomena in both effects, and at the dissociation/interaction between them. This sets the scene and rationale for the student's own investigative work. In Chapter 6 the student demonstrates sound critical skills capabilities to analyse possible alternative (low-level attentional and perceptual) explanations and mechanisms affecting the handle orientation phenomenon.

The second part of the thesis is dedicated to a set of six novel psychology experiments manipulating various lower-level perceptual and attentional conditions for the classical handle-orientation studies, such as the manipulation of the visual details (photo/silhouette) and positions (width/area centred) of the famous frying pan stimuli. The six experiments are logically connected to sequentially explore and test the results from the previous study and the overall hypotheses.

In addition to the standard statistical/ANOVA methods used to analyse the experimental results in all the experiments, the thesis also includes a chapter on the distributional bin analysis of the participants, according to their reaction time profile (as it had been shown that Simon/handle type effects are diminished for slower reaction times). These additional analyses show differences between compatibility effects induced by width-centered and area-centered stimuli. This indicates that the compatibility effects are of a lower-level, perceptual nature. All the results thus reinforce the student's view that grasping affordance play a negligible role within this study.

The author of the thesis shows very good critical skills in the definition of the novel hypothesis to investigate, the choice of the appropriate experimental methodology, and the analyses and thorough discussion of the main results and contributions of the thesis (e.g. Chapter 15).

To summarise, this is a very good PhD thesis and research, demonstrating the candidate's novel and original contribution to the field of experimental psychology. The thesis also provides evidence of the development of theoretical and methodological skills analysis capabilities. The work has been published in leading conferences in cognitive psychology (e.g. Spatial Cognition conference),

Overall I believe Kiril Kostov has proved to have an ability to perform original research and to achieve novel scientific results. I do recommend the thesis for final examination/defence, with the aim of receiving the Degree of Ph.D.



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