

OPINION

by Prof. Lilia Alexandrova Gurova, PhD,
New Bulgarian University, professional field 2.3. Philosophy,
for a dissertation on "*Moral judgment and emotions: research using bio-indicators*",
presented by **Veselina Hristova Kadreva** for the acquisition of the educational and scientific
degree "doctor" in professional field 3.2. Psychology.

The presented text is 176 pages long and contains 10 chapters, a list of references (145 titles) and 2 appendices.

1. Significance of the research problem

People's judgments about the moral permissibility of one action or another often differ, and the reasons for these differences have been the subject of discussion from the dawn of human civilization to the present day. In recent decades, the so-called dual-process theory has gained more and more explanatory weight in cognitive psychology. According to this theory, two types of processes are involved in the formation of the judgment of moral permissibility: reflexive, involving conscious (and to one degree or another rational) reasoning, and intuitive, composed of automatic reactions, often triggered and moderated by emotional states of different kind and intensity. Despite the abundance of research that confirms the involvement of reflective and intuitive processes in the formation of moral judgment, the dynamics and the interaction of these processes, as well as the factors that influence them, remain largely unclear and subject to ongoing controversy. It is precisely these ambiguities and the accompanying discussions that have motivated Veselina Kadreva to undertake a systematic and precisely planned study of the role of emotions in moral judgment and the factors that affect this role.

2. Justification of the aims and objectives in the dissertation

In her dissertation, Veselina Kadreva describes three experiments through which the relationship between the intensity of emotions experienced in a situation of moral conflict and the evaluation of different solutions to the proposed conflict is investigated, as well as the impact of the factors "presence of physical contact when causing harm", "instrumentality of the inflicted harm" and "inevitability of death". Additionally, perspective effects (differences in moral judgment when it is made from the first or third person perspective) and the effects of

incidentally induced emotion (amusement, disgust, fear, sadness) are assessed. The rationale for the objectives of the three experiments is briefly described in the introduction (Chapter 1) and in more detail in Chapter 5. Summary and Design of Experiments. In brief, the aims of the three experiments presented build on two observations. The first is that much of the previous research supporting the dual-process theory is correlational and therefore does not allow for inferences about a causal role of emotions. The second observation is based on criticisms of dual-process theory, which point to a number of methodological weaknesses in research supporting the theory. Veselina Kadreva aims to overcome these weaknesses by planning and conducting experiments in which the stimuli are precisely controlled, and the chosen method for measuring the intensity of emotions is as objective as possible and allows the changes in this intensity to be tracked over time – from the presentation of the moral dilemma, to the assessment of moral permissibility of the proposed solution to the dilemma.

3. Correspondence between the chosen research methodology and the set goals of the dissertation

The chosen methodology – an experimental study, in which a part of the variables are manipulated, allows to overcome the above-mentioned shortcomings of purely correlational studies, the results of which do not allow conclusions to be drawn about the presence or absence of a causal relationship. The method used to measure the intensity of the experienced emotion (measurement of skin resistance) not only allows an objective assessment of the intensity of the emotional experience, but also makes it possible to track the dynamics of this experience from the moment of facing the moral dilemma to the evaluation of the proposed solution to the presented dilemma.

4. Scientific contributions of the dissertation

Veselina Kadreva described the contributions of her dissertation work in chapter 10 (pp. 139-140), dividing these contributions into three groups: methodological contributions, empirical contributions, and theoretical contributions. While not disputing the order in which these contributions are presented and which places a strong emphasis on methodological contributions (strict experimental control of the stimuli, inclusion of hitherto little-studied factors, use of objective methods to assess emotional experience, etc.), for me, the results obtained (i.e. the empirical contributions) which, at least at first glance, contradict the predictions of the dual-process theory, turn out to be most valuable. For example, such is the result showing that moral dilemmas in which harm occurs without physical contact elicit more

intense emotions than dilemmas in which harm occurs through physical contact. Precisely because this result is not expected (in the context of dual-process theory) and does not seem to be a methodological artifact, it deserves more serious attention, which I will address in particular in section 7. Opinions, recommendations and notes.

5. Evaluation of the publications related to the dissertation

In the *Extended Abstract* of her dissertation, Veselina Kadreva indicates two articles on the topic of the dissertation, published in Bulgarian peer-reviewed editions. These are:

Къдрева, В. (2017). Морална преценка, афективно състояние и представност. *Сборник научни доклади от VIII Национален конгрес по психология*. (pp. 60 – 68). Продуцентски център. ISBN: 978-954-91472.

Къдрева, В. (2021). Ефект на перспективата при формирането на морална преценка. *Българско списание по психология* 1(4), 24 – 32.

It should be noted that in addition to these two articles, Veselina Kadreva has other publications related to the topic of the relationship between moral judgment and emotions, co-authored with her scientific supervisor Prof. Maurice Grinberg and the scientific advisor Dr. Evgenia Hristova, which are indexed in SCOPUS. These are:

Hristova, E., Kadreva, V., & Grinberg, M. (2014a). Moral Judgments and Emotions: Exploring the Role of ‘Inevitability of death’ and ‘Instrumentality of harm’. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2381 - 2386). Austin, TX: Cognitive Science Society. ISBN: 978-0-9911967-0-8.

Hristova, E., Kadreva, V., & Grinberg, M. (2014b). Emotions and Moral Judgment: A Multimodal Analysis. In *Recent Advances of Neural Network Models and Applications* (pp. 413-421). Springer International Publishing. ISBN 978-3-319-04129-2.

In total, these publications, in terms of number and quality, exceed the requirements that Bulgarian legislation sets as a condition for acquiring the educational and scientific degree "doctor".

6. Citations by other authors

The article (Hristova, Kadreva & Grinberg, 2014b) has 1 non-self-citation in SCOPUS. I do not find citations of the publications in Bulgarian. If we examine more broadly the citations of Veselina Kadreva's publications, including in the analysis those articles that are not directly

related to the topic of the dissertation, we find that there are 15 publications indexed in SCOPUS, in which Veselina Kadreva is a co-author, and these 15 articles have a total of 137 citations in SCOPUS. The majority of the citations (128) are on articles published after 2018 when Veselina Kadreva completed her formal training as a PhD student. This shows that since 2018, Veselina Kadreva has successfully continued her development as a researcher, joining international teams whose research results have been published in high impact journals such as *Nature Human Behavior*.

7. Opinions, recommendations and notes

My overall impression of Veselina Kadreva's dissertation work is unequivocally positive. This is a study devoted to a significant scientific problem, the solution of which would have important practical implications; three experimental studies have been carefully planned and conducted, leading to results that cast doubt on the widely discussed dual-process theory of moral judgment formation in situations of moral conflict. It is precisely with these results, which for me are the most valuable contribution of the presented dissertation, that the notes and recommendations that follow are connected.

(1) On the exposition of the dual-process theory, on the basis of which the main hypotheses of the presented research are formulated, and in the context of which the obtained results are interpreted, a relatively modest space is allocated – 1 section of chapter 3 (2 pages in total). This parsimonious presentation of the theory does not allow one to assess whether the unexpected results obtained (e.g. the result showing that moral dilemmas in which harm occurs without physical contact elicit more intense emotions than dilemmas in which harm occurs through physical contact) could not be explained by some modified version of the theory that does not affect its central assumption of the involvement of two types of processes—intuitive and reflexive—in the formation of moral judgment.

(2) In the general discussion, more serious attention should be paid to the result showing no significant difference between the means of reaction time of the participants in the different dilemmas. This result should be rather cautiously interpreted as a problem for the dual-process theory, because it could also mean that the implemented manipulations do not lead to distinguishing situations in which participants react predominantly intuitively from those in which they make judgments based on conscious reasoning.

I would make two recommendations to Veselina Kadreva:

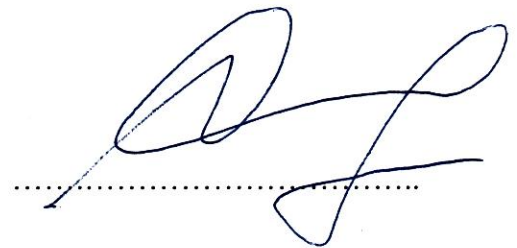
(1) To replicate Experiment 1, in which it is obtained the opposite of the expected result for emotion intensity in dilemmas with and without physical contact, using a larger and gender- and age-balanced sample. If the unexpected results are confirmed, describe them and submit for publication in an international journal, so that they become visible to all participants in the discussions on the role of emotions in moral judgment.

(2) After certain additions and revisions in the spirit of the notes formulated above, to publish the dissertation as a book. Situations of moral conflict are part of our everyday life, and very often people misinterpret their own and others' actions in such situations, with all the resulting negative consequences. The publication of a serious and thorough research on the subject would contribute to a better understanding of moral dilemmas and, accordingly, to more adequate responses to the choices that different people make when faced with such dilemmas.

8. Conclusion

The presented dissertation on the topic "Moral judgment and emotions: research using bio-indicators" meets all the requirements of Bulgarian legislation for awarding the educational and scientific degree "Doctor". Based on this and the above-mentioned merits of the submitted dissertation, I will vote "for" the awarding of the educational and scientific degree "Doctor" in professional field 3.2. Psychology to Veselina Hristova Kadreva.

07.08.2023

A handwritten signature in black ink, consisting of a large, stylized initial 'L' followed by a series of loops and a long horizontal stroke extending to the right. The signature is written above a horizontal dotted line.

/Prof. Lilia Gurova, PhD/