

Supporting open access publishing in the field of dynamic decision making

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In contrast to the successful previous year, 2020 turned out to be difficult, not only for the earth's population due to COVID-19 but also for JDDM with an unusually small sixth volume. Looking back at these two very different years back-to-back led us to some reflection: As the COVID-19 pandemic forcefully illustrates, dynamic decision-making (DDM) with all its complications and uncertainty is a topic of high relevance for modern societies. How can decision science best contribute to enhance the understanding of such situations? What is the role of a journal like JDDM for the research community? And how should we, as editors, adjust the scope and processes of the journal to serve the needs of the community? We will first take a quick look back at the 2019 and 2020 volumes and then outline how we intend to develop the journal in years to come with a new editor-in-chief, Wolfgang Schoppek.

Looking back at volumes 2019 and 2020

In the “Seven Questions Project” that was part of the fifth volume of JDDM (2019) we sent a set of questions to a number of researchers active in the field of complex problem solving (CPS). The questions covered the relevance of (complex) problem solving as a research area, the contribution of laboratory-based CPS research to solving real life problems, the roles of knowledge, strategies, and intuition in CPS, and the existence of expertise in CPS. A brief review and summary of the answers we have obtained from eight authors or teams will appear in the current volume of JDDM.

In the sixth volume of JDDM (2020), [Romy Müller and Leon Urbas](#) report the results of an experiment the authors had devised to explore the applicability of psychological theories about stability vs. flexibility in decision making in a simulated modular chemical plant. They found that most participants applied a satisficing strategy and showed sequence effects – but in the opposite direction from what was predicted! The conceptual basis (adapt vs. exchange) resembles the explore/exploit dichotomy that has been studied extensively in decision-making research (e.g. Osman, Glass, & Holo, 2015). This work is a good example of how the creative extension of standard paradigms can challenge and ultimately enhance psychological theories. As the questions for this research originated in practical problems, it demonstrates the relevance of studying DDM in settings close to reality.

Similarly, [Jason Harman, Claudia Gonzalez-Valejjo, and Jeffrey B. Vancouver](#) extended the sunk cost paradigm in making it dynamic. They created a repeated choice sce-

nario where participants learned sunk costs over time. In three experiments, they showed that “the sunk cost fallacy depends on the relative a priori importance of the goal being invested in” (Harman et al., 2020, p. 1). Escalation of commitment only occurred when the sunk cost domain was more important than alternatives. This extension of the paradigm on the time dimension can give valuable impulses for future research.

The contribution of [Alexander Nicolai Wendt](#) also aims at extending the narrow scope of laboratory research. In his article, he points to the potential of video material available in the WWW (e.g. Live Streaming), that allows “a fairly new access to ecologically valid and unobtrusive observation of problem-solving and decision-making processes” (Wendt, 2020, p. 1). He reflects on the epistemological and methodological foundations that need to be considered when trying to exploit those data sources. One important implication of his considerations is that we would do well to remember the importance of qualitative methods for a range of research questions.

Organizational changes and constants

The founding editor in chief of JDDM, Andreas Fischer, has dedicated much time and work to building the journal. After such an intensive phase, we are sympathetic to his wish for stepping back and facing new challenges. We thank Andreas for his work and are glad that we still have him in our editorial team. Wolfgang Schoppek (University of Bayreuth), who has joined the journal in 2019, has now taken over as editor in chief from Andreas Fischer. Wolfgang is interested in cognitive modeling and has been working in the field of complex problem solving for many years. Moreover, we welcome Alexander Nicolai Wendt as a new member of our editorial team. Alexander's work bridges the gap between psychology and philosophy, with a particular emphasis on phenomenological approaches and the validity of laboratory studies in problem solving and decision making research (e.g., Wendt, 2020).

We take pride in the fact that JDDM has always been and will continue to be a “Diamond” open access journal run entirely by volunteers and neither charges fees from authors nor from readers. Instead, the “price” that we ask from authors in JDDM is that they try to produce rigorous scientific work to the best of their ability in line with the scientific standards in their field and the principles of good scientific practice in general. In this spirit, JDDM has now officially adopted an ethics code of conduct based on the Committee on Publication Ethics (COPE) Best Practice Guidelines for Scientific Journal Editors. These guidelines

must be adhered to by all parties involved in the publication process: authors, editors, reviewers and publishers. The guidelines set the frame for ensuring independence, confidentiality, fairness, and participation, as well as scientific integrity and transparency at all stages of the publication process. One new element will be the routine check for plagiarism, another that all authors must now explicitly state they have contributed substantially to the paper and approved the final version of the paper for publication. You can find the complete guidelines on our website.

Future directions for JDDM

The COVID-19 pandemic has reinforced our conviction that dynamic decision is a cognitive and social process of great importance to society. It has also illustrated that decision-making in the real world does not stop at the individual psychological level but typically takes place in complex social and political contexts. For example, epidemiologists may have a useful mathematical model to simulate the spread of the corona virus SARS-CoV-2 with clear implications for effective behavioral counter measures. However, if societal factors (how acceptable are different counter measures in the population?), economic factors (who may lose their jobs because of lock-downs?), and political factors (unpopular measures are less likely to be implemented by politicians aiming to get re-elected) are not incorporated, a model just of the core decision domain will not lead to effective decisions.

Multi-disciplinarity and multiple methods

Such deliberations reassure our original intention that “the main focus of JDDM is the multidisciplinary and multi-methodological study of cognitive processes in dynamic decision making” (Fischer, Holt, & Funke, 2015, p. 1). Reconsidering, we would like to complement that statement with “social processes”.

Emphasizing multi-disciplinarity and multi-methodology does not mean that psychological or quantitative work becomes less important in JDDM. Instead, we want to widen the scope of JDDM, including contributions from cognitive science, economics, philosophy, political science, psychology, operations research, management studies, sociology, and other fields of research (e.g., human factors engineering, education). These fields have different methodological traditions. Hence, it is important to emphasize a critical view in order to maintain the standard of publications. We welcome the strengths of different approaches to quantitative and qualitative research but do not hesitate to critically question their validity and relevance at the same time. The history of cognitive research on decision-making itself is closely related with various types of mixed-methods research, e.g., the use of think-aloud protocols. If innovative contributions, whether descriptive or inferential, can help advance our field of research, JDDM will support them.

As striving for multi-disciplinarity entails the risk of becoming arbitrary, we feel the need to state some overarching principles as orientation for authors, editors, reviewers, and readers. Having in mind that such principles need to be discussed and developed further, we suggest the following as a starting point:

- We expect submitted work to be committed to principled argument and a stance of rationality. Different

levels of description and abstraction, which are characteristic for each academic discipline, should be recognized as equivalent. We welcome critical positions as long as they are based on fair argumentation.

- Methods should be used to answer research questions and are not deployed as an end in itself. That holds for quantitative and qualitative methods alike. Researchers should be careful not to uncritically adhere to particular methods because they are common in their field of research (Dörner, 1996).
- Authors should strive for a good connection between theory and data. This appears self-evident, but unfortunately, it is not. Simply referring to an empiricist research tradition is not enough. Similarly, theoretical contributions should pursue a high level of conceptual clarity and (where appropriate) identify their relation to empirical approaches.

JDDM encourages multi-disciplinary dialogue by discussing the foundational issues of research on decisions and decision-making. The conceptual basis of investigations is of great importance not only for hypotheses generation but also for the interpretation of empirical findings. Hence, JDDM wishes to encourage a conceptual discourse that refers to psychological traditions of theory and tries to bring them into dialogue. In this vein, we will soon issue a call-for-papers that targets this context and aims to revitalize the theoretical foundations of the field as well as to incentivize innovations.

Increasing worldwide contributions

The COVID-19 pandemic showed that dynamic decision-making is required all over the world. The same observation holds true for the even more complex and threatening problem of climate change. If DDM is international, should DDM research not be the same? While JDDM features contributions from a range of different locations, articles by authors from English- and German-speaking countries have clearly been the majority so far. We will therefore work harder on making the contributorship more diverse not only in terms of scientific disciplines covered but also with regard to a more complete representation from researchers from all over the world. To facilitate this mission, we will continue to charge no article processing fees for any contributions to JDDM.

Summary

- 1) JDDM is a Diamond Open Access journal free to authors or readers that has clear scientific and ethical standards guiding the publication process and follows a model of “constructive peer review”.
- 2) JDDM aims to be a multi-disciplinary journal in decision science, with a focus on dynamic and complex real-world problems. This includes, among others, cognitive science, economics, philosophy, psychology, sociology, or human factors engineering. JDDM accepts quantitative and qualitative empirical work as well as theoretical contributions with a clear focus on complex dynamic decision processes.
- 3) JDDM is an international journal and encourages contributions by researchers from outside Europe and the US.

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Handling editor: Wolfgang Schoppek

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