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Introduction to the Special Issue: Tutorials on Novel Methods and Analyses in Social Cognition, Part 2

Colin Tucker Smith
University of Florida, USA

Juliane Degner
University of Hamburg, Germany

Jimmy Calanchini
University of California Riverside, USA

Welcome to Part 2 of the special issue "Tutorials on Novel Methods and Analyses in Social Cognition." In this installment, you will find seven papers that complement the seven published in June 2025—together offering a rich collection of tools, insights, and perspectives for advancing research in social cognition. In the introduction to Part 1, we described the goal of this special issue: to advance social cognitive research with a collection of tutorials on novel and oftentimes complex methodological and analytical techniques (Calanchini et al., 2025). For those who are interested, we also described origins of the special issue, detailed the process used in the solicitation, selection, and review of manuscripts, as well as introducing the first set of articles included. To avoid redundancy, here we focus solely on describing the articles included in Part 2.

SOCIAL COGNITION TUTORIAL SPECIAL ISSUE, PART 2

In Part 2, the papers seemed to fall into three categories: a focus on formal modeling techniques, tools to perform specific statistical analyses, and methodological innovations. As with Part 1—which focused on the themes of revealing mental contents through computational approaches and exploring the influence of contexts and communities—the themes of Part 2 align well with trends in social cognition. For example, our field increasingly recognizes the tremendous potential of computational modeling to enhance both the quality of social cognition research and its connection to theoretical process assumptions. However, the growing complexity and sophistication of these methods have created steep barriers to entry, discouraging their broader use; Galván & Sanfey (2025; this issue), Wilson and colleagues (2025; this issue) and Alaukik and colleagues (2025; this issue) each

Address correspondence to Jimmy Calanchini, Department of Psychology, University of California, Riverside, 900 University Ave., Riverside, CA 92521. E-mail: jimmy.calanchini@ucr.edu

present tutorials aimed at lowering those barriers. Ongoing efforts to improve the robustness and reproducibility of psychological science also raise new methodological questions. For example, as we move toward larger, multisite studies, researchers face two persistent challenges: measures should be comparable across contexts and should produce point estimates that are stable; Schemmerling et al. (2025; this issue) and Hehman et al. (2025; this issue) address these challenges. The final two papers introduce new techniques to help with consistently thorny issues in social cognition. Namely, March and Olson (2025; this issue) explain the use of virtual reality headsets as a way to study unconscious cognition and Okland and Beers (2025; this issue) explain interactive narrative games as an alternative to traditional vignettes. As a group, the current tutorials introduce innovative approaches and/or provide accessible insights from other research domains. We are optimistic that, by sparking curiosity, fostering cross-disciplinary learning, and offering practical guidance, these articles are poised to make a meaningful impact on the field in the near future.

FORMAL MODELING TECHNIQUES

Computational Model to Understand Social Motives. In their tutorial, Galván and Sanfey (2025; this issue) discuss computational modeling as a general technique with an emphasis on explaining the benefits of the approach. They highlight one form of computational model—social utility models, in which people make value-based decisions in a social context—and walk the reader through a demonstration using an example dataset. Their tutorial acts also as an introduction to the online *Handbook for Social Utility Modeling* (https://social-utility-modeling.readthedocs.io/en/latest/#), which is an excellent resource for the interested reader to explore beyond the tutorial. With this tutorial, the authors aim to carry readers to social utility modeling by demystifying and using concrete examples.

Response Time-Extended Multinomial Processing Tree Models. Wilson and colleagues' (2025; this issue) tutorial provides a user-friendly introduction to two recent methodological advances that extend multinomial processing tree (MPT) models to provide relatively more comprehensive and precise assessment of psychological phenomena. Psychological scientists depend heavily on summary statistics. Many tasks configured to assess mental contents, such as the Implicit Association Test (IAT: Greenwald et al., 1998), Affect Misattribution Procedure (Payne et al., 2005), and Evaluative Priming Task (Fazio et al., 1986), are traditionally operationalized in terms of average response times or the proportion of correct responses. However, psychological phenomena are often complex and multiply determined, and this complexity can be obscured by simple summary statistics. Consequently, researchers have fruitfully applied MPT models to gain insight into multiple cognitive processes that jointly contribute to responses. Until recently, the use of MPT models was limited to categorical data, such as response frequencies (e.g., number of correct versus incorrect responses). This tutorial focuses on two recent methodological advances that extend MPT models to account for both response

frequencies and response times. By incorporating multiple bases of information, response time-extended MPT models are positioned to advance social cognition research by providing more theoretically precise insight into the processes underlying behaviors than traditional summary statistics or modeling techniques can offer.

Modeling Responses in the Implicit Association Test. Alaukik and colleagues (2025; this issue) present another alternative to summary statistics of behavior on psychological tasks. Their tutorial offers a user-friendly introduction to the tug-of-war model (Kvam et al., 2024), which can be applied to decompose responses on the IAT into component processes. Measures like the IAT were developed with operating conditions to minimize the influence of control-oriented processes, leading to the widespread assumption that responses primarily reflect automatically activated evaluative information. However, as research using MPTs has demonstrated, responses on the IAT reflect the influence of multiple cognitive processes. The tug-of-war model closes this gap between theory and method by estimating a parameter that maps closely to evaluative information underlying IAT behavior, among other parameters, and describes the inferences that researchers can draw from their model. The tutorial includes relevant code and is organized around positioning researchers to use this model on their own IAT data rather than (or in addition to) the traditional reliance on the IAT *D* score. The researchers also note that the model's architecture can be modified to fit other implicit measures in the future, which is important to avoid equating a construct (e.g., implicit bias) with a specific measure (e.g., the IAT).

STATISTICAL ANALYSES

Automated Tool for Confirmatory Factor Analysis and Invariance Assessments. In their tutorial, Schemmerling and colleagues (2025; this issue) provide a tool to facilitate analyses of data collected from different sites. The demand to increase reproducibility of psychological research often requires large-scale studies conducted across multiple contexts, but this rigor comes at the cost of a high workload for researchers. One seemingly attractive way to streamline analyses might be to combine data from separate labs. However, the authors argue that researchers must ensure that data from different sites are comparable by conducting multiple-group confirmatory factor analysis and testing for measurement invariance. To reduce the difficulty involved in such tasks, they present and explain a free, open-code tool based in R for algorithmic confirmatory factor analysis and measurement invariance assessment (ACAMIA). In addition to walking the reader through the details involved in using the tool, the tutorial also highlights the crucial decisions required of researchers who do these kinds of analyses.

Quantifying When an Observed Mean Has Achieved Stability. Addressing a practical question when working with aggregated data, Hehman and colleagues (2025; this issue) introduce an accessible method to determine when sample means reach a

point of stability—which, in turn, helps researchers decide when to terminate data collection. By providing R code and a dataset from impression formation research, they offer a step-by-step guide to illustrate how many observations are needed until mean estimates converge and become sufficiently reliable. Hehman and colleagues also compare and contrast this approach with other tools to plan sample sizes, such as repeated calculations of Cronbach's alpha (DeBruine & Jones, 2018) and the a priori procedure (Trafimow et al., 2024), making this tutorial a useful gateway for researchers aiming to optimize resources, justify sample sizes, and uncover meaningful patterns hidden within averages. Whether you are new to sampling precision or exploring alternatives to traditional power analysis, this tutorial offers an engaging, hands-on way to rethink your study design.

METHODOLOGICAL INNOVATIONS

Studying Unconscious Cognition With a Virtual Reality Headset. Speaking of (in) stability: One of the editors of this special issue started their social cognition journey with evaluative priming research. They were intrigued by the question of whether and to what extent social stimuli are processed when presented below the threshold of conscious awareness but soon moved away from this domain because subliminal priming effects in classical sequential priming paradigms often proved unstable. March and Olson's tutorial (2025; this issue) on continuous flash suppression (CFS) has reactivated their interest in this field. CFS is a method to suppress conscious visual perception, enabling the study of unconscious cognition. The technique has been well studied in cognitive psychology but remains rarely applied in social cognition research. This paper provides a great primer to help nonexperts become familiar with that work. Additionally, it introduces a software tool to implement CFS using virtual reality (VR) headsets, providing a detailed tutorial on configuring and running experiments and simplifying the typically complex and expensive setup required for CFS research. The authors also outline the potential applications of CFS-VR in research areas such as evaluative conditioning, priming, and mere exposure, emphasizing how it may help resolve persistent methodological issues in studying unconscious processes.

Using Narrative Games to Study Social Cognitive Processes. Okland and Beer (2025; this issue) introduce narrative games as a valuable alternative to scenario-based paradigms in social cognition research. Narrative games are simple interactive games in which players' choices shape, or appear to shape, the progression of a storyline, enabling researchers to repeatedly measure decision-making behavior while maintaining high participant engagement. This approach offers potential advantages over traditional vignette methods. By providing practical guidance on designing, coding, and analyzing these interactive experiences—along with advanced analysis techniques like Drift Diffusion Modeling—the tutorial encourages researchers to explore richer, more nuanced data collection. Given that scenarios and vignettes are both widely used and widely criticized in social cognition

research, this clear step-by-step guide to incorporate simple narrative games into your next study may help to bridge existing gaps between overly controlled and sterile lab environments and overly complex social contexts in which real-life interactions take place.

CONCLUSION

We are happy to present the second half of this special issue on novel methods and analyses in social cognition. In doing so, we bring to a close a process that began with informal conversations at a small conference venue in rural Wisconsin (USA) almost exactly two years ago. This special issue reflects the work of dozens of authors and anonymous reviewers; we are grateful for the care and diligence shown by each of them. We would also like to take the opportunity to thank Bertram Gawronski, who served as action editor for both of the papers in the special issue that included editors as authors. We hope that you will find the papers in this special issue as interesting and useful as we did, and that you will incorporate them into your own research as you continue to document and explain human behavior.

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