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EDITORIAL

Introduction to the Vol. 50, No. 2, 2023

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Welcome to the Vol. 50, No. 2, 2023 of Behaviormetrika. In this issue, we have the following two invited papers, five original papers, one note and one short note.

The invited paper "Bayesian modeling of the Mnemonic Similarity Task using multinomial processing trees" by Lee and Stark (2023) developed new cognitive models, based on the multinomial processing tree framework, for two versions of the mnemonic similarity task (MST). The models are implemented as generative probabilistic models and applied to behavioral data using Bayesian graphical modeling methods. This study demonstrated how the combination of cognitive modeling and Bayesian methods allows for flexible and powerful inferences about performance on the MST. These demonstrations include latent-mixture extensions for identifying individual differences in decision strategies, and hierarchical extensions that measure fine-grained differences in the ability to detect lures. An interesting finding is that the availability of a "similar" response in the MST reduces individual differences in decision strategies and allows for more direct measurement of recognition memory.

The invited paper "Adaptive trust-aware collaborative filtering for cold start recommendation" by Zarei et al. (2023) proposes a novel adaptive collaborative filtering (CF) approach that can learn from trust connections and social ties using side information. The results show the effectiveness of the proposed approach compared to several recommendation techniques.

The original paper "Modeling daily fluctuations in everyday cognition and health behaviors at general and person-specific levels: a GIMME analysis" by Dai et al. (2023) applied the group iterative multiple model estimation approach to investigate the contemporaneous and lagged relationship between individuals' everyday cognition (i.e., brief *n*-back test) and contextual health behavior states (i.e., mental sharpness, social engagement, physical activity, mental engagement, fatigue, and emotional state) measured using ecological momentary assessment (EMA). Results identified both group and individual patterns regarding the association between EMA captured everyday cognition and health variables.

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The original paper "Value expansion and sense making" by Zervina (2023) aims to summarize and systematize the results of previous research on a mechanism for automatically identifying companies' value proposition. The first step is to create a corpus of values. 96 respondents conducted a survey with open-end questions; 796 start-ups were identified and 96 annotators labeled start-ups' landing pages by annotating values. The next step is structuring data for a deeper understanding of values by examining annotations and organizing values into taxonomies. The practical use of the results includes machine learning training material for automation of value-related tasks.

The original paper "Combining Kibria-Lukman and principal component estimators for the distributed lag models" by Lukman et al. (2023) proposes the Almon principal component Kibria–Lukman estimator by integrating the principal component (PC) approach with the Almon Kibria–Lukman (KL) estimator. The new technique possesses the advantage of the principal component estimator and the Almon-KL estimator. Almon-PC-KL estimator dominates the other estimators considered in this study in terms of theoretical comparison and simulation.

The original paper "Comparing consumer preferences for sustainable dairy activities among countries" by Aizaki and Takeshita (2023) measures consumer preferences for 11 sustainable dairy activities and examines the differences in preferences among five countries: the UK, the Netherlands, France, Italy, and Japan. A case 1 best–worst scaling is used to evaluate greenhouse gas emissions, fertilizer application, soil management, water management, biodiversity, working environment, animal care, wastes, market development, rural communities, and product safety and quality. Consumers across countries have diverse preferences for sustainable dairy farming activities, which may be related to the COVID-19 pandemic and social attention toward the environment and agriculture. Preferential differences for some activities were also revealed by gender and age. When discussing the priorities of some activities, conflicts between gender and generations could arise. Information on consumer preference can help various stakeholders discuss how to improve the sustainability of the dairy sector.

The original paper "Exploratory extended redundancy analysis using sparse estimation and oblique rotation of parameter matrices" by Yamashita (2023) proposes a new exploratory variant of Extended Redundancy Analysis called Exploratory ERA (ExERA), which does not require the group structure but estimates it using the dataset. ExERA is further classified into the following two procedures: ExERA-Sp and ExERA-R. ExERA-Sp estimates the group structure of independent variables by sparsely estimating the weight matrix, while ExERA-R approximates a similar structure obtained using ExERA-Sp and obliquely rotating the weight matrix. The performance of the two procedures was investigated using numerical simulation and a real data example. The results showed that the proposed methods are effective for exploratory data analysis.

The note "The effect of individual-level adaptive stimulus selection on the group-level parameters for cognitive models" by Fujita et al. (2023) investigated the effect of adaptive stimulus selection on group-level parameters. Two simulation studies indicated that the individual-level adaptive stimulus selection led to higher estimation precision of group-level parameters than random stimulus selection on

elaborated decision-making models. Based on these results, it is suggested that individual-level adaptive stimulus selection methods be adopted even cases where the research interest leans toward group-level parameters.

The short note "An algorithm for sparse factor analysis with common factors and/or specific factors dissociated from errors" by Adachi (2023) presents an algorithm for the sparse factor analysis procedure, which modifies factor analysis so as to provide a sparse loading matrix underlain by the comprehensive factor analysis model, with the algorithm based on an alternating direction method of multipliers. The algorithm also covers the variants of the procedure, in which the model assumption is relaxed so that either common or specific factor part may be correlated with the error part.

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