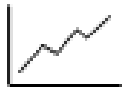


Pedagogical Activities for Enhanced Teaching of Quantitative Methods

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Abstract ■ Statistics plays a crucial role in our daily lives, enabling us to make informed decisions and understand trends. Quantitative methods courses are particularly known to generate more anxiety than other mainstream courses (Baloglu, 2003). This editorial introduces a special issue on statistical vignettes.

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Concept to be presented

Statistics plays a crucial role in our daily lives, enabling us to make informed decisions and understand trends. We rely on them to critically evaluate the accuracy of statistics presented in news reports, advertisements, and political statements, as well as for budgeting our money. However, it is well-known that courses in quantitative methods are generally unpopular among students (Cui et al., 2019), especially in the humanities, social sciences, and health fields. Many students experience difficulties and unpleasant feelings in their statistics courses (Paechter et al., 2017). Quantitative methods courses are particularly known to generate more anxiety than other mainstream courses (Baloglu, 2003).

We believe that offering engaging pedagogical content will help students appreciate this valuable discipline. This special issue aims to provide useful open-access pedagogical activities for instructors and students.

Content

These 6 new vignettes can be structured as follows. The first cluster of activities concerns comparisons. van Vugt (2024) presents an activity that studies the effects of nuisance variable imbalance on typical group comparisons in-

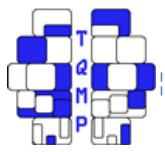
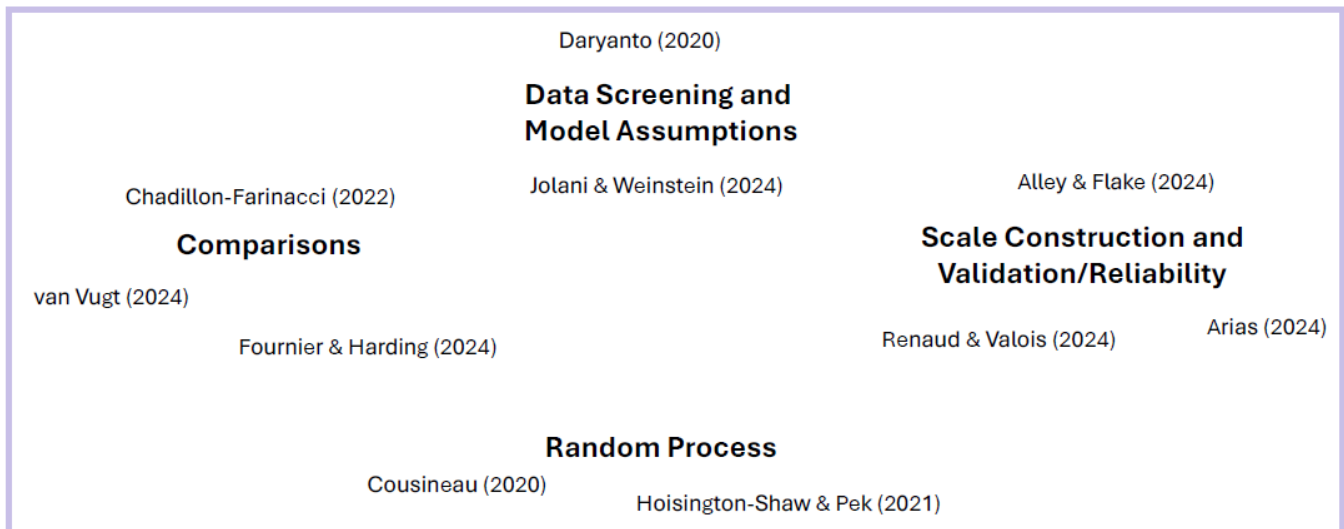
volving t-tests and ANOVA. Fournier and Harding (2024) propose a vignette that uses stochastic processes to study mean comparisons and differences between groups, studying the effect size when addressing the importance of the difference between means.

Three vignettes address the unusual question of test construction and validation in this kind of publication. Alley and Flake (2024) introduce the Pickle Fanaticism Scale and accompanying activities that focus on item analysis and reliability. Renaud and Valois (2024) present a pedagogical activity to help students learn how to develop an attitude scale using a Likert response option. Arias (2024) proposes an activity to clarify the concept of validity as it relates to the Standards for Educational and Psychological Testing and socioculturally sustaining assessment.

Finally, Jolani and Weinstein (2024) suggest an activity that focuses on the missing indicator method for handling missing data in covariates.

TQMV: where are we now?

When we created this series of short articles (Béland, 2020), our goal was not only to propose activities that can be applied to improve the teaching of data analysis but also to other steps of quantitative research, such as design, data collection, data screening, and validation of scores. To date,

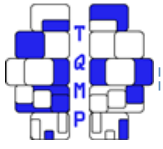
**Figure 1** ■ Map of published vignettes

we have published ten articles that can be classified as shown in Figure 1.

Many journals publish valuable pedagogical articles, but they typically focus on the data analysis step, leaving much more to explore. As the reader can see, many topics remain uncovered, so don't hesitate to submit a vignette!

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Extended activity metadata

<i>Concept illustrated</i>	<i>Type of activity</i>
<i>Prerequisite</i>	<i>Types of data</i>
<i>Co-requisite</i>	<i>Computation by</i>
<i>Suitable class size</i>	<i>Duration</i>
