

STATISTICS EDUCATION RESEARCH JOURNAL

Volume 12
Number 1
May 2013



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STATISTICS EDUCATION RESEARCH JOURNAL

The *Statistics Education Research Journal (SERJ)* is a peer-reviewed electronic journal of the International Association for Statistical Education (IASE) and the International Statistical Institute (ISI). *SERJ* is published twice a year and is free.

SERJ aims to advance research-based knowledge that can help to improve the teaching, learning, and understanding of statistics or probability at all educational levels and in both formal (classroom-based) and informal (out-of-classroom) contexts. Such research may examine, for example, cognitive, motivational, attitudinal, curricular, teaching-related, technology-related, organizational, or societal factors and processes that are related to the development and understanding of stochastic knowledge. In addition, research may focus on how people use or apply statistical and probabilistic information and ideas, broadly viewed.

The *Journal* encourages the submission of quality papers related to the above goals, such as reports of original research (both quantitative and qualitative), integrative and critical reviews of research literature, analyses of research-based theoretical and methodological models, and other types of papers described in full in the Guidelines for Authors. All papers are reviewed internally by an Associate Editor or Editor, and are blind-reviewed by at least two external referees. Contributions in English are recommended. Contributions in French and Spanish will also be considered. A submitted paper must not have been published before or be under consideration for publication elsewhere.

Further information and guidelines for authors are available at: <http://www.stat.auckland.ac.nz/serj>

Submissions

Manuscripts must be submitted by email, as an attached Word document, to co-editor Robert delMas <delma001@umn.edu>. Submitted manuscripts should be produced using the Template file and in accordance with details in the Guidelines for Authors on the Journal's Web page: <http://iase-web.org/Publications.php?p=SERJ>

© International Association for Statistical Education (IASE/ISI), May 2013

Publication: IASE/ISI, Voorburg, The Netherlands

Technical Production: California Polytechnic State University, San Luis Obispo, California, United States of America

ISSN: 1570-1824

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EDITORIAL

Welcome to the first issue of *SERJ* for 2013. This issue ushers in several changes for *SERJ*. You will undoubtedly have noticed the new web page design. The IASE moved to a new server with a new web design that makes it easier to navigate *SERJ* and other IASE web pages (www.iase-web.org). Secondly, a downloadable and newly designed cover page and table of contents will now be included for each issue of *SERJ* that we invite you to look at. Finally, there are several people leaving and others joining the *SERJ* Editorial Board, which I note on the next page.

This issue consists of three articles that present studies in three different areas of statistics education research: statistical problem solving, assessment instrument development, and attitudes towards learning statistics. The first article by Stephanie Lem, Patrick Onghena, Lieven Verschaffel, and Wim Van Dooren from KU Leuven presents a study on how students use graphical displays when performing statistical tasks. Based on a theoretical framework of cognitive fit, the researchers predicted that a graphical display facilitates statistical problem solving when the features of the display match the cognitive processes required by the task. They developed versions of an assessment instrument, carefully balancing the degree of predicted fit between tasks, which asked students to judge differences in characteristics between two distributions (e.g., which distribution has the smallest variation), and the type of graphical display. They report some very interesting results that provide partial support for cognitive fit theory with respect to comparing distributions. I believe you will find their discussion of the results of particular interest.

The second article, by Sharon Lane-Getaz (Saint Olaf College, MN), presents research on the development of an assessment instrument called the *Reasoning about P-values and Statistical Significance* (RPASS) scale. The RPASS was designed to assess aspects of students' statistical inferential reasoning. The article presents details about the development of the seventh version of the scale. The study presents an excellent example of how multiple sources of information are needed to provide evidence of an instrument's reliability and validity, and the amount of time and attention to detail that is needed to collect this evidence. After reading this article, you will have an appreciation for the details involved in developing an instrument for research purposes, as well as the measurement characteristics of the RPASS and how it can be used for both research and assessment.

The study reported in the final article by Amanda Williams (Texas Tech University) looks at the relationship between students' intolerance of uncertainty, worry, and statistics anxiety. The article presents a very nice review of the extant literature that led the author to hypothesize relationships among these affective states and dispositions. Results from a study conducted with graduate students provided some support for the hypothesized relationships. Of particular interest was the finding that whereas the decrease in different aspects of statistics anxiety, an affective state, from the start to the end of a statistics course was statistically significant, the evidence did not establish decreases in the dispositional states of worry and intolerance of uncertainty. Researchers in this area should find the study design and characteristics of the research instruments of interest.

ROBERT DELMAS

NEW AND “RETIRING” ASSOCIATE EDITORS

Several people who have served as Associate Editors, some since the start of *SERJ*, have recently “retired” from the *SERJ* Editorial Board. I want to give special thanks to **Andrej Blejec**, **Flavia Jolliffe**, **Katie Makar**, **Lionel Mendoza**, and **Christine Reading** for their invaluable years of service, especially handling the reviews of manuscripts submitted to *SERJ*. They made my job as editor much easier by finding excellent reviewers and writing thoughtful reports. They will all be missed.

But as the old go out, in come the new. Please join me in welcoming **Tim Jacobbe** (University of Florida), **Aisling Leavy** (Mary Immaculate College – University of Limerick), and **Hollylynne Stohl Lee** (North Carolina State University) as new Associate Editors for *SERJ*. They have already been put to work handling the review of submitted manuscripts and I am looking forward to having them on the team.

ACKNOWLEDGEMENT

We want to thank **Larry Lesser** (The University of Texas at El Paso) for assisting with the copy editing for this issue.