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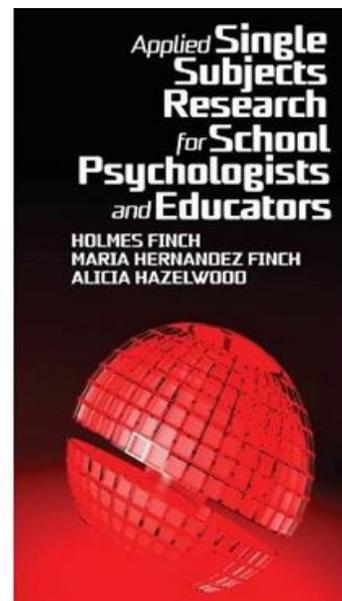
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In *Applied Single Subjects Research for School Psychologists and Educators*, Finch, Finch, and Hazelwood offer a slim but wide-ranging resource for service providers who broadly comprise the field of education. As the title implies, the volume was written with school psychologists and educators in mind, but it is useful for other special education personnel such as speech pathologists, social workers, behavior analysts, and myriad others. All these professionals share the goal of applying interventions or treatments to improve individuals' lives. The primary goals of the book are to provide the aforementioned professions with a cursory knowledge of single subjects research (SSR) design and varied methods of data interpretation.



These are laudable goals since single subjects methodology has proven to be an area of increasing interest in establishing intervention efficacy in both the academic and applied special education settings. The authors offer several reasons for this increased attention in their opening chapter: "...single subject research designs might prove to particularly useful when a clinician is interested in the impact of an intervention on a specific individual" (p. 2). They go on to recognize that group-based studies in special education are frequently impossible due to sampling limitations. "The standard approach to obtaining large samples to which statistical analyses can be applied may simply not be feasible in this context" (p. 2). These quotations recognize the

Whitley, S. (2023, February 22). Review of *Applied single subjects research for school psychologists and educators*, by H. Finch, M. H. Finch & A. Hazelwood, A. *Education Review*, 30. <http://dx.doi.org/10.14507/er.v30.3587>

fundamental aspects of special education in its applied setting in that it is a discipline that focuses on the unique needs of the individual who frequently possesses concomitant low incidence needs.

Finch, Finch and Hazelwood understand that the field of special education is composed of clinicians from wide ranging disciplines who bring divergent background knowledge to the contents of the text. Accordingly, the book attempts to meet readers where they are with their understanding of the subject matter. The authors provide interested readers not with a comprehensive overview of SSR, but rather with a reference book that provides “stand-alone units” (p. 4). The units include coverage of:

- 1) Basic statistical concepts
- 2) Several SSR designs
- 3) Interpretation of SSR results
- 4) SSR descriptive measures
- 5) Hypothesis testing in SSR
- 6) Small – N designs

The units are also accompanied by a supplemental software package used to conduct some of the statistical analyses discussed in the text. These chapters, while interconnected, can be read in isolation. This strategy accommodates a wide audience with diverse reasons for reading the text.

Beyond the appealing structure of the book, *Applied Single Subjects Research for School Psychologists and Educators* possesses several other positive attributes. The authors provide several chapters centered on the statistical analysis of SSR results. While not typically required in the context of the SSR paradigm, the possible benefits of the statistical analyses offered in the book are two-fold. First, they offer an interpretive adjunct when discussing the results within a SSR design. For instance, parents and other clinicians who are unfamiliar with SSR principles may glean greater understanding of an intervention’s graphic results when interpreted alongside the standard deviation band plots or box plots discussed in chapter four. Second, in chapter five the authors discuss several analyses that can be used to describe and summarize the efficacy of an intervention. These analyses include traditional statistics such as standardized mean difference and percent non-overlapping data and newer less familiar statistics like proportion of nonoverlapping points and Tau-U. The discussion of these measures may improve the research literacy of applied clinicians, while also offering them metrics to evaluate and defend their efficacy as service providers. It must be noted, however, that these rule-of-thumb techniques lack a foundation in established inferential statistical theory, such as would be found in Glass, Willson, and Gottman (2008).

The desire of the authors to engage numerous types of reader with numerous subject matters that often require their own treatment in lengthy texts is, in this reviewer’s estimation, a significant weakness of *Applied Single Subjects Research for School Psychologists and Educators*. As previously mentioned,

the authors did not intend for their work to be a comprehensive survey of SSR design but rather a supplement. While this approach is laudable, it severely limited their discussion of SSR designs. The authors, in little detail, discuss AB, ABA, ABAB, multiple baseline, and alternating treatment designs. In their own defense, they state they seek only to provide an overview of the most common SSR designs. However, they neglect to discuss other designs that are frequently implemented in applied settings such as multiple probe, alternating criterion, and multi-element. Furthermore, the graphs that are provided to illustrate each design discussed suffer from several serious flaws. For example, instead of the multiple baseline design figure consisting of three stacked graphs with phase change lines indicating staggered intervention implementation, the figure shows data from three separate students plotted on a single graph.

Perhaps the weakness of most concern is that there is little to no discussion of some of the most important considerations in SSR design. First, readers will not gain a sufficient understanding of what design is most appropriate for use in different circumstances. For instance, on page 33 they state, "Although very simple, and thus relatively easy to implement, the AB design is generally not recommended for practice..." A statement of this sort is not factually incorrect, but the authors fail to provide readers with the caveat that this design is occasionally absolutely necessary and ethically imperative such as when dealing with self-injurious behaviors. To the authors credit, they do make mention of this ethical concern in the context of the ABAB design when they state, "...in the case of a cognitive behavioral therapy intervention designed to lower anxiety levels in a patient, it would not be ethical for the intervention to be withdrawn..." (p. 36). Finally, there is little in the way of discussing internal validity threats in SSR. The authors do not discuss the operationalization of behavior, the calculation of inter-rater agreement, instrumentation error, or social validity. What is most unfortunate about not including these concepts is that understanding them is requisite to SSR and not appropriately addressing each may render the strength of this text and the statistical analyses, void.

In summation, despite the elucidated weaknesses, *Applied Single Subjects Research for School Psychologists and Educators* still possesses value for its target audiences. As a practicing school psychologist and doctoral student, I appreciated the authors' treatment of the role of statistical analysis in SSR. With that said, it is likely best used as a supplement to a text that provides a deeper examination of the key concepts of SSR.

References

- Glass, G. V, Willson, V. L., & Gottman, J. M. (2008). *Design and analysis of time-series experiments*. Information Age Publishing.

About the Reviewer

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