Ivan Jacob Agaloos Pesigan

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References

Arnold: Stochastic differential equations: Theory and applications **Arnold-1974**

Ludwig Arnold. *Stochastic differential equations: Theory and applications*. A Wiley-Interscience publication. New York, NY: Wiley, 1974. 228 pp. ISBN: 9780471033592.

Baltes et al.: History and rationale of longitudinal research **Baltes-Nesselroade-1979**

Paul B. Baltes and John R. Nesselroade. "History and rationale of longitudinal research". In: *Longitudinal research in the study of behavior and development*. Ed. by John R. Nesselroade and Paul B. Baltes. New York, NY: Academic Press, 1979. ISBN: 9780125156608.

Abstract: Within the context of developmental psychology, longitudinal research is defined and reviewed from a historical perspective. Longitudinal research is shown always to include repeated-measurement methodology as the defining attribute, with individuals being the entity under study in developmental psychology. Additional characterizations vary, depending on historical and theoretical contexts. The need for longitudinal research was recognized at least as early as the nineteenth century. Terminology and specification of rationale, however, did not appear until the second or third decade of the twentieth century. The term longitudinal was initially identified in the context of age-based definitions of development. Recent decades, however, have seen an expansion of developmental theory beyond monolithic views to include age-irrelevant and multidirectional conceptions of the nature of development, particularly if a life-span perspective is taken. Such a pluralistic conception of behavioral development implies a more generic definition of longitudinal methodology than is associated with the traditional age-developmental view. Finally, it is important to recognize that the objective of longitudinal methodology is not only the descriptive identification of change.

The objective includes explanatory goals also. Only recently has the unique strength of longitudinal research for explanatory efforts been recognized. In the second section of this chapter, a series of rationales for longitudinal research are outlined. These rationales are developed within the context of developmental psychology. They deal with (1) the direct identification of intraindividual change; (2) the identification of interindividual differences in intraindividual change; (3) the analysis of interrelationships in behavioral change; (4) the analysis of causes (determinants) of intraindividual change; and (5) the analysis of causes (determinants) of interindividual differences in intraindividual change. In a third section, selected issues in longitudinal designs and analysis are briefly reviewed. The need for complex longitudinal designs and control groups is emphasized to help counteract the rather widespread assumption that simple longitudinal studies are invariably sufficient for answering developmental questions. Furthermore, general limitations on aspects of developmental research associated with the study of assigned variables such as age, sex, or cohort are outlined. These limitations place constraints on design purity and mandate the use of and familiarity with alternative quasi-experimental designs. As an example, some of the problems associated with causal analysis involving distal (delayed, mediated) influences and the use of lagged paradigms and causal modeling are discussed.

Rogosa: Causal models in longitudinal research: Rationale, formulation, and interpretation **Rogosa-1979**

David R. Rogosa. "Causal models in longitudinal research: Rationale, formulation, and interpretation". In: *Longitudinal methodology in the study of behavior and development*. Ed. by John R. Nesselroade and Paul B. Baltes. New York, NY: Academic Press, 1979. ISBN: 9780125156608.