

Multiple randomizations

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Multitiered experiments are characterised by involving multiple randomizations, in a sense that we make explicit. We compare and contrast six types of multiple randomizations, using a wide range of examples, and discuss their use in designing experiments. We outline a system of describing the randomizations in terms of sets of objects, their associated tiers and the factor nesting, using randomization diagrams, which give a convenient and readily assimilated summary of an experiment's randomization. We also indicate how to formulate a randomization-based mixed model for the analysis of data from such experiments.