

The Experimental Method and Leisure/Recreation Research: Current Usage and Future Prospects

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INTRODUCTION

A reoccurring theme in critiques of leisure and recreation related research efforts is the need for giving more attention to alternative investigation techniques, particularly experimental and qualitative studies, in order to complement the survey research approach most common to the field (Ellis and Witt, 1983; Mannell, 1983; Riddick, DeSchriver and Weissinger, 1984; Iso-Ahola, 1986; Manning, 1986; MacNeil, 1988; Dann, Nash and Pearce, 1988). Riddick et al. (1984, p. 320) argue that "it seems obvious that if leisure studies is to take its place among more widely recognised disciplines it must adopt multiple methods of inquiry necessary to gain such status". Recently, Howe (1985) presented a case for the increased use of qualitative methods in the study of leisure. This paper provides a content analysis of recently reported experimental research and examines issues relevant to the use of experimental methodologies for the purpose of increasing the appropriate use of experimental methods in leisure and recreation research.

METHODS AND DISCUSSION

A content analysis was conducted for experimental studies which were published in six major leisure/recreation journals for the five year period following Riddick et al.'s (1984) critique. The six journals included: Journal of Leisure Research, Leisure Sciences, Society and Leisure, Leisure Studies, Journal of Park and Recreation Administration, and Therapeutic Recreation Journal. Each article was reviewed independently by two reviewers to determine if some form of experimental method was used. In the rare cases where disagreements between the reviewers occurred, discussion resulting in clarification and compromise ensued until agreement was reached.

Very few experimental studies were reported in five of the six journals (Journal of Leisure Research, Leisure Sciences, Society and Leisure, Leisure Studies, Journal of Park and Recreation Administration). Experiments comprised less than five percent of the total output. The Therapeutic Recreation Journal (TRJ) reported more than twice as many experiments as the other six journals combined. Experiments accounted for just under 20 percent of the research in TRJ. Examples from the content analysis provide a basis for further discussion of experimental design in recreation and tourism contexts.

Much of the discussion regarding experimental research centres around the question, "when are experiments appropriate?" Iso-Ahola's (1980) examination of the evolution of recreation and leisure research in the context of Hollander's (1971) paradigm provides a partial answer to this question. Iso-Ahola argues that researchers do not begin asking "why" types of questions until an academic field matures to the third stage (social analysis) of its development. Social analysis occurs with the emergence of systematic efforts to explain relationships among variables.

It is in the domain of social analysis, not elsewhere, where experiments have their place because experiments (especially when conducted in a laboratory setting) cannot mirror reality. Experimental methodologies become increasingly appropriate as leisure and recreation researchers conduct more studies that are not simply descriptive. However, this should not suggest that experiments can replace other methodologies. Their role should be viewed as complementary.

Experiments are usually defined by virtue of the control they afford. The notion that "experimentation involves the systematic observation of some phenomenon, under controlled

conditions" (Abrahamson, 1983, p. 172) is a common component of definitions of experiments. There are three types of experiments: laboratory, field, and quasi. The most controlled type of experiment occurs in the laboratory. The "laboratory" can be any situation in which the researcher can manipulate the conditions and control the type and amount of stimuli related to the independent variable. Because the degree of control is high, the artificiality of laboratory experiments is also high. To many researchers, this signals an inescapable flaw for experiments (Borgatta and Bohrnstedt, 1974; Singleton et al., 1988). This flaw is termed low external validity, or the lack of correspondence between what is investigated in the laboratory setting and the phenomena of the real world.

A number of researchers including Martin and Sell (1979), Henschel (1980), and Sell and Martin (1983) take issue with the low external validity argument. In particular, Martin and Sell (1979) maintain that there are two basic approaches toward knowledge: the *descriptive theoretical* approach and the *formal theoretical* approach. The descriptive theoretical approach is concerned with the explanation of processes as they occur at one point in time. The artificiality of laboratory settings create insurmountable problems with this approach. However, when using the formal theoretical approach, artificiality is an advantage because of the strengthened control it provides. Generalizability, while still possible, is somewhat more complex because results can only be generalized to law-like statements. Law-like statements can be applied to an existing state of affairs only after they have been thoroughly tested.

Laboratory experiments have been used in several leisure and recreation contexts. For example, researchers have examined relationships between free play and problem-solving ability (Barnett, 1985), tested the relative effectiveness of various training techniques (Dwyer et al., 1985; Munson et al., 1986), examined the effectiveness of persuasive messages (Havitz and Crompton, 1990) and the relationship between perceived freedom and leisure (Mannell and Bradley, 1986). Future experiments would appear to be useful for examining a variety of leisure and recreation related research questions. Situations where the researcher wishes to study conflict or power relationships (for example, bilateral deterrence theory), to manipulate variables such as perceived freedom, or to create gaming situations involving trade-offs, are all potential areas of research interest conducive to experimental examination. In addition, applied topics such as testing the effectiveness of leisure education programming, interpretive efforts, and promotional efforts lend themselves to experimental study. Experiments might also be used to examine the effects of independent variables such as price, weather, access, government policy or time constraints on recreation and travel decision making.

The difficulties inherent in studying leisure in controlled laboratory settings may lead researchers to consider field experiments. Field experiments are conducted in "natural settings" and while the researcher can still manipulate the treatments to some extent, the setting cannot be completely controlled. This method has been used in several recent studies; for example, to test the effectiveness of various information dissemination techniques (Huffman and Williams, 1987; VanderStoep and Gramann, 1987), changing attitudes (Backman and Mannell, 1986; Aguilar, 1987), and for examining changes in reference price levels (McCarville and Crompton, 1987).

The VanderStoep and Gramann (1987) study serves to illustrate the strengths and weaknesses of the field setting when compared with a laboratory setting. VanderStoep and Gramann (1987) examined the effects of various treatment messages in reducing depreciative behaviour among park visitors. Their field experiment allowed for greater generalizability than a laboratory study because actual park users served as subjects in a "real" park visit situation. The researchers were able to maintain tight control over the content and administration of the various treatments, but had less control over the setting (a 12 to 16 mile system of trails) which complicated data collection involving the observation of subjects' behaviours.

Quasi-experiments are defined by the inability to completely control or manipulate treatments (Campbell and Stanley, 1963). Studies which do not (or cannot, as is often the case with medical and therapeutic treatments) randomly assign subjects are included under this heading. Numerous

examples of these studies can be found in TRJ (for example, Buettner, 1988; Reid et al., 1988; Zoerink, 1988).

However, researchers sometimes have used quasi-experimental designs when other designs are both appropriate and feasible. Experiments conducted by McCarville and Crompton (1987) and Reiling, Criner and Oltmanns (1988) on the issue of pricing illustrate this point. The intentions of the studies were strikingly similar. Both studies concluded that information had a mitigating effect on potential participants' dissatisfaction with price increases. However, because the McCarville and Crompton (1987) field experiment provided different combinations of information to each of four groups (including a control group which was given no information), it enabled stronger inferences about the influences of various types of information than did the Reiling et al. (1988) quasi-experiment.

Another aspect of control often discussed in reference to experiments is experimenter effects. Mannell and Bradley (1986) describe a classic double-blind situation devised to control this problem. In this case, both the subjects and the person administering treatments are unaware of the actual intent of the study. Other solutions were used by Havitz and Crompton (1990) who videotaped treatments and Loomis (1989) who introduced treatments using a computer. Experimenter effects *can* be reduced in experiments to an equal or perhaps even greater extent than interviewer effects can be reduced in descriptive survey situations.

This paper has examined the current state of experimental research in leisure and recreation contexts and provided discussion related to several issues relevant to the use of various forms of experimental design. The intent of this discussion is to facilitate the increased use of quality experimental designs in leisure and recreation research.

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