VALIDITY IN ENVIRONMENT/BEHAVIOR RESEARCH

Some Cross-Paradigm Concerns

RACHEL KAPLAN *is Professor of Environmental Psychology in the School of Natural Resources at the University of Michigan, where she is also Professor in the psychology department. Her research focus has been in the areas of environmental preference, citizen participation, and the role of the nearby natural environment. She also teaches courses on research methods in environment and behavior.*

ABSTRACT: "Transactional Qualities of Neighborhood Social Networks" (Oxley et al., 1986) provides a thorough analysis of interrelated patterns contributing to neighborhood networks in two seasons. It also provides what appears to be an excellent example of a transactional approach. The authors rightly identify it as a case study. This brief essay raises some questions about the internal and external validity of the Christmas Street study, while also commending the holistic and longitudinal approach that was taken.

ENVIRONMENT AND BEHAVIOR, Vol. 19 No. 4, July 1987 495-500
© 1987 Sage Publications, Inc.

Stability and change. Breadth and depth. More about less or less about more. Researchers always need to struggle with these issues. The transactional approach seems to have found the ideal solution: it embraces all of them. The transactional worldview as described in "Transactional Qualities of Neighborhood Social Networks" (Oxley et al., 1986) is the researcher's dream. Here is a position that is clear on the necessity of studying things holistically to examine the many interrelated aspects in context of time and place. It recognizes that there is both stability and change and that both must be studied. It appreciates that both unique events and general events are thought-provoking and that in the real world, simple, single variable causal explanations are unlikely to be sufficient.

It would be foolhardy to be "against" such a wholesome position. Clearly attempts to study phenomena in their full richness must be praised and encouraged. So much contemporary research views only a small slice of life, under unrealistic conditions, that one must be concerned about the utility of such efforts. A study such as "Christmas Street" is refreshing in tackling many intertwined issues in a real setting.

But I find myself having misgivings. I am not happy to have such misgivings and am reluctant to share them. I have great respect for the authors of the article and fully support many of the basic tenets of transactionalism. To study things holistically is clearly appropriate and many of us think we do that, although it is undoubtedly a matter of degree. That change and stability are inherent in any living system is also undeniable (and fortunate). A focus on patterns of relationships is central to our emphasis on "discovery" as well (Kaplan and Kaplan, 1982).

My misgivings involve two concerns: First is the value of studying unique events when it is not clear in what way the unique can be generalized. This is a problem with many case studies. The second concern is with the lack of guidelines for determining when findings are valid and

when they are spurious. When the summer and Christmas networks patterns seem similar, one can say there is stability; when they are different, there is change. Without some guidelines, one is assured that all results will be interesting and worthwhile. But might there also be other reasons underlying the findings? Researchers, no matter what their worldviews, must be concerned about the possibility of measurement error and about the dangers of faulty conceptualization of constructs.

UNIQUENESS

Why and when are unique or unusual events important to study? There are many environmental events that one would ideally study when they are still relatively rare. While one cannot be certain what aspects of Love Canal or Three Mile Island, for example, are idiosyncratic, it is nonetheless vital to study such situations and learn from them. Natural hazards offer another category of less frequently occurring events where an understanding of each instance is potentially important. Unique events such as natural hazards and situations that pose major health risks are generally studied with the intention of generalizing from the single instance to similar situations that may occur in the future.

Other case studies are intended to represent a general class of events, to be prototypic in some sense. A book such as *Easter Hill Village* (Cooper, 1975), for example, discusses a unique situation, but it is not difficult to appreciate that it typifies a type of residential setting that is quite common. Cooper concluded the book with numerous recommendations that are reasonable for other settings because of this underlying similarity.

But "Christmas Street" offers a different kind of uniqueness. This setting is not portrayed as typical. Like other neighborhoods, this one is also undergoing change and its future may be quite different from its well-established past.

Like many other neighborhoods, it is not homogeneous with respect to various demographic characteristics. But the purpose of the study is not to draw on these generic aspects of neighborhood; rather, the focus is on the fact that it is "very unique."

The major question for me involves the generalizability of results of such unique events. Does the Christmas Street study provide "new explanatory principles" that are useful in understanding the relationship between the environment and neighborhood quality—and can it accomplish such insights more usefully than would a transactional analysis of two or more neighborhoods that are more typical? If my worldview differs from the authors', it is in this respect—rather than in a concern for causal analysis. The point we try to make in "Research as Intermediate Technology" (Kaplan and Kaplan, 1982) is that we can ill afford to invest in research that is low in external validity, even if the research is otherwise flawless.

STUDYING STABILITY AND CHANGE

The Christmas Street study is based on 29 families. These consisted of networks that were differentially cohesive, both in the summer and during the street's decorative season. The cohesiveness was partially related to age, length of residence, location within the street, and religion. These findings suggest stability. At the same time, they also suggest that there is a host of variables that might be related to networks; how these variables would manifest themselves will presumably vary from one situation to another.

The network clusters in the two seasons were also different in many ways. These findings perhaps suggest change. But they also suggest that at any two times, one's measurements will yield different results for any of a number of reasons.

Psychologists have long struggled with these issues. Even when one intends to measure presumably stable

phenomena, results all too often show variability from one occasion to another. Reliability in measurement is, unfortunately, affected by many extraneous factors. Campbell and Stanley's (1963) list of "threats to internal validity" provided a categorization of such factors. By now an expanded list of such potential threats has become the catechism of the well-trained researcher. While one might argue that such training has encouraged a tendency to follow too closely and in an unexamined manner a long list of unlikely concerns, the issue of internal validity is real and must nonetheless be confronted. Even when one is not directly examining causal relations, it is necessary to establish the role of other potential variables that might affect the findings.

At one level, I am fully supportive of the authors' establishing theirs as a different worldview. Many of us march to drummers who are not in the main parade. But, at the same time, all of us must be sensitive to the limitations inherent in any research. In this particular context, a limitation that has to be faced concerns the measurement of change. Research on change must always struggle with the fact that in addition to the true change in the situation being studied, there is inevitably apparent change that is the consequence of measurement issues. The findings of the Christmas Street study would be much more convincing if comparisons were offered with the same street at the same time of year (e.g., two summers to establish stability).

CONCLUDING COMMENTS

The traditions in different areas of science are quite distinct. Especially in those areas where the main paradigm is quite clear, there is noticeable territory-defending behavior that can get quite vicious and unpleasant. On the other hand, in the areas encompassed by *Environment and Behavior*, the paradigm is not at all clearly established and there is a willingness to accept diverse approaches. At the

same time, there is not the tradition of intellectual criticism.

My intention in making these comments is to reflect on the importance of both external and internal validity regardless of the worldview one is taking. Even within a framework that is oriented to a holistic appreciation and to examining patterns of relationships, there are, in my view, still two issues that must be addressed if research is to be durable. The first of these involves the selection of instances so that generalizability is enhanced and the second requires the acceptance that error is inherent in measurement. These issues impose constraints within which the researcher must function.

REFERENCES

- CAMPBELL, D. T. and J. C. STANLEY (1963) *Experimental and Quasi-Experimental Designs for Research*. Chicago: Rand McNally.
- COOPER, C. C. (1975) *Easter Hill Village: Some Social Implications of Design*. New York: Free Press.
- KAPLAN, S. and R. KAPLAN (1982) *Cognition and Environment: Functioning in an Uncertain World*. New York: Praeger.
- OXLEY, D., L. M. HAGGARD, C. M. WERNER, and I. ALTMAN (1986) "Transactional qualities of neighborhood social networks: a case study of 'Christmas Street.'" *Environment and Behavior* 18: 640-677.