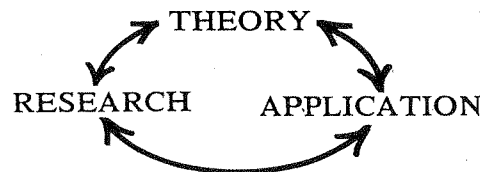


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*Bridging Research, Theory, and Application:
The Triple Threat in Science*

David H. Olson

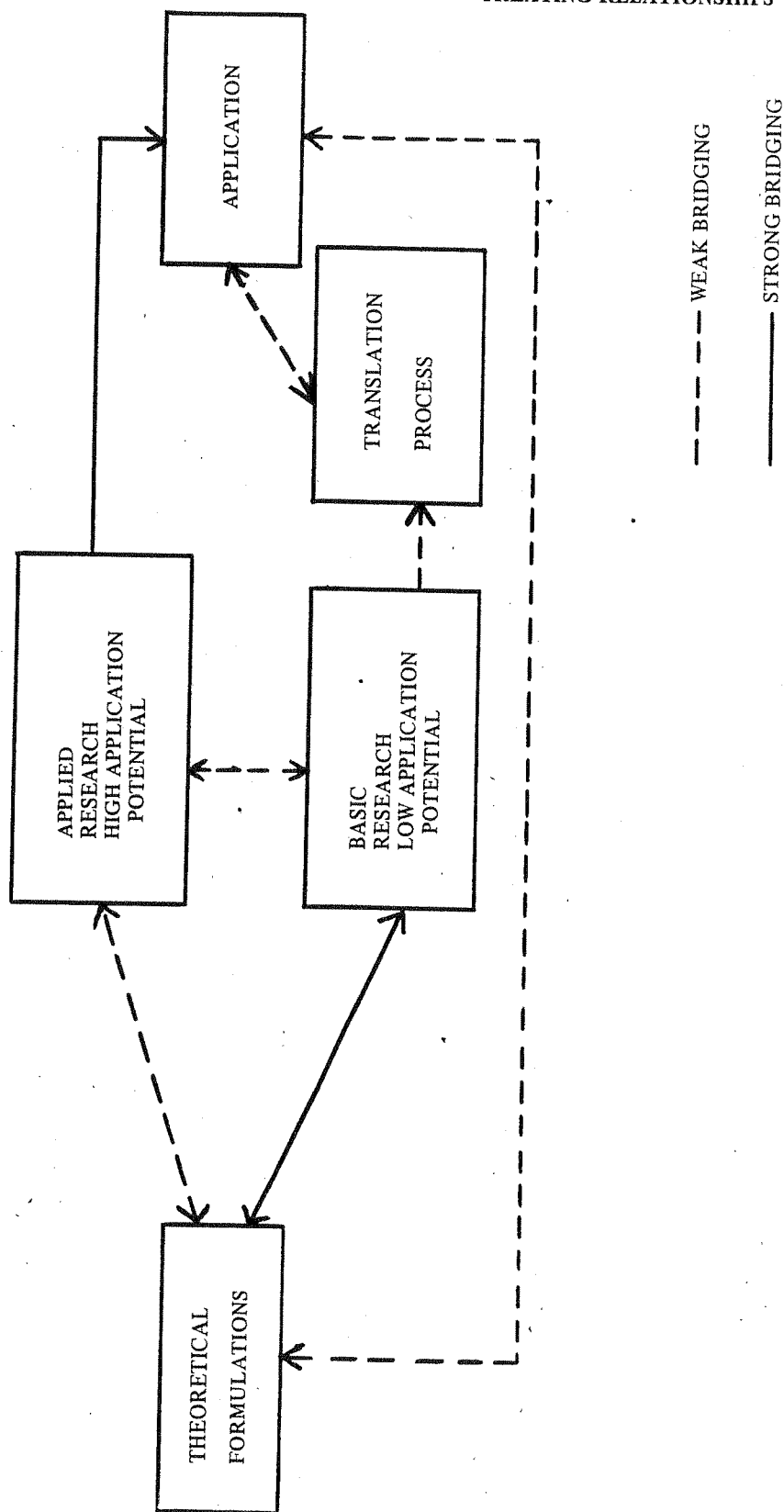
The primary purpose of this paper is to stimulate greater cooperative efforts between researchers, theorists and practitioners on issues related to treating relationships. This paper will describe some of the mutual advantages which can be derived from such a cooperative effort and will illustrate how this integration can be accomplished. Working in a collaborative manner, these professionals can provide a triple threat that will overcome many of the past limitations of scientific work in this area. The areas of marital and family therapy are rich with opportunities for integrative studies and past outcome studies on individual psychotherapy (Bergin and Garfield, 1971) have already demonstrated that greater cooperative ventures are needed.



The bridging of research, theory and application has been lacking in the field of marriage and the family. Although some headway has been made in bridging this gap in some marital and family therapy projects, it has primarily been because one individual had all three perspectives and not because of cooperative efforts by professionals specializing in these three domains. Some of these more integrative projects are discussed earlier in the book (i.e. Alexander, Guernsey, Miller, Patterson).

In order to describe the current relationship between research, theory and practice in the family field, a model was developed which identifies the various bridging points between these areas (See Figure I). This model identifies the three domains and indicates the current status of bridging between them. As in most fields, the strongest bridge is between theoretical formulations and basic research for most studies derive hypotheses from theory and these are then used to refine and develop the theory. However, both basic research and most theory have seldom been applied directly to treating relationships, although both can potentially be used if properly translated. In contrast, applied research by definition does relate more directly to practical problems, but it usually has weak linkages to both basic research and theory.

FIGURE 1. BRIDGING OF RESEARCH, THEORY AND APPLICATION



The strong linkage between theory and basic research and between applied research and application did not occur by accident. But the end result is often that there is a division among professionals such that they divide themselves into basic and the applied groups. The basic group has been most interested in developing and testing theory and is composed of individuals who have identified themselves as researchers and/or theorists. The applied group contains few researchers and consists mainly of marriage and family therapists or educators whose central focus is improving interpersonal relationships.

Unfortunately, these two groups often live in two different worlds essentially unaffected and unconcerned with each other. This divergence begins in graduate school where researchers and practitioners often take different courses. It is further magnified when they read and then eventually subscribe to different journals. Even the National Council on Family Relations (NCFR) has two different journals, one more for those concerned with theory and research (*Journal of Marriage and the Family*) and the other (*Family Coordinator*) more focused on application. NCFR is further divided into Sections (Research and Theory Section, Counseling Section, Education Section, and Family Action Section) and these Sections have separate programs at the annual meeting. Only recently—in 1969—and after some resistance, was a Family Action Section formed in an attempt to help bridge the gap between these groups. Fortunately, it is beginning to make some inroads in achieving this goal. The separation of these groups is not unique to the family field. As the social psychologist Muzafer Sherif observed: "Professional meetings and professional journals can almost convince a person that there is a cold war between those engaged in basic research and those in applied fields—when they are not ignoring each other completely. At times, it appears that the twain will never meet" (1967, p. 29).

The dichotomy between basic and applied groups is unfortunate because it tends to restrict the degree of interplay between what is empirical or theoretical and what is applied. Although this separation has a long tradition, it has been falsely assumed that this is the only way that science can progress. Similar dichotomies also exist within each of these domains, such as the methodologist's discussions of the value of self-report versus observational measures or the theoretician's debates over the value of inductive versus deductive theory building. Rather than defending the importance of any single domain, the writer maintains that more progress will be made both theoretically and in practice if research is theoretically based and focused on relevant issues to families and family practitioners.

IDEAL RELATIONSHIP BETWEEN RESEARCH, THEORY AND PRACTICE

Ideally, theoretical formulations should be derived from real life situations and then research should evaluate the validity of these ideas when they are later applied in these situations. A similar proposal was made regarding the field of social psychology by McGuire (1969) who suggested that the best of all worlds would be to do theory-oriented research in natural settings. He stated: "My best-of-both-worlds solution of testing basic theoretical derivations in natural settings would hopefully show the relevance to the real concerns of man of our seemingly trivial and jargon-laden theorizing. A more profound possible effect of such natural testing would be the development of theories in a somewhat more reality-oriented direction" (p.30).

First let us consider the ideal benefits that an integration of research, theory and practice can provide. The wise utilization of theory has greatly facilitated the rapid advances in many fields of science. Ideally, theory aids in summarizing present knowledge by reducing phenomena to basic underlying and interrelated principles or propositions. In so doing, it enhances our explanatory power. As stated elsewhere (Olson, 1970), theory can also offer significant contributions to research and practice by directing one to yet unobserved principles or relationships which are derived deductively from theory.

Once theoretically based hypotheses have been formulated, research plays the essential role of testing the postulated relationships. Such research ventures can significantly contribute to the development of more valid theory by clarifying the concepts with operational definitions, by indicating support or non-support for the hypothesized relationships, and by directing one in reformulating the unsubstantiated portions of the theory. If research can be directed or guided by systematic theory, this increases the likelihood that the results will contribute to the further development and organization of that theory. In other words, theory and research should ideally be integrated, and this integration would prove mutually beneficial. Theory could stimulate research and enhance the value of the findings, whereas research could test theoretically derived postulates and facilitate the development of improved ones.

If research in addition to being theoretically grounded, would also focus on applied problems, there would be numerous other advantages. First of all, an integrative approach would greatly increase the relevance of the research and theory so that they might be used by those who are in pressing need for practical solutions to their problems. Secondly, it could increase the validity of the findings by testing them out in real, rather than in contrived and artificial situations. Thirdly, if the research is theoretically based, it could

yield a more adequate test of the theory and would enable it to have consequences in practice. Fourthly, it could increase the probability that researchers would include a greater variety of significant variables rather than relying on the same few variables repeatedly utilized by others. Lastly, it could increase the extent to which the results could be generalized and would encourage people to apply such findings rather than having the research simply remain in the journals for colleagues to read.

In conclusion, research cannot be properly conducted without the guidance of theory, nor can theory be adequately developed or substantiated without empirical verification. If, in addition, theory-oriented research investigated real life problems, the coordinated approach would facilitate a complementary cycle of development in each area.

BUILDING BRIDGES BETWEEN RESEARCH, THEORY AND APPLICATION

This section will explore the advantages research and application can each have to the other; how theory and application might be better integrated; how theory and research mutually benefit each other; and how theory-orientated research on real problems is the best of all worlds.

Research and Application

Before exploring how researchers and practitioners can become more mutually beneficial to each other, some of the factors that help to explain and maintain the gap between these two groups needs to be identified. The following table indicates some of the salient differences in orientation to their

TABLE 1. APPROACHES OF FAMILY RESEARCHERS AND FAMILY PRACTITIONERS.

Characteristic	Family Researcher	Family Practitioner
Objective	Theory Development	Individual and Relationship Development
Focus	Studying Relationships	Changing Relationships.
Application	Long Term	Short Term
Method	Mainly self-report methods; rarely observational measures	Clinical observation
Setting	Field setting or Laboratory	Office, rarely home
Sample	One person from family, often wife/mother	Couple or family unit.
Design	Usually one-shot	Repeated observation
Validity	Construct validity	External validity

populations and typical methods and other "tools of the trade" used by each group. Comparison will focus on a typical family researcher and a family practitioner (therapist).

Because of their different orientations, researchers and therapists have generally ignored each other, or worse, have mistrust for the approach the other uses. Both are to blame for their lack of cooperation. Therapists have typically restricted themselves to their private offices while researchers have secluded themselves in their laboratories. Therapists have actually done little, if any research, taken little interest in research, and generally failed to recognize or appreciate the value it might have to their clinical practice.

Researchers too continue to go their own merry way and rarely ask questions that relate to clinical practice. Too often, they have selected topics of interest from previous journal articles and rarely have ventured into areas of interest or relevance to the family therapist. In discussing a similar problem in psychology, Sanford (1965) commented that: "You realize that the authors have never looked at human experience, they went straight from the textbook or journal to the laboratory, and thence into print and thence into the business of getting grants . . . psychological researchers do not know what goes on in human beings, and their work shows it. Not only is it dull . . . but it is often wrong" (p. 192). So much attention is given to the theoretical ideas and the methodology, that the questions that they investigate are often irrelevant to families and researchers end up being "reliably wrong" (Sherif, 1967).

Before family researchers and practitioners actually begin to work together in a more cooperative fashion, they both need to be aware of the benefits they will derive from such an endeavor. The following are some of the ways in which each could benefit from working more closely together.

A. Researcher's Contribution to Therapists

1. *Researchers could assist therapists in operationalizing their terms.* Typically, clinical concepts are often very difficult to define and researchers could help delineate both the conceptual and operational definitions of these terms. A good example of how elusive even well known family concepts can be is illustrated by the difficulties in trying to define and investigate the double bind (Olson, 1972a).

2. *Researchers can also help therapists clarify the relevant dimensions and specific goals of treatment.* Although therapists often assume that they generally agree on dimensions and goals of therapy, this is not necessarily true. For example, Rogers (1964) found that even "expert" therapists disagreed with each other and: "the only therapists who agree on goals of therapy are those who have been strongly indoctrinated in the same dogma. Not only is there divergence in what we mean by success, but . . . we do not

agree in what constitutes failure" (p. 7-8). Also, the dimensions that are of central value in treatment need to be specified. Is the goal to make each individual more satisfied with the relationship? Are role conflicts a central focus of family therapy? Is behavior change denied and, if so, what specific behaviors.

3. *Researchers can help therapists develop and use a greater variety of research methods for both initial diagnosis and as measures of change during treatment.* Although marital and family therapists focus on the interaction patterns rather than on just the personality characteristics of each family member, they have rarely used available evaluation methods to obtain objective information about the family. If a marital or family therapist used any clinical assessment instruments at all, they typically would rely on traditional personality instruments such as the MMPI or CPI. However, many research methods now exist (see Chapter 22 for review of diagnostic and evaluation methods) which can be used by the therapist. Many of these instruments can be used at the beginning of therapy to provide more objective diagnostic information.

Some of the instruments are designed so they can be re-administered at the end of treatment to measure the over-all effectiveness of the intervention. Researchers could also assist therapist in further testing and developing these and other types of instruments for use in evaluating treatment.

4. *Researchers can aid therapists in formulating researchable questions.* Although practitioners want to know how effective they are and what they can do to improve, many of the questions they ask are not defined in such a way that they can actually be investigated. For example, the question "Does treatment affect how families function?" can not be answered because it is so vague, but "Does behavior modification treatment change increase the number of positive statements made to each other?" can be investigated.

5. *Researchers can also provide normative data of relevance to practitioners, not only on their client populations but also on comparable non-clinic families.* In most cases, therapists do not really know how the families they are seeing differ from other families that are not seeking therapy. It could well be that many families have similar problems or crises but that some families learn how to handle them without coming to a professional. How other families effectively cope with decisions and conflicts would be another question of considerable value to family therapist. Further, do families define problems in different ways so what is a problem for one family would not be a problem for another family?

6. *Lastly, researchers can assist the therapist in carrying out studies on the effectiveness of various therapeutic strategies.* This type of project incorporates many of the previous points, but can only occur when there is a commitment of time to work on such projects. Unfortunately, for too many

therapists' time is money and they unwittingly get caught in the trap of seeing more and more clients without really spending much time considering, much less systematically evaluating, their own effectiveness or the success of the various types of therapeutic intervention they use.

B. Therapist's Contribution to Researchers

But cooperation between a researcher and a therapist is a two way street and researchers can also benefit from the interchange. The following are some of the advantages which accrue to family researchers.

1. *If family researchers would observe actual families in treatment, this would not only stimulate their interest in the general area but it would broaden their perspective on the complexity of family dynamics.* This could, hopefully, entice them into investigating questions of relevance to the practitioner and would generate new questions having both practical and theoretical implications. For example, rather than just asking who wins on various decisions, researchers might begin to study power strategies that individuals use and what effect that has on family solidarity. A potentially rich source of data on families can be obtained by observation of couples and families in treatment. As a family therapist once noted: "It will be hard for anyone who has seen families under the emotional impact of treatment to ever again do family research in traditional ways" (Framo, 1965, p. 455).

2. *Clinical data from families can be useful in both generating and testing hypotheses.* The richness and complexity of family therapy can provide an abundant source of data for generating "grounded theory" (Glaser and Strauss, 1967). This approach emphasizes the potential of discovering theoretical principles by working directly with research data, inductively generating ideas. Although Glaser and Strauss (1967) emphasize the value of research data for generating theory, clinical data can also be used for testing specific hypotheses.

The significance, both theoretically and empirically, of working with different types of groups is illustrated by the findings related to ad hoc group problem solving. Although Parsons' theoretical ideas about how family groups would solve problems was derived from Bales' empirical findings with ad hoc groups (Parsons and Bales, 1955), it wasn't until actual couples and families were studied that it was discovered that these real groups did not function in the same ways (Leik, 1963; Levinger, 1964). Mills' hypothesis and findings (1953) from ad hoc triads was also not supported when family triads were considered (Strodtbeck, 1954). Similar discontinuities might also be found between more disturbed and more normal families which would prove of value theoretically and therapeutically.

3. *Clinical observation might also encourage researchers to develop new methods which would focus more on the entire family system and would rely*

on observation technique, both in the laboratory and field, rather emphasizing only self-report procedures. Family researchers in the past have also relied too heavily on one person from the family, usually the wife, to report on family dynamics by some self-report measure (questionnaire or interview). For example, in studying family power, researchers have so exclusively relied on the wife that one scholar proposed that family sociology should be labeled "wives family sociology" (Safilios-Rothschild, 1969). As a result of this methodological bias, the importance and value of direct observation of family behavior is often overlooked by most researchers. This step of first-hand familiarity and careful systematic descriptions of the domain of study is a basic starting point for any researcher.

Researchers and theorists alike need to be encouraged to do more naturalistic observations of families before projects are initiated. As Lawrence Kubie (1952) observed years ago, the first task of the investigator in an area is to "make himself thoroughly familiar with phenomena as they occur in nature . . . Otherwise, investigators may use complex methods to prove something which needs no proving . . . The experimentalist should rather take up where the naturalist leaves off" (p. 64-5).

4. *Working in clinical settings will also enable the researcher to test the validity of various research methods.* Validity is an issue that researchers give only lip service to in most of their projects. For example, in studying family power the tradition was to rely exclusively on self-report measures from wives without even questioning, much less studying, the actual validity of such data. Researchers naively assumed that they were obtaining valid measures of objective reality, but were only tapping measures of subjective reality (Olson, 1972b). What individuals report is their subjective reality, but that is not the same as objective reality (behavior data) derived from the same situation. It was not until recent studies by more clinically oriented researchers (Olson and Rabunsky, 1972; Turk and Bell, 1972) that the validity of self-report measures of power were even questioned by researchers. This might not have been the case if they would have observed entire families in conflict and observed the frequent discrepancy between what family members said and what they did. Applied settings not only provide ample opportunities for cross validation of research methods, but also increase the awareness that this is both necessary and valuable.

5. *In addition to providing researchers with another research population, which is no small consideration, clinical settings provide a useful place to test and validate theoretical idea.* Laboratory research is not designed to be exact replicas of the real world, (Straus, 1971) but it is intended to test theory (Zelditch and Hopkins, 1961). Laboratory research does permit some experimental control over certain variables (such as in the SIMFAM game by Straus, 1968), that can effect a family's behavior. However, a family's

behavior under simulated crises in a laboratory situation will probably be both qualitatively and quantitatively different than if they are confronted with a real crisis in their relationship (i.e. possible divorce, threatened suicide or runaway child.) Because of these differences, replicating empirically tested theory in real life settings can be of benefit to both theorists and practitioners alike. As Festinger (1953) once stated: "It should be stressed again that the problem of application of the results from laboratory experiments to the real life situations is not solved by a simple extension of the results . . . It is undoubtedly important that the results of laboratory experiments can be tested out in real life situations" (p. 141).

6. *A very significant and yet untapped advantage of a clinical setting to a researcher is the possibility, under proper therapeutic conditions, to legitimately control some independent variables.* Most family researchers have been plagued with having to restrict their studies to comparisons of structural variables (social class, race, divorce, family size) as they naturally occur in different family groups. Variables compared could not legitimately be called independent or dependent because the causal relationship was unclear. Because various types of family therapy systematically attempt to change specific types of family behavior, these can legitimately be considered independent variables and the consequences of their use on various types of family behavior (dependent variables) can be systematically varied and studied. Not only would this information about direct causality be of benefit to the researcher, but it would also have implications for the therapist.

In conclusion, some of the mutual advantages of cooperation between the researcher and practitioner have been described. This same theme is also appearing in fields other than the family, as evidenced by the comment by a psychologist (Garner, 1972) who stated: "The quality of basic research is improved by communication between the basic research scientist and the people who have problems to solve. Thus, for scientists to engage in goal-oriented research, research aimed at solving problems already known to exist, is both to perform a service to society and to improve the quality of basic research itself" (p. 12).

THEORY AND APPLICATION

If there is any one "weakest" link in the relationship between research, theory and application, it is the one between theory and application. Many of the grand formal theories related to the family were never intended to be applied and the concepts and hypotheses were stated in such abstract terms that to apply them to real settings was literally a "leap of faith." Unfortunately, such abstraction tended to retard theory testing and development and minimize the chances of application. As Sherif (1967) observed in social psychology: "Abstraction becomes a game if divorced from actualities; it

becomes abstraction for its own sake or for the impression it may make on one's inner gymnastics for a select group of people who are 'in' on the secret and exclusive lingo" (p. 31).

The lack of application of theory has been blatantly obvious to those who have reviewed the family life education or marriage or family therapy literature. While theorists have begun to outline strategies for theory development (Aldous, 1970; Burr, 1973; Reynolds, 1971), little attention has been given to strategies for how to apply theory. Recently, however, some attention has been given to various strategies for applying theory to applied settings (Burr, et al., 1973; Glaser and Strauss, 1967; Strupp and Bergin, 1969; and Zetterberg, 1962 and 1965).

Zetterberg (1962) was one of the earliest advocates of applying theory directed to practical situations. He stated: "We must know the day-by-day issues facing the practitioner and then search the storehouse of academic knowledge to see whether it might aid him" (p. 41). Rather than turning to research, Zetterberg proposed going directly to theory for answers to specific applied problems. He maintains that research can be used to verify or refute theories, but that it is not appropriate to directly apply findings from any given study to an applied situation.

Glaser and Strauss (1967) describe how grounded theory can be developed in such a way so that it can be more readily applied. They assert that theory must have four inter-related properties before it can be applied and these are: (1) fitness; (2) understanding; (3) generality; and (4) control over relevant events. Theory must contain concepts, hypotheses and issues that fit with the actual situation. Concepts must be described so that they can be readily understood, but they also need to be abstract enough so that they can be generalized to more than just one unique situation. Lastly, the variables must be ones that the practitioner can control so that they can actually be applied.

A theme expressed by both Zetterberg (1962) and by Glaser and Strauss (1967) is the importance of first hand observation of the real situation if theory is going to have direct relevance to practitioners. If individuals interested in developing theory did not just turn to previous theoretical propositions or empirical studies, but also visited and observed real settings such as family therapy, they would begin to consider dimensions and concepts of relevance to the practitioner. Also, they might discover new hypotheses that would be of benefit to their own theoretical development, but would also guide the activities of practitioners.

THEORY AND RESEARCH

Much more has been written about the linkages between research and theory and how they can be used in a complementary fashion than about any

of the other comparisons previously discussed. Also, more has been done in most fields to demonstrate the interdependence and complementary effect each can have on the other. Since more has been written about this relationship and since the section earlier in this paper regarding the "Ideal relationship between research, theory, and practice" also elaborates the interdependence of research and theory, less attention will be given to this topic.

Merton (1957) delineates the contributions of theory to research and vice versa. Briefly, research helps to clarify theoretical concepts, indicates where theory needs to be re-focused and helps to re-direct theory to yet undiscovered relationships. Theory, on the other hand, aids in summarizing knowledge and directing research to areas of theoretical relevance by suggesting new or expanded hypotheses.

Consideration should be given to the various types of research, i.e. exploratory, descriptive, and verification and their relationships to theory development. Exploratory or pilot research seeks to determine significant variables and relationships which can be later investigated in more elaborate and systematic projects. Descriptive research begins to delineate the salient characteristics of a given group and illustrates the potential relevance or value of given variables by indicating their relationship to other variables in the study. Verification research attempts primarily to evaluate theoretical propositions by testing relationships between particular variables.

It is verification research that contributes the most directly to theory development, both in terms of testing hypotheses but also in developing new ones. While Merton (1957) gives primary attention to how research can modify theoretical formulations, Glaser and Strauss (1967) emphasize the value of research in discovering grounded theory. Regardless of what orientation is taken it is clear that theory development and valid research are mutually dependent on each other.

THE TRIPLE THREAT OF RESEARCH, THEORY AND PRACTICE

In order to illustrate the value of theory-oriented research on actual problems, a multi-purpose research project with married couples will be discussed. The over-all project was designed and conducted by the author in an attempt to make contributions to theory, research and clinical practice. The study compared 24 couples in marriage counseling with a matched control group of 24 couples not in counseling. All subjects took the Locke-Wallace marital adjustment scale, the MMPI, and participated in the SIMFAM interaction game.

Theoretically, the purpose of the study was to test several hypotheses derived from a systems model of family functioning recently developed by Olson, Russell and Sprenkle (1975). The specific hypotheses derived from

the model were that: (1) the flexibility of non-clinic couples will be moderate whereas the flexibility of clinic couples will be extreme (very high or very low), (2) non-clinic couples will have significantly more positive versus negative acts toward each other; (3) non-clinic couples will be more equalitarian in power than the clinic couples; (4) the wives in the clinic group will be more dominant than the wives in the non-clinic group; and (5) non-clinic will have higher control efficiency ratios than clinic couples. These hypotheses were tested in a recent dissertation by Douglas Sprenkle (1975) and all were supported except hypothesis one.

There were two goals of interest to researchers in this project. One goal was to investigate the relationship between interaction data obtained from the SIMFAM game and scored on several variables by trained observers, ratings on the same variables from the couple's therapist, and ratings on the same variables based on expert's evaluations of the husband's and wife's MMPI profiles. The results of this analysis indicated no significant relationships across methods on any of the five variables (assertiveness, effective power, support, creativity, activity level) investigated (Olson, 1969). These results raise serious methodological questions which need further study. A second methodological goal was to determine if the SIMFAM game would reveal differences between two different groups of couples, i.e. a clinic and non-clinic group. An analysis by Sprenkle (1975) indicated that the game can adequately discriminate between groups of couples.

At the applied level, the project was designed to assess the effectiveness of using the SIMFAM game as a diagnostic tool for marital and family therapy. Preliminary analysis indicated the value of the approach as seen by therapists (Olson and Straus, 1972) and the value of it in discriminating between clinic and non-clinic groups has also been demonstrated (Sprenkle, 1975).

In conclusion, although research, theory and practice can stand alone, there is no question that when properly integrated they can each benefit. When all three domains are combined in a single project, it is fair to say that the "whole is greater than the sum of their separate parts."

Unfortunately, this ideal is rarely achieved. There are many reasons why this is true and it deals less with competencies than with time, commitment, and role definitions. Such integrated projects demand more time and personal involvement than most individuals are willing to give. But another major deterrent is the fact that individuals get locked into specific role types, (i.e. researcher, theorist, practitioner) which restricts their perspectives and minimizes the extent to which they will attempt an integrative approach. But this triple threat approach to science can only become reality if all family professionals try to expand their own role definitions and behavior to include all three perspectives in their work, whether it be alone or as a member of a team.

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