

Studying Interpersonal Interaction

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Behavioral Observation

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In this chapter, I consider basic issues and design options in observational research on interaction processes. More specifically, my focus is on collecting, rather than analyzing, observational data. Interaction analysis methods are described thoroughly in several other sources (e.g., Bakeman & Gottman, 1986; Poole, Folger, & Hewes, 1987; Sackett, 1978; Tardy, 1988; Also Part III, this volume). The phrase *observational research* applies to studies that collect and analyze records of interactional events from the perspective of an outside observer. The interactional record may take the form of audio or video recordings, a narrative record of events made by an observer, or interpretations and codes that are registered at the time of observation. If not done immediately, interaction records are eventually converted to qualitative summaries, ratings (e.g., of affection or responsiveness), or behavioral codes, with codes further reduced to measures of frequency (e.g., the number of head nods, questions, companionate themes, or domineering statements), duration (e.g., length of eye gaze, talk time), and sequence (e.g., the incidence of imitative motor behavior or complain-countercomplain sequences). Although experiments and self-reports also involve observation of behavior, they differ in emphasis and perspective from observational methods. In experiments the focus is on antecedent-consequent relations. The interactional events that intercede between input and output may be greatly simplified in the interests of experimental control. In observational studies interactional events are the primary focus, so there are fewer controls and behavior is more naturally instigated, with

multiple antecedents (Weick, 1968). Self-report methods differ from observational methods in terms of observer perspective (third party vs. participant) and level of abstraction. Self-reports characteristically measure more global, less contingent, and less transitory aspects of behavior in comparison with observational measures.

Although there are several vigorous areas of observational research, a few authors have still commented that behavioral observation is the "Cinderella" of the methodological family for studying relationships (James, 1983, M^cCarthy, 1981). Most observational studies of interaction have been studies of unacquainted strangers (usually college students), family members, or children. Strangers appear in research on acquaintance formation and also tend to be the population of choice in research on basic interaction processes (e.g., turn-taking, speech convergence, conversational involvement). Within the realm of ongoing personal relationships, family interaction and parent-infant research predominate. There are few observational studies of adult friendships or developing romantic relationships. Perhaps these relationships are too ambiguous and fragile to permit the same amount of intrusive observation that researchers have performed on families. There are also surprisingly few observational studies of parent-child interactions during the middle and later years of childhood, perhaps because observations are more difficult to arrange once children reach school age. With older children, studies of teacher-child and child-child interaction are far more numerous than parent-child studies (Shields, 1981).

Needless to say, all methods, observational research included, entail trade-offs. Observational studies pose challenging validity issues, which are considered later in this chapter. Observational studies are also difficult to carry out. The collection, transcribing, and coding of interaction records can be a time-consuming, expensive, and tedious effort. At the same time, observational studies have an irreplaceable function in the larger scheme of things, which I would characterize as the study of relationships "in progress." Human relationships evolve from and are, in effect, constituted by specific interactional behaviors. I believe that this is essentially what Watzlawick, Beavin, and Jackson (1967) mean when they suggest that communication "defines the relationship" and what Berger and Kellner (1964) mean when they state that we "converse our way through life." Global qualities of relationships (e.g., distress, traditionalism, nurturance, rigidity) acquire their substance through the enactment of specific interactional routines in particular contexts. Observational methods subject these routines to a more rigorous and intensive analysis than they could otherwise receive. Experimental methods are less concerned with such matters than with isolating cause and effect relationships. Self-report methods confound what people do with what they think they do. Although self-reports may be enlightening in numerous respects, particularly when used in combination

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with observation, they nonetheless represent subjective accounts that are more global, thematic, and selective than behavioral records.

In the following pages, I consider issues and options in observational research. Initially, I consider alternative methods for observing and simulating interaction. Later, I discuss a few central problems in observational research, focusing particularly on sampling and reactivity issues.

Designing Observational Studies

Observational design largely boils down to a set of decisions about how much and what kind of structure to impose. Observational settings vary widely in the degree of structure imposed by the researcher. Conventionally, we may think of laboratory research as "structured" and field research as "unstructured," but the actual design alternatives are far more complex (see Parke, 1979). A researcher might observe naturally occurring events unobtrusively, administer a structured task in a field setting, observe unstructured activity in a laboratory (e.g., free play between a parent and child), and so forth. Further, even highly structured observations range widely in the extent to which they reproduce elements of natural interactions. To some extent, researchers can "naturalize" structured observations by simulating an activity that is familiar to the people involved.

As a rule of thumb, I suggest that observational studies should preserve as many elements of naturally occurring behavior as possible, while still accomplishing the goals of a study. All other things being equal, unobtrusive methods (i.e., observation without participants' awareness) are preferable to obtrusive observations, naturalistic observation is desirable over interaction simulations, and structured interaction in a natural setting is preferable over structured laboratory observation. Intuitively, to the extent that the obtrusive presence of the researcher is minimized and the situation reproduces elements that are familiar to individuals (i.e., a familiar setting or task), people will reveal more personally significant and familiar patterns of behavior.

The rule of thumb stated above carries an escape clause (i.e., "all other things being equal"), because the need for realism must also be balanced against the practical constraints of observation and the need for control. Not all elements of naturally occurring interactions can or should be preserved, since they may leave an event too complex to understand (see Weick, 1968; Bavelas, 1984). Still, it is possible to eject the baby with the bath water, as in cases where the essential characteristics of interactions or relationships are sacrificed for the benefit of control. For example, interaction simulations involving randomly matched strangers have weak relevance for the study of

personal relationships, because they sanitize the interaction of all gradually acquired, interdependent patterns of perception and behavior (i.e., the "relationship culture"). Although these interdependent qualities produce irregularities in the interaction, the irregularities are at the heart of most investigations into personal relationships. Similarly, emotionless games and note-passing tasks delete many of the most essential features of interpersonal conflict and communication, respectively. However, there are many difficult judgment calls about what aspects of natural interactions are important to preserve. Further, the exact point at which an acceptable trade-off between realism and control or simplicity and complexity is reached cannot be determined in a vacuum. Depending on the objectives of a study, any number of designs, ranging from laboratory-based games to naturalistic observation, may be called for.

NATURAL EVENTS AND STAGED EVENTS

The first step in observational design is to decide whether or not to create the event under investigation. That is, the research may either target naturally occurring interactions or employ "staged" events that would not occur in the same way without the researcher's intervention. The obvious solution to the many trappings of simulated interactions is to study naturally occurring events and, better still, to do so unobtrusively, where responsible ethics permit. Although clearly a minority among observational studies, there are still many examples of naturalistic observation. Naturalistic observation has been used most often with children, particularly parent-infant studies, studies of children's peer interactions, and ethological investigations of child behavior (Jones, 1972). Children are typically observed in homes, preschools, playgrounds, or classrooms. Predictably, most unstructured, naturalistic observation of parent-child interaction occurs when the child is still immobile and interactions are easier to track (Lytton, 1971). Family interactions have also been observed during shopping trips (Brown, 1979), dinnertime (Dreyer & Dreyer, 1973), television viewing (Lull, 1980), and varied activities throughout the home (Kantor & Lehr, 1975; Steinglass, 1979). Other forms of naturalistic observation include the monitoring of professionally-oriented interactions, such as therapeutic, employment, or physician interviews (e.g., Street & Buller, 1988); observations in institutional or organizational settings, such as a natural decision-making groups (Poole & Roth, 1989); and analyses of existing tapes and transcripts, such as radio interviews (Sherblom & Van Rhee, 1984) and recorded divorce-mediation sessions (Donoghue, in press).

Both natural and staged observations entail trade-offs. Naturalistic observations are most desirable for their realism. Any form of observation will affect behavior if the observer's presence is known; however, habitua-

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tion to the researcher should be faster with naturalistic observation than if the event is staged. In part, this is because people experience less confusion about how they should behave if the event and context are very familiar. Naturally occurring events also command the participants' attention in a way unlike staged observations. In naturalistic observations the main business at hand is to shop, play, prepare meals, negotiate a divorce, and so forth. The fact that these events have a structure apart from the researcher diminishes the effect of the researcher's presence. When people have other concerns to attend to, they engage in less self-conscious second-guessing about what the researcher is after.

Although naturalistic observations are desirable for their realism, the range of situations that can be observed without intervention is limited, due to norms regarding privacy and decorum in public encounters. Limitations on the types of events that can be observed without intervention threaten the validity of conclusions about, say, intimate conflict or parental discipline that are based on the sort of behavior that is normally open to public inspection. Of course, restrictions on the observability of behavior are greatest for unobtrusive methods. Although it is possible to observe family conflict in shopping malls and "state of the relationship" talks in restaurants, their occurrence is not regular enough for the purpose of research, and ethical problems are encountered in the use of personal information without subjects' awareness. Further, the very fact that personal conversations take place within earshot suggests that the remarks do not issue from a cross section of individuals but, rather, from individuals with relaxed privacy norms and permeable relationship boundaries. While unobtrusive observations are the most limiting, even intensive observations of natural interactions may elicit a "houseguest" effect (i.e., the house is prepared for inspection, the family becomes less business-like or punitive and more fun loving, decisions and conflicts are postponed). Interaction simulations, if they are sufficiently involving, provide a more efficient means of observing private behaviors such as marital conflict, because the behavior is directly elicited by the structure of the task.

The other limitation of naturalistic observation is also a strength, depending on the researcher's objective. Naturally occurring behavior is unfocused and chaotic by comparison with behavior on a structured task. Conversations rapidly shift topic, people come and go, discussions are interrupted by phone calls and small emergencies, and numerous other irregularities occur. The ability of unstructured observation to attend to this chaos is a strength if the researcher is concerned with the natural ecology of interaction. On the other hand, the lack of standardization in naturalistic observation can make comparisons between subject groups tenuous, due to the large number of uncontrolled nuisance variables. Comparing conversations that are of unequal length, dissimilar content, different physical locations, and different constituencies is like comparing apples and

artichokes, unless length, content, location, and constituency are the qualities of interest.

A final limitation of naturalistic observation, which applies mainly to unobtrusive observation, is that it provides little flexibility for combining observations with self-reports. Although internal states such as affect may be inferred from overt behavior, the range of covert responses that can be safely inferred is very small.

SIMULATING INTERACTION

Parent-infant simulations are usually very straightforward. Most typically, parents are invited to engage in unstructured or semi-structured play in a play lab (e.g., Stafford, 1987). Interactions with older children may involve a more structured game, such as "pin the tail on the donkey" (Yarrow & Waxler, 1979) or joint manipulation of an Etch-a-Sketch toy (Hess & Shipman, 1965). Interaction simulations involving strangers are also easy to contrive. Individuals may be asked to discuss controversial topics or everyday problems (O'Keefe & Shepherd, 1989), to informally interview the other person (Kellerman, 1986), to discuss suggested topics typical of initial interactions, such as "things about your hometown" (McLaughlin, Cody, Kane, & Robey, 1981), or simply to hold an informal, get-acquainted conversation (Duncan & Fiske, 1977). These instructions are likely to work fine if the researcher is interested in the initial stages of acquaintance or in elements of interaction that can be observed in any discussion. However, if the interest of the researcher is in something more intimate and threatening, such as higher-level self-disclosure or conflict, realistic simulations involving strangers are more difficult to devise for the simple reason that strangers do not ordinarily engage in these behaviors. Researchers would be well advised to regard most interaction simulations between strangers as acquaintance studies. Efforts to study influence, power, conflict, or intimate disclosure among strangers may lack realism because subjects are more concerned with politeness and uncertainty reduction than the researcher's agenda.

Numerous studies have simulated conflict, decision making and problem solving within intimate couples and families. Here, the main challenge in arranging simulations is to make the task sufficiently involving. A number of approaches have been devised, including games, role plays, conflict-generating tasks, discussion of family members' own conflicts, and interview schedules (see Riskin & Faunce, 1972). Some tasks suggest a devious imagination on the part of the researchers. Among the games used to study family interaction is the "ball and pusher" task (Hamblin, 1958), employed in SIMFAM (simulated family interaction; see Straus & Tallman, 1971), which resembles shuffleboard; families are required to infer the

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method of scoring from red and green lights flashed for positive and negative scores. Families are told that "the problem to be solved is to figure out how to play this game" (Straus & Tallman, p. 388). Similarly, Reiss (1971) has had families arrange cards with nonsense syllables printed on them (e.g., "VSPFMK") to assess whether they could extract implicit principles of stimulus organization. Games require the participants to master a novel situation and, consequently, they are more appropriate to the study of problem solving or creativity than, conflict. An advantage of games is that it is relatively easy to involve whole families, including children. Lack of realism and generality of game-playing behavior are the biggest potential limitations, since games only vaguely resemble other situations a family may face. At best, game behavior represents low-key problem solving, not problem solving under duress.

In role play simulations, family members are asked to act out a hypothetical but common scenario. For example, they might be asked to plan an activity for the Fourth of July (Levinger, 1963), decide how to spend \$300 received as a gift (Kenkel, 1963), or load a large crate painted to represent a station wagon (Straus, 1964). In the more elaborate role plays used by Raush, Barry, Hertel and Swain (1974), Gottman (1979), and Wittman and Fitzpatrick (1986), spouses were given explicit roles designed to directly induce conflict. For example, in one improvisation, the husband has decided to surprise his wife with an anniversary dinner at their favorite restaurant, while the wife has spent half a day preparing a special dinner at home (Raush et al., p. 57-58); inexplicably, the husband has paid in advance. In another scenario, the wife wants to be close and make love, whereas the husband wants to complete some "activity of his choosing" without being interrupted (Gottman, 1979, p. 137). Conflict-generating tasks include the Color Matching Test (Goodrich & Boomer, 1963; Ryder & Goodrich, 1966), the Revealed Differences Technique (Strodbeck, 1951; Mishler & Waxler, 1968), and the Inventory of Marital Conflicts (Olson & Ryder, 1970). In both the Color Matching Test and Inventory of Marital Conflicts spouses are duped into disagreements by conflicting information provided by the researcher. In the Color Matching Test, spouses each have a display of colors that they attempt to match with other colors presented to them. Spouses are asked to agree on the best match. Conflict is created by the fact that the two color displays are numbered differently. In the Inventory of Marital Conflicts, spouses read and discuss 18 vignettes describing typical marital conflicts. In 12 of the vignettes the husband receives a description that is highly sympathetic to the male in the story, whereas the wife receives a description that is sympathetic to the female, thus creating conflict when the couple is asked to mutually determine responsibility for the problems. The Revealed Differences Technique is more straightforward. Here, family members separately complete a questionnaire that, though varying from study to study, may include opinions about reference

families, everyday situations, or values. Subsequently, differences in their separate answers are revealed and members are asked to discuss and resolve these differences. A similar approach used by Ting-Toomey (1983) was based on disagreements expressed on a marital adjustment scale.

Role plays and conflict-generating tasks are more precise than many methods in eliciting the behavior of interest and they provide a standardized stimulus for the purpose of comparing couples or families. However, both types of tasks cause people to disagree about things that they might not normally disagree on and cause them to express their disagreement whether they normally would or not. Role plays in which people are assigned specific feelings, thoughts, and behaviors have the added problem that people are required to become actors. To their credit, researchers usually prepare and coach role play participants in order to make the simulations as realistic and involving as possible. Still, people may or may not feel comfortable about the role assigned. Although people may be encouraged to "act themselves," they have limited freedom to do so. Since some people are undoubtedly more comfortable with role plays than others, the method potentially yields a "psychology of exhibitionists' personal relationships" (McCarthy, 1981, p. 38).

The approach recommended by Glick and Gross (1975), among others, is to have people discuss issues that occur in their own relationships. A number of studies, particularly recent ones, have adopted this approach (e.g., Burggraf & Sillars, 1987; Fitzpatrick, 1988; Krokoff, Gottman, & Roy, 1988; Noller, 1985). This approach should be most successful at eliciting the involvement of participants and reducing the reactivity of observation because the stimulus has known personal relevance. A few studies suggest that couples manipulate their style of interaction more readily when discussing hypothetical conflicts rather than their own conflicts (see Harvey, Christensen & McClintock, 1983). A potential disadvantage to having couples discuss their own conflicts is that the topic of discussion will not be sufficiently standardized for comparisons across couples. To overcome this problem, studies have had couples rate the severity of different conflicts beforehand (e.g., Burggraf & Sillars, 1987; Krokoff et al. 1988) or simply select a serious conflict (Fitzpatrick, 1988) so that the salience of conflicts is standardized somewhat. Since the emphasis of most studies is on the style rather than the content of interaction, the salience of an issue is probably a more important source of variation than its content.

Finally, researchers have simulated couple interactions by having them respond to a series of interview questions. Rogers, Courtright, and Millar (1980) taped in-home discussions in response to questions about how the couple decided to marry, how they deal with disagreements, and other matters. Since the questions do not all involve conflict or suggest a problem to be resolved, the procedure is more appropriate for studying dimensions of marital communication that are common to all interactions. In this case,

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the researchers investigated aspects of "relational communication" that were presumed to be quite general.

Subtle differences in instructions may affect the nature of discussions. Many conflict tasks ask couples to speak for a specified period of time or to resolve their disagreements, thus limiting opportunities for conflict avoidance. When couples are told to discuss issues for as long as they like without specific instructions to resolve, they rarely mention possible solutions or request behavior changes from their partner (Sillars & Kalbfleisch, 1989, p. 181), and avoidance behaviors (e.g., topic shifts, denial, and equivocation) are extremely common (Sillars, Wilmot, & Hocker, in press). A colleague and I have suggested that the extent to which couples explicitly manage and resolve conflicts or decisions is a central dimension of couple communication styles (Sillars & Kalbfleisch, 1989). Some couples manage decisions and conflicts proactively, self-reflectively, and explicitly. Others may allow decisions and relationship changes to evolve incrementally with minimal explicit discussion. Thus, if couples are told to resolve conflicts or are otherwise given minimal opportunity for conflict avoidance, a more explicit and confrontive style of communication may appear in simulations than in their natural interactions. Of course, instructions to resolve conflict may be necessary if the research is concerned with explicit negotiation of relationship change (e.g., Gottman, 1979).

A few remaining factors may affect the realism of interaction simulations. First, interactions may be staged either in a laboratory setting or in a natural setting, usually the home. Setting up simulations in the home increases the likelihood of irregularities in the data. Some families more than others will successfully isolate themselves from interruptions and noise, depending on privacy norms, family size, and living conditions. However, this trade-off may be easily compensated by increased realism in home observations. The laboratory adds a host of unfamiliar elements to the already strange experience of being observed. As we might expect, people seem to behave more spontaneously when observed at home. In two studies that compared the same task conducted in two settings, marital interaction was more emotional (O'Rourke, 1963) and negative (Gottman, 1979) at home than in the laboratory. Similarly, Moustakas, Sigel, and Schalock (1956) reported that mothers showed greater hostility, less interaction, less helping and more restrictive and forbidding behavior at home than in a playroom laboratory, suggesting that the laboratory evokes more constrained and socially desirable behavior. While observation in a natural setting may be preferred, as a next best alternative researchers may create a "naturalized" laboratory environment, such as a simulated living room or playground (e.g., Raush et al., 1974). In its unaltered state the typical university or institutional laboratory, with its one-way mirror, stiff furniture, glaring fluorescent lights, bare walls, and other moonscape qualities, is indeed an imposing environment in which to hold a conversation.

A second factor that may produce a more or less intimidating observa-

tional setting is the method of recording observations. Research on this subject is inconclusive. Some studies suggest, as we might expect, that the reactivity of observation is increased when the observer or recording instrument is more immediate and obvious (e.g., the camera or tape recorder is clearly visible vs. hidden). However, these effects are not very robust (see Weick, 1968; Wiemann, 1981). Wiemann suggests that behaviors not under the conscious control of individuals (e.g., nonverbal anxiety cues) are least affected by the method of observation and most effects are confined to the initial period of observation. For at least some behaviors, however, the most obtrusive recording methods, such as videotaping with the camera visible, are likely to increase reactivity. Attribution studies indicate that pointing a camera at people alters their focus of attention and makes them more objectively aware of their own behavior (Duvall & Hensley, 1976; Taylor & Fiske, 1978).

My colleagues and I have administered the same marital communication task using both video recording in a laboratory setting and audio recording at home (see Burggraf & Sillars, 1987). In addition, the home recordings were self-administered according to detailed instructions given to couples. We cannot strictly compare the two methods because of differences in samples, coders, and other factors. Still, there is clearly a different "feel" to the data sets, as the self-administered audio recordings intuitively appear more spontaneous and realistic than the video recordings. There was also considerably more confrontational behavior in the audio recordings. An effect of observation was still evident; for example, people would occasionally talk to the tape recorder rather than to each other, but this type of self-consciousness was diminished in comparison with the videotapes. Having couples self-administer the discussion task further removes the observer from the immediate context and may contribute to realism. However, it also carries liabilities; for example, inaudible tapes and irregularities (e.g., phone call interruptions) are more common.

Along with video recording, direct observation is also quite obtrusive unless people have an extended period to acclimate to the observer. If an observer is immediately present, people may also try to interact with the observer. Naturally, if nonverbal behaviors are very important, then video recording or direct observation is mandated. Direct observation is used more with naturalistic observation than with simulations because of the need to record environmental cues and to follow the interaction as it changes setting. Alternatively, recording devices can be placed in multiple locations (e.g., Christensen, 1979; Kantor & Lehr, 1975). Christensen (1979) has devised an automated recording system that simplifies in-home observation and appears relatively nonreactive (Christensen & Hazzard, 1983). The system utilizes two microphones inconspicuously placed in high-interaction areas of a home and activated at random 15-minute intervals during periods when family members are most likely together. The

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fact that family members do not know when the recorder is on may reduce reactivity.

As a general guideline, researchers should opt for the least obtrusive and structured task that is necessary to accomplish the purpose of the research. Where possible, interaction simulations should utilize topics that are familiar and personally salient, with minimal guidance from the researcher about how to conduct the discussion. However, a more structured task may be needed to observe events like compliance gaining (Witteman & Fitzpatrick, 1986), which otherwise would not occur with enough regularity. Similarly, video cameras and laboratory observations are not desirable options unless the need to observe nonverbal behaviors or to standardize observations are at a premium in a particular study.

Problems in Observational Research

SAMPLING

Although sampling issues are not unique to observational research, representative samples are generally more difficult to achieve and sampling practices are far less adequate in observational studies than in surveys. There are two respects in which sampling is problematic in observational studies. First, less accessible subject groups are underrepresented in observational studies. Second, behaviors tend to be sampled from a narrow range of contexts. The effect of these sampling biases is to threaten the generalizability of results to all persons and contexts intended.

Sampling of People

The vast majority of observational studies use convenience sampling; that is, they recruit subjects based on their availability rather than utilizing random sampling procedures. Consequently, studies overrepresent individuals who are affiliated with university communities, clinical programs, communication workshops, and other organizations that are easily accessible. These individuals are typically young, white-collar and well educated (Krokoff, 1987). Observational research on couples neglects such groups as blue-collar couples (Krokoff, Gottman, & Roy, 1988) and middle-aged or elderly couples (Zietlow & Sillars, 1988). This presents a threat to the generalizability of research on marital communication because the young, white-collar couples who predominate in most communication studies are less traditional, more expressive, and more sensitive to the quality of communication in marriage than older couples and blue-collar couples (Krokoff et al., 1988; Zietlow & Sillars, 1988). Only slightly less obvious is

the bias that occurs due to self-selection. Couples may be attracted to interaction studies owing either to crisis or to a strong interest in communication, thereby exaggerating overrepresentation of expressive, introspective, and communication-oriented couples (Krokoff et al., 1988). Kirby and Davis (1972) found that, out of a randomly generated sample of households, those who agreed to participate in research on couple communication counseling (and who actually followed through) were more likely to have separated for a marital problem than couples who declined to participate after an initial interview. Participants also came more from higher social class groups. Thus, self-selection may create social class biases similar to most convenience samples.

Although sampling problems occur in all interaction research, it is especially difficult to recruit a representative sample in observational research due to the inconvenience and intrusiveness of observation. The most ambitious and successful sampling strategy for marital research that I am aware of is that by Krokoff (Krokoff, 1987; Krokoff et al., 1988). Krokoff followed a three-step procedure that included random telephone interviews, a letter sent to obtain interested couples from the telephone sample, and an informational home meeting with couples prior to scheduling an observational session. Krokoff achieved good rates of participation and a sample that was far more representative of the U.S. general population than comparable studies. Further, the dropout rate was not strongly related to marital happiness or demographics. Another element of the recruitment effort, which should not be overlooked, is that Krokoff paid couples ($n = 120$) \$100 each for their participation—a fair, but nonetheless higher than usual, sum. We can only assume that the fee was a stronger incentive for lower-income individuals, thus counteracting the usual tendency to underrepresent such people. Thus, Krokoff's research speaks to the need for strong grant support. For the "make ends meet" researcher, quota sampling (see Babbie, 1989) might provide a reasonable next best alternative for ensuring representativeness in terms of demographic groups.

Behavioral Samples

The behavioral sample refers to the behaviors that are recorded for a particular individual, dyad, or group. Just as the sample of individuals may or may not be representative of the population of individuals, the behavioral record may or may not provide a representative sample of an individual or dyad's normal patterns of behavior (i.e., their behavioral "repertoire"). As in the case of subject samples, both the size and diversity of the behavioral sample may affect representativeness.

The size of the behavioral sample does not normally present a problem in interaction studies. In one sense, the problem can be too many observations. Interaction studies may record several thousand or more behaviors,

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making statistical procedures overly powerful if the behavior or "act," rather than the individual or dyad, is treated as the unit of analysis (Cappella, 1980, p. 133; Hamilton & Hunter, 1985). However, even if a large number of behaviors are recorded, some behaviors of vital interest to the researcher may be too irregular or infrequent to provide a reliable baseline. For example, Yarrow and Waxler (1979) found it difficult to sample such sporadic or impulsive behaviors of children as tantrums and aggression. In addition, if interaction sequences are of interest, then a larger behavioral sample is needed. For example, if seven conflict behaviors are observed (e.g., "confront," "deny," "analyze," "joke"), there are 49 possible two-act sequences and 343 possible three-act sequences. Although the most common two-act sequences could be analyzed with a moderate behavioral sample, a titanic sample would be needed to analyze all possible three-act sequences, particularly since some sequences are likely to be very infrequent.

Increasing the length of the observation period increases the stability of observations, as Yarrow and Waxler (1979) have demonstrated. Based on observations of nursery school play, these researchers found dramatic fluctuations in children's social behavior from one time period to the next. Considerable stability in behavioral estimates was observed only when the period of observation was increased from 10- or 20-minute intervals to an hour or longer. Unfortunately, if the observation is very detailed, increasing the length of the observation period may not be a practical option. Gottman (1979), whose system for analyzing interaction is only moderately involved, estimates that a single hour of interaction requires 28 hours to transcribe and code.

While the size of the behavioral sample is an occasional difficulty, the diversity of the behavioral sample is a more basic concern. Most observation takes place in one narrowly specialized context. Few studies consider how the behaviors in question vary with the context of observation, and studies that observe a cross section of typical interaction contexts are rare (Kantor & Lehr, 1975; Steinglass, 1979; Yarrow & Waxler, 1979).

The limited scope of most observational research seems more attributable to practical constraints than to disregard for the importance of context. Observational studies of interaction typically trade breadth for depth. Direct observation makes detailed analysis of behavior possible; however, since observation is laborious and expensive, practical constraints inhibit the variety of situations that are considered. The more encompassing the study, the more the researcher risks being overwhelmed by the scope and expense of data analysis. Self report methods can more economically assess responses across a variety of situations.

While it may be legitimate and necessary to restrict the scope of observational studies, it is still important to consider how limited sampling of behavioral contexts may have affected the research. One bias suggested

by the situations chosen for study, particularly in couple and family research, is that the situations usually elicit disagreement and conflict. The sort of encounters that are lighthearted, affectionate, or mundane are not well represented. Further, the context in which most observation takes place is some sort of staged communication event in which individuals are instructed to solve a problem, make a decision, or discuss some matter together. Important as they are, these focused interaction situations do not resemble the bulk of everyday interactions. Most interactions are routine, brief, and centered around other activities (e.g., doing the laundry, getting ready for work, watching television). Since routine interactions are investigated in only a small number of naturalistic studies, the literature as a whole may overrepresent explicit, focused interactions and underestimate the extent to which individuals discuss issues and make decisions implicitly, indirectly, or incrementally. Steinglass (1979), who had participant observers follow spouses from room to room in their homes, found that family members seemed to behave automatically much of the time and engaged in very little explicit decision making. Decision making that occurred progressed at a leisurely pace without the pressure to achieve closure created by laboratory encounters. Blood (1958) found that family members were seldom even together in the same room except at dinner. Thus, the literature on couples and whole families seems to overrepresent "boardroom-style" interactions and neglects the sort of brief, unfocused, and variable encounters that dominate daily interactions.

REACTIVITY OF BEHAVIOR

Behavior is reactive to the extent that it is changed by observation. For example, people may behave in a more inhibited or socially desirable manner in the presence of an observer (see Harvey et al., 1983). In my own experience, the single concern that causes the most suspicion about interaction research is that the people studied might be unnaturally affected by observation. This, is, of course, a legitimate concern. Unless the study is completely unobtrusive, the effect of observation is undeniable. However, this does not make observation meaningless. Even the most contrived performances may indicate something of interest. For example, the behavior may indicate how subjects perceive social desirability, how competent they are at enacting a socially desirable style, how stringently they maintain the privacy of personal matters, how freely they express disagreement in public, and so forth. Still, it is necessary to anticipate the likely effects of observation and to take these into account.

Some behaviors are presumably more reactive than others. Behaviors that are under the conscious control of individuals and that reflect directly on self-presentation are most likely to be reactive. For example, Roberts

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and Renzaglia (1965) found that positive statements about self increased and negative disclosures decreased when clients in counseling interviews were aware of being recorded. Behaviors that occur at a low level of awareness or that are difficult to fake are less apt to be affected by observation than behaviors that are consciously monitored and easily manipulated (see Wiemann, 1981). Nonverbal behaviors are less directly monitored and less easily manipulated than verbal communication. Thus, conflictual couples might express hostility nonverbally even if they suppress conflict verbally (Pike & Sillars, 1985). In addition, interactive behaviors, particularly between people who have an established relationship, are less apt to be reactive than individual behaviors, owing to the way people elicit and constrain one another's behavior during interaction. Certain behaviors (say, a particular tone of voice or mention of a sensitive topic) may cue a familiar sequence of interaction, which is governed by implicit "rules" and mindless interactional habits. Thus, individuals sometimes appear to "forget" they are being observed, even in the intimidating presence of a videocamera. Even if they fail to reach this level of spontaneity, behaviors are constrained by the collaborative nature of interaction. For example, it is difficult to engage in conflict denial or to joke about a sensitive matter without the partner's participation. In conflict studies the most socially desirable style of communication is to openly confront conflict in an objective and mutually supportive fashion. One has to assume that individuals in a communication study are aware of such demand characteristics and will try to fulfill them. However, the most socially desirable style proves difficult to sustain unless it is well practiced. Some married couples in conflict studies initiate a socially desirable style of communication but quickly become argumentative or withdrawn, since even their best efforts at communication evoke criticism and hurt feelings (Sillars et al., in press). Although people may not always behave as they do in communication studies, they are still constrained by their normal repertoire of interaction styles.

Reactivity and the Sample Scenario

The dialogue involving Cathy and Michael Stone, described at the beginning of this volume, illustrates several points about the effects of observation on interaction. Although this is a fairly uninhibited discussion, we can nonetheless assume that it is colored by observation. Indeed, the most revealing thing about the conversation is that it occurs in the presence of an audience.

Although they may not be the best dinner partners, Cathy and Michael are model research participants. They say what is on their minds, even in the company of observers. Some couples (or individual spouses) actually appear to relish participation in research as a forum in which to express themselves. The dinner conversation provides essentially the same sort of

forum in this example, since the conversation appears to be staged for the benefit of the dinner guest the Millers. Cathy and Michael assign an observer's role to their guests by speaking directly to one another and providing no opportunity for the Millers to participate or interfere. Remarkably, Cathy's complaints about having to "do it all" plainly demonstrate that she is aggravated about having to prepare the dinner that the Millers are now eating. In this episode at least, Cathy shows little susceptibility to social desirability pressures.

Cathy and Michael are a typical modern couple: dual income, egalitarian (in thought if not in deed), expressive, and introspective. Both the fact that they argue in front of friends and the way they argue indicate that they value openness and are not highly constrained by social propriety. The latter part of the conversation, particularly, shows that Cathy and Michael analyze themselves as a couple and freely engage in self-disclosure (e.g., segments #09, 10, and 12). Whereas Cathy and Michael reveal a great deal about themselves in a short time, other couples give a much less direct account of themselves, either because they guard their privacy and public image or because the relationship seems simple and transparent, with little to discuss (Sillars & Kalbfleisch, 1989). In other words, relationship culture is partly revealed by whether observed behavior appears inhibited or concealed. Cathy and Michael demonstrate an introspective and communication-sensitive relationship with relaxed privacy standards.

This is also a case in which the reactivity of behavior is diminished by the collaborative nature of interaction. Throughout the conversation, Michael shows concern for saving face and he consistently tries to minimize the conflict issue. If Michael alone were to describe the conflict over housework he would probably present a much less dire state of affairs than envisioned by Cathy. However, Cathy blocks Michael's attempts to avoid and minimize the conflict, causing Michael to try several alternative conflict strategies in quick succession. Michael attempts to deflect the first criticism by joking ("You wouldn't want to eat my cooking . . ."). When Cathy persists, he tries several approaches, including a weak counterattack ("Come on—that's not fair"); a question ("Like the cat box?"), which could be serious or sarcastic depending on unspecified shared context; a limited admission ("I do occasionally do them [dishes]—but not enough"); and disclosive, self-analytic remarks ("Sometimes I think about how I'd do them more often probably if you weren't around"). Michael evidently would rather not have this conversation just now. However, Cathy's persistence forces him to acknowledge the conflict and to search (unsuccessfully) for a style of conflict engagement that appeases Cathy and preserves face. Thus, much more about the relationship is revealed through the interplay of speakers than a single individual would provide.

If this episode was observed as part of a study on marital conflict, it would not be possible to determine if the observed style of interaction is

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broadly representative of the couple's interactions. In other situations, Cathy and Michael may argue continuously, with Cathy maintaining her role as the disgruntled aggressor; the couple may confine their arguments to the subject of housework; or they may argue about different matters in different ways, perhaps shifting roles or adopting a more symmetrical (i.e., attack-attack rather than attack-defend) or problem-focused (rather than personality-focused) pattern of interaction. Although it is not possible to tell how representative their style of interaction is from a small excerpt, it is clear that the issue has come up before. Even if Cathy hadn't mentioned in segment #09 that "we've talked about this before," the conversation appears rehearsed at various points. Cathy has obviously thought about the conflict a great deal, particularly that afternoon while preparing the dinner, as she acts with little immediate provocation and produces a list of complaints, rather than an isolated criticism ("You don't cook, you don't clean, you don't do laundry!"). Michael, although he tries to deflect the criticism in various ways, expresses no surprise at the attack and even indicates through admissions of responsibility that a half-hearted consensus is already in place. Thus, the interaction observed is apparently not an isolated occurrence. Although we cannot determine exactly how often Cathy and Michael behave this way, it can be safely inferred that the observed behavior constitutes an important part of the couple's conflict repertoire.

Different couples might behave very differently from the Stones in this same situation. Similarly, people respond to research simulations in a multitude of ways. In conflict studies some couples argue aggressively, some analyze and problem solve, some vacillate between engagement and withdrawal, and others are polite to a fault. Each of these adaptations to the research context demonstrates something of interest about the couple, including their interpretations of appropriate behavior and the extent of their communication repertoire.

Conclusion

Observational methods are particularly adept at describing interactional behaviors that shape (i.e., develop, affirm, or change) relationships. Observational studies subject these behaviors to intensive analysis, typically with an unimpaired interest in the connection between molecular and molar qualities of relationships (e.g., the behavioral components of interpersonal competence or interactional causes of marital distress). While observational methods provide a more sensitive gauge of detailed interactional events than other methodologies, observation also poses troublesome validity problems.

One problem is that naturally occurring interactions are spontaneous,

and spontaneity is fragile. By having to isolate and structure an event sufficiently for observation, the essence of spontaneous interaction may be lost. Further, the researcher or researcher's surrogate (the tape recorder) forms an undeniable part of the social context, and this transforms dyadic relationships into at least triadic ones. It is difficult for people to carry on even an ordinary conversation when the event is being scrutinized by a team of scientists. The difficulty is compounded severalfold when the conversation itself is hard to pull off, for example, if the topic elicits embarrassment or disagreement.

The problems associated with observation should be taken seriously but not to the point of discouraging use of observational methods. Although observation changes behavior, it often does so in ways that are predictable and informative. In this respect, the limitations of observational methods are not basically different from those of social science research generally. Any attempt to study an event changes it, by either artificially creating or structuring the event, by influencing the self-presentation of participants, by omitting context (such as adjacent, unrecorded scenes), or by selective coding and interpretation. Since these limitations are inherent in all research on social interaction, observational designs should be judged by whether they produce acceptable distortions (which can be anticipated and factored into conclusions about the data), not by the ability to provide a completely sanitized view of people "as they really are." While I have suggested that more naturalistic observations should be the method of first choice, all other things being equal, even highly contrived observations have the potential to contribute theoretically important and coherent results. Contrived behavior may reveal interpretations of social desirability, the permeability or privacy of relationships, the breadth of interaction repertoires, or responses to novel situations. Although different approaches to observation are not equivalent, the utility of a given method is clearly seen only within the context of a particular research program, including its own objectives and constraints.

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