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5. QUANTITATIVE AND QUALITATIVE METHODS IN THE SOCIAL SCIENCES

Current Feminist Issues and Practical Strategies

TOBY EPSTEIN JAYARATNE AND
ABIGAIL J. STEWART

Within the last decade, the feminist research community has engaged in a dialogue concerning the use of quantitative versus qualitative methods in social research. Much of this debate has concerned the claim that quantitative research techniques—involving the translation of individuals' experience into categories predefined by researchers—distort women's experience and result in a silencing of women's own voices. Advocates of qualitative methods have argued that individual women's understandings, emotions, and actions in the world must be explored in those women's own terms. Defenders of quantitative methods in turn have worried that qualitative methods often include few safeguards against the operation of researcher biases and that abandonment of all aspects of traditional methodology may carry political and scholarly costs. In addition, some have pointed out that although quantitative methods can be and have been used to distort women's experience, they need not be. Although feminist advocates in this debate have generally embraced qualitative methods, they have expressed a range of views on the use of quantitative research, from condemning quantitative methods wholesale to promoting research which incorporates aspects of both qualitative and quantitative methods (Birke, 1986; Healy and Stewart, in press; Jayaratne, 1983).

The purpose of this essay is to review the evolution of this dialogue, to evaluate several issues which continue to be problematic in this literature, and to propose productive and practical strategies for feminist researchers concerned with these issues. In particular, this essay will emphasize the value of quantitative methods as effective tools to support feminist goals and feminist ideologies, while rejecting those traditional research procedures which are antithetical to feminist values.

We believe that much of the feminist debate about qualitative and quantitative research has been sterile and based on a false polarization. Moreover, as we will show below, solutions offered for methodological problems have frequently been either too general or too constraining to be realistically incorporated into research activity. Finally, much of the discussion of feminist methodology is really a discussion of basic epistemological issues (for example,

the validity of various forms of knowledge); the dialogue is, therefore, fundamental but relatively esoteric and inaccessible. This nonempirical basis for discussion makes translation of the feminist philosophical perspective into testable research questions or acceptance by many researchers impractical. Given this state of affairs, we think a more practical, less abstract analysis of this topic is overdue. We hope the formulation of some pragmatic and useful recommendations for conducting feminist research will allow a variety of options and strategies to those who wish their empirical research to be consistent with feminist values.

The Feminist Methodology Dialogue

Feminist Criticism

The initial dialogue on feminist methodology originated from feminist criticism of traditional quantitative research. This criticism, as well as later advocacy of alternative feminist procedures, has been abundant since the late 1960s and has focused on a broad range of issues (Keller, 1982; Roberts, 1981). DuBois (1983) succinctly defined the basic issue by stating, "we literally cannot see women through traditional science and theory" (p. 110).

Specific criticisms of this research have included

1. The selection of sexist and elitist research topics (Cook and Fonow, 1984; Frieze, Parsons, Johnson, Ruble, and Zellman, 1978; Grady, 1981; Jayaratne, 1983; Scheuneman, 1986) and the absence of research on questions of central importance to women (see Parlee, 1975; Roberts, 1981)
2. Biased research designs, including selection of only male subjects (Grady, 1981; Lykes and Stewart, 1986)
3. An exploitative relationship between the researcher and the subject (Jayaratne, 1983; Mies, 1983; Oakley, 1981; Reinharz, 1979; Stanley and Wise, 1983) and within research teams (Birke, 1986; Harding, 1987)
4. The illusion of objectivity, especially associated with the positivist approach (Bleier, 1984; Jayaratne, 1983; Lykes and Stewart, 1986; Stanley and Wise, 1983; Wallston, 1981)
5. The simplistic and superficial nature of quantitative data (Jayaratne, 1983)
6. Improper interpretation and overgeneralization of findings (Jayaratne and Kaczala, 1983; Lykes and Stewart, 1986; Westkott, 1979), including the use of person-blame explanations and application to women of theory tested on exclusively male subjects
7. Inadequate data dissemination and utilization (Jayaratne, 1983; Tangri and Strasburg, 1979). Mies (1983) nicely sums up these criticisms by noting a fundamental contradiction between methodological theories which are currently accepted in the social sciences and the goals of the feminist community.

Many classic studies in social science may be analyzed now in terms of these criticisms. For example, Milgram's (1974) famous studies of "obedience," in which participants were led to believe they were administering painful shocks to another person (actually a "stooge" of the experimenter) in the name of "teaching," may be considered in light of these issues.

First, Milgram's definition of "obedience" (following the experimenter's instructions) relied on the rather abstract authority of the "scientist" and ignored both economic and personal safety factors which may in fact motivate "obedience" among those without power. In addition, if participants generally assumed that the experimental situation was one in which nothing dangerous or harmful could "really" happen, the relevance of that situation to real-world "obedience" contexts (e.g., war) is unclear. Second, *all* of Milgram's studies involved a male victim or "learner" and a male experimenter. In addition, most of his studies included only white, male, well-educated subjects in New Haven, Connecticut (although one study was conducted with 40 female subjects of unknown age, occupation, social class, or other characteristics, and some experiments apparently included industrial workers and unemployed persons).

Third, the entire research design depended on maximizing the hierarchical distance between experimenter and research participants; in addition, the experimenter actually deceived the participants throughout the experiment. At the end, a "debriefing" was held, in which "at the very least every subject was told that the victim had not received dangerous electric shocks" (p. 24). In addition, Milgram reports that both obedient and disobedient subjects were told that their behavior in the experiment was "normal" and acceptable. It is noteworthy that although Milgram did feel compelled to address subjects' worries about their own behavior (in his role as psychologist and authority), he did not feel compelled to account for his behavior (in exposing them to a stressful situation, in lying to them, etc.).

Fourth, the "indicators" selected for analysis were thoroughly "objective," for example, the actual voltage of the current, apparently administered to the stooge "learner" by the research participant. Similarly, fifth, analysis of the data was conducted in the most quantitative terms; thus, the participants' beliefs about their actions, and their feelings in the situation, were often not assessed at all. When such attitudes were measured, they too were assessed in highly quantitative terms: "the experimental subjects were asked to indicate on a 14-point scale just how nervous or tense they felt at the point of maximum tension" (p. 41).

Sixth, despite the rather narrow definition of "obedience" and the limited range of people included as research participants, Milgram believed that

the essence of obedience consists in the fact that a person comes to view himself [*sic*] as the instrument for carrying out another person's wishes, and he therefore no longer regards himself as responsible for his actions. Once this critical shift of viewpoint has occurred in the persons, all of the essential features of obedience follow. . . . The question of generality, therefore, is not resolved by enumerating

all the manifest differences between the psychological laboratory and other situations but by carefully constructing a situation that *captures the essence of obedience* . . . [italics added] (Milgram, 1974, p. xii)

The critical question, of course, is how we know that the “essence of obedience” has indeed been captured. Although Milgram invokes an internal, self-definitional process as accounting for “obedience,” he does not in fact assess directly any aspect of that process. Moreover, although he explores a number of contextual factors affecting rates of obedience, he concludes—without proof—that the “essence” of it is captured in all variants of the experimental paradigm. Hornstein (1988), in a completely different context, has argued that in general shifts toward quantification in psychology have accompanied burial of the question of the link between the measure and what is being measured. Thus, just as intelligence came to be thought of as that which intelligence tests measure, so too obedience comes to be defined as that which the obedience paradigm assesses.

Clearly, then, the feminist criticisms of traditional research practice are relevant not only to some social science research, but to many of the most respected and significant “landmark” studies.

Sources of Feminist Criticism

The specific feminist criticisms of traditional methodology derive from at least three sources. First, criticism has resulted from negative personal experiences with traditional research (for example, see Weisstein, 1977). Thus, Reinharz (1979), in describing the disillusionment she felt when participating in a research study at Columbia University, states that there were enormous discrepancies between her idealized version of research and her actual day-to-day experiences on and observations of this research project. She judged research procedures to be deceptive, dishonest, and disruptive, in violation of principles she believed should apply.

A second source of criticism is political, stemming from a concern that existing methodologies support sexist, racist, and elitist attitudes and practices and therefore negatively affect peoples' lives. For example, Unger (1981) states that “it is time to reexamine our methodologies. We need to know not only how many significant differences between the sexes exist, but the extent to which psychological studies contribute to the sexual reality with which we deal” (p. 652). Research which only documents differences between the sexes offers no understanding of why those differences exist or how such differences may be attenuated and therefore may reinforce (or create) the public's preconceived and sexist attitudes.

Thus, for example, Eccles and Jacobs (1986) report that media coverage of social scientists' research on sex differences in math ability results in differential parental encouragement of boys and girls equally gifted in math. The importance of this fact is underlined by Eccles and Jacobs's documentation of the power of parental encouragement of children's math efforts as a key predictor of

In another example in a different area, Yllo (1988) documents the damage done by research reporting that husbands and wives are equally likely to engage in “violent acts,” when that research was used as an excuse not to provide services to battered women. Later “clarifications” revealed the nontrivial fact that there were large sex differences in the tendency to resort to violence in self-defense and in the amount of physical harm inflicted by the violence. As a final example, many researchers have suggested (see, e.g., Lott, 1981; Morawski, 1985) that the study of “masculinity” and “femininity,” as well as later studies of “androgyny,” both reflect and create sex-role norms and standards by which individuals judge themselves and each other.

A third source of feminist criticism is philosophical and is based on a general rejection of positivism, its claim that science is value neutral, and that the scientific method protects against contamination of findings by “subjectivity” (see Wittig, 1985). Thus, for example, Unger (1983) argues that

the ideological framework of positivist empiricism defines the relationship between researcher and subject as an impersonal one. The logic of these methods (and even their language) prescribes prediction and control. It is difficult for one who is trained in such a conceptual framework to step beyond it and ask what kind of person such a methodology presupposes. (p. 11)

Many feminist critics have argued that the person “presupposed” is a male scientist trained to ignore or mistrust feelings and subjectivity (see, for example, Keller, 1985).

Partly because the accepted methods of research in the social sciences have been quantitative, the focus of all three kinds of feminist criticism has been on quantitative research.¹ Some feminists have argued that the issue of quantitative versus qualitative methods reflects the relationship between gender and science (Keller, 1978). Keller, along with many others, such as Oakley (1981) and Bernard (1973), has suggested that most scientists are men and that, as a result, the masculine values of autonomy, separation, distance, and control are embodied in traditional quantitative research.

Feminist Support for Qualitative Methods

In response to these criticisms, some feminist researchers recognized the need to discover or develop research methodologies consistent with feminist values (Mies, 1983) that could be advocated for general use in the social sciences. The methodology which they embraced was primarily qualitative. It was promoted for numerous reasons, often paralleling the reasons for rejection of quantitative methods. Running through much of this enthusiasm for qualitative methods has been an understanding that many aspects of women's experience have not yet been articulated or conceptualized within social science. A deep suspicion of quantitative methods as having concealed women's real experience has motivated much preoccupation with, and advocacy of, qualitative methods as methods which permit women to express their experience fully and in their own terms. Thus, for example, Smith (1974/1987) argues

that social scientists' methods must permit respondents to describe the world as they experience it.

There are and must be different experiences of the world and different bases of experience. We must not do away with them by taking advantage of our privileged speaking to construct a sociological version which we then impose upon them as their reality. We may not rewrite the other's world or impose upon it a conceptual framework which extracts from it what fits with ours. Our conceptual procedures should be capable of explicating and analyzing the properties of their experienced world rather than administering it. Their reality, their varieties of experience must be an unconditional datum. (p. 93)

One frequent source of enthusiasm for qualitative methods stems from their potential to offer a more human, less mechanical relationship between the researcher and "the researched." For example, Oakley (1981) suggests that "the goal of finding out about people through interviewing is best achieved when the relationship of interviewer and interviewee is nonhierarchical and when the interviewer is prepared to invest his or her own personal identity in the relationship" (p. 41). For Oakley, the process of "collecting data" which will, according to traditional social science ideals, be transformed into numbers should be replaced by a process of "interviewing women," in which "personal involvement is more than dangerous bias—it is the condition under which people come to know each other and to admit others into their lives" (p. 58).

Feminists', as well as others', advocacy and use of qualitative methods has not generally been welcomed in the social sciences. Despite the argument that qualitative methods provide more accurate and valid information about respondents' experience, use of qualitative methods, and especially qualitative feminist research, often produces strong negative reactions in the mainstream academic community (Cook and Fonow, 1984; DuBois, 1983; Healy and Stewart, in press; Reinharz, 1979), primarily because it is thought to be "unscientific" or politically motivated, and therefore overtly biased. As DuBois (1983) states, "feminist scientists and scholars will continue to be charged with bias, advocacy, subjectivity, ideologizing, and so on" (p. 112).² Penalties for the use of these methods have ranged from publication rejections and the consequent development of alternative, lower-prestige publication outlets (see Lykes and Stewart, 1986) to difficulty getting tenure.

An Inclusive Feminist Perspective

Over time, though, feminist theorists and researchers have increasingly distinguished between qualitative methods and a feminist approach to social science research, thus deemphasizing the critical focus on quantification. For example, Stanley and Wise (1983) have argued that "methods in themselves aren't innately anything" (p. 159). They point out that although "positivist methods and world views are objectionable, sexist even, . . . what should be objected to about them isn't quantification or their use of statistical techniques" (p. 159). Instead, the ways in which research participants are treated and the

research participants are of more central concern. In fact, in reviewing recent discussions of feminist methods, Harding (1987) argues that

feminist researchers use just about any and all of the methods, in this concrete sense of the term, that traditional androcentric researchers have used. Of course, precisely how they carry out these methods of evidence gathering is often strikingly different. (p. 2)

She concludes, "it is not by looking at research methods that one will be able to identify the distinctive features of the best of feminist research" (p. 3).

An inclusive viewpoint on methods, which appears to be increasingly accepted in feminist research circles, takes the form of promoting the value and appropriate use of both qualitative and quantitative methods as feminist research tools. The emphasis here is on using methods which can best answer particular research questions, but always using them in ways which are consistent with broad feminist goals and ideology. Thus, the feminist debate on these issues can be seen to have evolved from one defined by opposition to all aspects of mainstream research to an argument for use of a broad range of methods in pursuit of research reflecting feminist values and goals. Thus, Jayaratne (1983) and Wittig (1985) have argued that both types of methods can be effectively utilized by feminists and can be implemented in ways which are consistent with feminist values. Procedures commonly used in quantitative research which are inconsistent with feminist values can be altered without abandoning the quantitative strategies which can be beneficial to feminists. Moreover, combining methods, sometimes termed "triangulation" (see Denzin, 1978; Jick, 1979) permits researchers to "capture a more complete, holistic, and contextual portrayal . . ." (Jick, p. 603). As Jick points out, "the effectiveness of triangulation rests on the premise that the weaknesses in each single method will be compensated by the counter-balancing strengths of another" (p. 604).

Yllo (1988) is most persuasive in making this case with respect to research on marital rape. As she points out, the true nature of marital rape cannot be captured in statistics; the experience of violent victimization at the hands of a loved one in an act grotesquely similar to and totally different from an act of love cannot be conveyed in traditional questionnaire or survey format. Thus, Yllo conducted (along with her colleague; see Finkelhor and Yllo, 1985) extensive qualitative interviews with a sample of women who volunteered to be in a study of marital rape. She points out that this analysis yielded a new typology of marital rape (p. 32).

I learned a great deal about wife abuse from those 50 women that the quantitative data on over 2,000 couples could not begin to reveal. My talks with battered women made clear to me that I am a part of what I am studying. . . . Being aware of this makes a difference in how I understand the problem. (p. 34)

On the other hand, Yllo points out that associations which are powerfully significant to an individual woman cannot be understood in terms of their

For example, we found that a large portion of the marital rape victims had also been sexually abused as children. We cannot discover the extent of the relationship between child sexual abuse and marital rape unless we construct a controlled study using a representative sample. It may be that child sexual abuse is no more common among marital rape victims than among other women. But, only by comparing marital rape victims with nonvictims could we come to any adequate conclusions. (p. 35)

Current Issues in the Feminist Methodology Literature

Although there seems to be increasing consensus in the feminist community that quantitative methods are legitimate research tools and that methods should be chosen based on an appropriate fit with the research question, there remain at least three conceptual areas in discussions of feminist methodology where the dialogue remains problematic. First are definitional difficulties with the terms “quantitative,” “qualitative,” “method” and “methodology.” Second is the tendency of many authors to take an essentialist position, which assumes that female researchers feel comfortable, and are competent using only certain “female” methods. The third problem concerns the epistemological issue of objectivity/subjectivity, a continuing central focus for debate.

Definitional Issues

A number of terms used in the feminist methodology dialogue have different implicit or explicit definitions, resulting in some confusion. This difficulty is particularly apparent with regard to the distinction between “methods” and “methodology” and between “quantitative” and “qualitative” processes. Researchers considering the merits of an argument must, therefore, be careful to assess the precise definitions being proposed or implied. Harding (1987) has recently suggested one set of distinctions among terms. She identifies “methods” as particular procedures used in the course of research (e.g., interviews), “methodology” as a theory of how research is carried out or the broad principles about how to conduct research and how theory is applied (e.g., survey research methodology or experimental methodology), and “epistemology” as a theory of knowledge (e.g., the “scientific method” which aims to establish the truth-value of various propositions). It follows from these definitions that first, quantitative and qualitative “methods” are simply specific research procedures; second, “feminist methodology” or a “feminist perspective on methodology” must be taken to refer to a much broader theory of how to do feminist research. There may, then, be a “feminist methodology” without any particular feminist “methods.” In the last section of this paper, we will propose some particular strategies for conducting “feminist research”; this will be, then, a discussion of feminist methodology, but will involve use of a variety of existing quantitative and qualitative methods or procedures.

Besides distinguishing methods and methodology, we also distinguish historical from logical associations between specific procedures and specific ideolo-

gies. For example, quantitative methods have been associated historically with sexist and antifeminist attitudes. We propose that although quantitative research may have been used in the past to obscure the experience of women, it need not always be used in that way. That is, the association is an historical one but not a logical one. Similarly, we propose that although some feminist researchers use qualitative methods to reveal important aspects of women’s experience, there is no guarantee that they always will be used to do so.

However, despite the prevalence of these historical associations, there may be some absolute constraints or limitations associated with each type of method. Thus, for example, quantitative methods may never provide the kind of richly textured “feeling for the data” that qualitative methods can permit. As Healy and Stewart (in press) indicate, “Kotre (1984) argues that *only* qualitative analysis can accurately capture the complex pattern of an individual life without violating the integrity of the life or dehumanizing the individual” (p. 3). This observation underlies some feminist enthusiasm for incorporating a contextual perspective in research, indicated by qualitative methods. However, it can also be argued that multivariate statistical analyses of large data sets may provide the most truly “contextual” analyses of people’s experience. This is because certain multivariate statistical procedures allow the incorporation of a large number of contextual variables, permitting the simultaneous testing of elaborate and complex theoretical models. It has been argued that such analysis is more “ecologically valid” (Bronfenbrenner, 1977).

One common stereotype of qualitative methods is that they are unsystematic and thus unscientific. Clearly such methods can be unsystematic, but they need not be. Hornstein (in press) is able to spell out detailed procedures for a “phenomenological approach to the study of lives.” She describes three stages in the researchers’ analysis of a phenomenological account. In the first stage the researcher is “attempting to uncover the structure of an experience,” and therefore “takes each bit of the subject’s report and scrutinizes it to uncover its meaning.” She points out that “crucial to this process is a way of thinking termed *imaginal variation*, in which a given feeling, thought, or outcome is compared with other possibilities” (pp. 6–7). The second stage of analysis involves construction of “analytic categories” that emerge from the themes identified in the first stage. “To the greatest extent possible, one strives to allow the categories to emerge from the data themselves, rather than from a pre-conceived theoretical or empirical framework” (p. 7). Finally, the researcher attempts to describe the relationships among the various categories in order to identify the “pattern” or “structure” of the experience—the ways in which the elements combine to create a unified whole (p. 8). This approach is wholly qualitative and rigorously systematic. Similarly, Gerson (1985) applies Glaser and Strauss’s (1967) “constant comparative method” to interviews with a relatively small sample of women in a way which is qualitative, aimed at theory development, and systematic.

Thus, we would distinguish between methods which are systematic and methods which are quantitative. Quantification, in a strict sense, only refers to the transformation of observations (by a researcher or participant) into num-

bers. It can occur in the context of unsystematically collected data, and it need not occur in the context of systematically collected data. It may permit one form of systematic analysis, but it also permits unsystematic, ad hoc analyses. Thus, while historical associations between quantitative and systematic methods can be documented, logical associations between them are debatable, suggesting that a feminist methodology cannot ultimately be tied to either qualitative or quantitative methods.

An additional difficulty with the terms "quantitative" and "qualitative" is that they have frequently been used to refer to an absolute methodological dichotomy (Healy and Stewart, in press), so that the entire research process or methodology is characterized as discretely quantitative or qualitative. However, if we think of a research project as involving a group of separate procedures or methods, it is useful to reconceptualize each procedure as located on a qualitative to quantitative continuum (Healy and Stewart). Thus, not only can specific research procedures be more or less quantitative or qualitative, but the entire research approach, made up of these separate procedures, may also be characterized in these relative terms.

"Essentializing" the Issue: What Is "Women's Research?"

Although it is our view that many feminist critiques of traditional quantitative methods have considerable merit and that qualitative research is often more consistent with feminist values, we also believe that many authors incorrectly base their criticisms on what we term "the different voice" perspective. This perspective, represented in Gilligan's *In A Different Voice* (1982), emphasizes the difference between the male voice, which defines the self in terms of distinctness and separation from others, and the female voice, which defines the self in terms of connections and relationships. Numerous discussions of feminist methodology have applied this essentialist view to the quantitative and qualitative dialogue (for example, see Davis, 1985, and Sheuneman, 1986) concluding that the female voice is, in fact, qualitative. Furthermore, this view has emphasized the differences between qualitative and quantitative research, regarding the former as subjective, relevant, and descriptive and the latter as objective, irrelevant, and superficial.

In general, those who take an essentialist position believe that women are more able than men to study issues of importance to women. According to Mies (1983), because of women's personal experience with oppression they "are better equipped than their male counterparts to make a comprehensive study of the exploited groups" (p. 121). While we generally agree that women, on the average, *should* have a better understanding of issues important to feminists, it is unclear whether this is, in fact the case, and, if it is true in general, under what circumstances it is true. Overall, evidence in support of the essentialist position is lacking, and thus a more cautious approach to evaluating this belief is appropriate. Moreover, differences among women are ignored and rendered invisible by this exclusive focus on inter-sex differences.

The essentialist view is exemplified by two beliefs found in the literature or

raised as issues for discussion in the feminist community. One belief about women researchers is that they take a more "contextual" approach. Thus, for example, Gilligan (1982) suggests that where men see individuals arranged in hierarchies, women see a web of interconnected relationships. Scheuneman (1986) argues that this tendency toward a contextual perspective (which is, indeed, a frequently voiced feminist research value; see, e.g., Smith, 1974/1987) will lead women to use multivariate research designs. However, no evidence for this belief is presented, and it runs counter to the stereotype of women as fearful and avoidant of complex statistics (see below).

A second essentialist belief expressed in some feminist literature is that women researchers are more likely to study issues important to feminists. Interestingly, in an analysis of articles published in personality and social psychology between 1963 and 1983, Lykes and Stewart (1986) found that "female authorship was uncorrelated with the sex-typing of research topics, age of subjects, analysis of sexes separately, inclusion of gender as an aspect of the research question, discussion of sex roles, or interpretation of gender differences" (p. 400). Thus, there is no automatic association between gender of researcher and research methods used.

We suggest several problems with the essentialist position, in addition to the lack of empirical support. First, it amounts to wishful thinking by confusing an ideal with reality. In other words, although essentialist beliefs appear consistent with feminist values, they may have no basis in fact. The underlying values expressed in this literature could, however, function more usefully as ideals. For example, DuBois's (1983) call for a wholistic (contextual and non-linear) approach, is clearly stated as an ideal we must develop and use. Second, these beliefs about women's use of research methods confuse *women's* and *feminists'* beliefs. Although there is no evidence that either women or feminists might conduct research in this way, it is certainly more likely that feminists, rather than women in general, would do this, since it is consistent with feminist values. To hold essentialist views about all women is to stereotype all women as feminists. It is too easy to forget that most women researchers (including feminist researchers) are primarily trained and socialized as traditional quantitative methodologists and, despite any interest in alternative procedures, it is far more likely than not that they will carry out their research largely using traditional methods and methodologies (Lykes and Stewart, 1986).

There is one additional belief concerning women's approach to science which is sometimes a focus for discussion not only among feminists, but in the public media as well. This is the stereotype of women as math anxious or as avoiding the acquisition of advanced math skills. Evidence indicates that females, beginning in high school, express more negative attitudes toward math than males, although the sex difference does not appear to be large (Eccles, 1984). Moreover, examination of average sex differences obscures equally important intra-sex differences among women. Nevertheless, Eccles suggests that anxiety may ultimately influence some women's academic choices. It can handicap women in their entrance to numerous professions, including the social sciences. Despite the evidence to support this view, it is not necessarily the case

that those women who do enter social science professions and who may not therefore be "typical" of "all" women in a number of ways—with their current reliance on quantitative methods—are seriously handicapped by math anxiety. However, if women scientists *are* more suspicious or uncomfortable with mathematical analyses, they may be disadvantaged professionally. Advanced statistical procedures used in quantitative research may make publication more likely, and, as Cook and Fonow (1984) suggest, agencies may be more willing to fund research projects which propose sophisticated statistical techniques.

Although all women need not learn advanced mathematical or statistical skills, such skills are advantageous to feminist researchers for a number of reasons. First, although these skills are more or less appropriate for use in various disciplines,³ in research in the social sciences they are used consistently and effectively as research tools. Furthermore, whether or not one intends to use these skills in one's own research, it is important that feminist researchers obtain adequate statistical or mathematical knowledge in order to evaluate and critique research which does use such tools. Given the abundance of research with an antifeminist message, it is absolutely critical that feminist researchers understand the methods behind such research, so that their critiques will be cogent.

A second reason for feminist researchers to have knowledge of statistical and mathematical principles is in their application to both qualitative and quantitative research. Without a basic understanding of the functioning of these principles in research procedures such as design, sample selection, data interpretation, and generalization, both qualitative and quantitative research can result in erroneous and misleading findings. However, more damaging than inaccurate results is the potential for others to generalize from one example of inferior research motivated by feminist values and to stereotype all feminist research as being politically motivated and biased, exactly the charge feminists make of traditional research. When feminist research is poorly done, it is not only difficult to defend the charge of bias, but it makes it increasingly difficult to defend quality feminist research as well.

Perhaps the clearest example of research claiming to be "qualitative" which has been problematic for feminists is Hite's study on women's sexuality and love relationships, which resulted in two well-publicized books (Hite, 1976, 1987). Her work—not associated with any traditional academic discipline or setting—has been prominently identified as feminist, both by her and by some of the media; it thereby reflects on all research by feminists. One difficulty with this work is that, while it strongly supports the feminist call for more qualitative, in-depth study of women's lives, it violates some very basic methodological principles, thus jeopardizing the validity of its conclusions. Although there are numerous examples which could be targeted for criticism, one stands out in particular. In *Women and Love* (Hite, 1987) Hite distributed approximately 100,000 questionnaires, 4,500 being returned. In spite of her attempt to justify the representativeness of her sample, it is clear that it is a highly self-selected sample⁴ and not representative of the U.S. female population, which she implies it is. Because of the unknown nature of the sample, it is inaccurate to

draw *any* conclusions about what U.S. women in general may believe. Nevertheless, such conclusions are intended in this volume. Although, as feminists, we might wish to believe in the truth of her findings, we must recognize the fact that her data simply cannot answer questions about how most American women feel about love. At most, we can only say that some women feel this way.

Despite the strength of this criticism, it is not a single methodological flaw which most concerns us, but rather the contribution which this research makes to the stereotype of feminists as biased researchers. The negative press which this type of research received, primarily for its shoddy methodology (see, for example, Tavris, 1987, and Ferguson, 1987), detracts from its message and contributes to the stereotype of feminists as incapable of sophisticated and valid research. If Hite had used proper methodological procedures (even just better sampling methods), and the book were still attacked for its feminist message (which undoubtedly it would have been), at least it could have been defended. Instead, we are faced with guilt by association. For example, one review which appeared in the *Wall Street Journal* (Ferguson, 1987) stated that the book

serves up the kind of buncombe we have come to expect from "feminist scholarship": the bloated generalization, the bizarre pseudoethnology masquerading as a critique of "patriarchy," the sure-handed dismissal of tradition and history, and above all, the free-floating indeterminate malice. (p. 13)

It is important to note here that there are many examples of careful, rigorous qualitative research to set against the Hite studies. Unfortunately, none of them is likely to attract the level of media attention that her research did. Detailed consideration of the signs which distinguish excellent qualitative research may help make this point clearer. Gerson (1985) conducted a qualitative study of different patterns of work and family life among contemporary young women. In a thoughtful appendix to the monograph describing her findings, Gerson explained that "the research questions called for an exploratory study" (p. 240), which was based on "open-ended, in-depth interviews with a carefully targeted sample of women" (p. 241). She explained her sampling procedure in detail, spelling out the biases and limitations of the sample (pp. 241–45). She concluded that "the insights and conclusions of this analysis can and, I hope will be applied to and tested among other groups of women in different social environments and of other races and age cohorts" (p. 243). Perhaps most important, in the body of the text itself, Gerson pointed to the proper use of her findings: "They should be considered in the context of corroborative findings from larger, more representative samples" (p. 217). Research like this does indeed stand

the best chance of avoiding the Scylla of qualitative research that is descriptively rich, but lacks analytic precision, and the Charybdis of quantitative research that is causally precise, but lacks the data necessary to uncover processes or answer the critical questions. (Gerson, 1985, p. 241)

The Issue of Objectivity

What Is the Issue?

A frequent theme in feminist criticism of social science research is the negative consequences of professional obsessiveness with "scientific objectivity," which is in turn associated (historically, though not logically) with quantification. Feminist criticisms have focused on several important points: (1) apparently "objective" science has often been sexist (hence, not "objective") in its purposes and/or its effects (see, for example, DuBois, 1983; Sherif, 1979/1987); (2) glorification of "objectivity" has imposed a hierarchical and controlling relationship upon the researcher-researched dyad (Keller, 1978; Fee, 1983; Arditti, 1980); and (3) idealization of objectivity has excluded from science significant personal subjectively-based knowledge and has left that knowledge outside of "science" (Unger, 1983; Wallston, 1981). This last point makes it clear that leaving the subjective outside of science also leaves it unexamined. Thus, Harding (1987), has recently concluded that

the best feminist analysis . . . insists that the inquirer her/himself be placed in the same critical place as the overt subject matter, thereby recovering the entire research process for scrutiny in the results of research. (p. 9)

It may be, then, that an important source of the sexist (and racist and classist) bias in traditional "objective" research is the fact that the personal and subjective—which inevitably influences many aspects of the research process—were exempt from analysis (see Hubbard, 1978; Unger, 1983).

For some feminists a "truly feminist social science" originates "from women's experience of women's reality" (Stanley and Wise, 1983, p. 165; see also Smith, 1974/1987). Some believe that this perspective implies the exclusion of the concept of objectivity in the research process. It is clear, nevertheless, that most contemporary feminists reject any notion that objectivity should be renounced as a goal altogether. Although absolute objectivity is not possible (even if it were desirable), the pursuit of some types of objectivity, as a goal, does have potential to protect against several forms of bias. For example, a researcher who has an investment in a particular theory may tend to use methods that are likely to produce supportive findings. However, the use of certain research procedures generally accepted in the social sciences mitigate against such biased results. An illustration of this safeguard is representative sampling techniques. Such techniques do not permit a researcher to generalize from a sample of selected respondents who are likely to exhibit the researcher's pet hypothesis. Thus, while many feminists wish to incorporate subjective elements into the research process, they also reject the notion that the process must be entirely subjective. As Rose (1982) states, "feminist methodology seeks to bring together subjective and objective ways of knowing the world" (p. 368). Furthermore, Birke (1986) notes that

the association of objectivity with masculinity has sometimes led feminists to reject objectivity and to glorify subjectivity in opposition to it. While it is necessary to revalue the subjective . . . we do ourselves a disservice if we remove ourselves from objectivity and rationality; we then simply leave the terrain of rational thought . . . to men, thus perpetuating the system which excluded us in the first place. (p. 157)

There is, then, increasing recognition that the use of particular methods and procedures does not automatically confer objectivity, just as inclusion of analysis of one's personal subjective experience does not preclude it. With no necessary connection between (qualitative and quantitative) methods and (objective vs. subjective) outcomes, there is no substitute for a reflexive social science conducted by reflective social scientists (Harding, 1987; Unger, 1983).

Dangers of Apparent Objectivity

Despite our recognition of the legitimate use of objective methods, there are realistic dangers of poor quality antifeminist research disguised as good, quantitative and, thus, "objective" research. An example of such research which required a strong feminist critique and reinterpretation is work by Benbow and Stanley on math achievement (1980, 1983). This study, which made headlines in major newspapers⁵ throughout the country, supported the view that girls were innately less capable of math achievement than boys. A study assessing the negative impact of this research (Jacobs and Eccles, 1985) concluded that

one of the major effects of popular media coverage of the research report was that it changed the "social desirability" climate. Before the media coverage, it was popular to espouse a belief in equal math abilities of males and females. After the media coverage it was "okay" to say that males are better than females in math. (p. 24)

Numerous problems with this research have been pointed out (for example, see Eccles and Jacobs, 1986; Fennema, 1981), and many are violations of basic principles for conducting quantitative research. Most important, the research failed adequately to examine the roles of values and attitudes in girls' math performance (see Eccles and Jacobs, 1986), which reasonably may have explained the sex difference in performance. Although these critiques did not receive as much press coverage as the original Benbow and Stanley article, such critical analysis of traditional objective research is essential in the feminist and academic community and requires a thorough knowledge of basic research and statistical procedures. Thus, there is a very practical need for feminists to acquire such knowledge if we are even to attempt to counter the effects of such harmful, "objective" work.

Benefits and Uses of Traditional Research Methods

Although this example illustrates the damage which this kind of research can do, as feminists we must also consider any potential benefits which our own use

of "objectivity" can bring. The greatest benefit of apparent objectivity lies in its power to change political opinion. Thus, traditional research methods can be used to our advantage to change sexist belief systems or to support progressive legislation. Two examples of the uses of statistics attest to its power. First, as noted in Jayaratne (1983), prior to the court decision of *Griggs v. Duke Power Company* (1971), which was argued under Title VII of the Civil Rights Act of 1964, sex discrimination could be substantiated in court only if one could prove intent on the part of the defendant. The decision resulting from this case, however, was that discrimination could be demonstrated by presenting statistics which show a different and unfair impact on a racial, sex, or other group covered by Title VII. This decision set a new course for discrimination suits.

In a second example, a study of maternal death rates in Chicago (Siefert and Martin, 1988) documented a much higher rate among black than white women, as well as a rate for black women higher than that in many Third World countries. In specific response to this study (Wolinsky, 1986; Wolinsky and Franchine, 1986), a new program was initiated by the Illinois health commissioner and the Chicago Health Department (\$35 million allocated) to ensure that pregnant women get prenatal care.

An additional benefit derived from the use of "objective" methods in research lies in their ability to provide tests of theories. Thus, statistics can be a practical tool in the evaluation of feminist theories, since such analysis can identify the most effective strategies for implementing feminist goals. This remains an imperative task if feminists are going to correctly target problem areas for change or effectively direct our energies toward change.

A Feminist Perspective on Methodology

In much of the feminist methodology literature the critical questions ask for the definition of the "feminist perspective" on research. We believe that there is now some consensus on the answer to this question. Thus, there is general concurrence in recent writing on feminist methodology that there can be no single, prescribed method or set of research methods consistent with feminist values, although there are methods antithetical to such values.

The idea that there is only "one road" to the feminist revolution, and only one type of "truly feminist" research, is as limiting and as offensive as male-biased accounts of research that have gone before. (Stanley and Wise, 1983, p. 26)

There is, then, no substitute for each researcher making independent assessments about the appropriateness of a given method for a given research question and purpose, as well as about the competence of the execution of the research method used. Feminist researchers must be critical of both quantitative and qualitative research which is used against women and must be able to marshal the richest and most persuasive evidence in the service of women.

We believe that the focus of feminist dialogue on "methods," and particularly on qualitative versus quantitative methods, obscures the more fundamental challenge of feminism to the traditional "scientific method" (see also DuBois, 1983). That challenge really questions the epistemology, or theory of knowledge, underlying traditional science and social science, including the notion that science is, or can be, value free. It is appropriate and timely now to move the focus of the feminist methodology dialogue from definition to implementation. With such an enormous task ahead of us, as feminist researchers attempting to undo decades of sexist and elitist research, to continue the debate between quantitative and qualitative research at this point in the dialogue wastes our valuable time and effort.

Strategies for Practical Implementation of a Feminist Perspective in Social Science Research

Many significant contributions to the literature on feminist methodology are so abstract that the solutions they propose cannot be easily or practically implemented, let alone understood by those without knowledge of epistemology. Feminist researchers must develop realistic and pragmatic strategies which allow for implementation of the feminist perspective. The following specific procedures are examples of such strategies. They derive both from the above discussions of qualitative and quantitative methods, and from those research values explicitly found in the feminist methodology literature. We would like to emphasize, parenthetically, the importance of researchers selecting or developing other procedures which they can effectively implement. Thus, researchers need to consider practical issues such as the time, effort, money and other resources available to the research staff. It is our belief that *any*, even a limited, attempt at increasing the feminist value of research is worthwhile.

1. *When selecting a research topic or problem, we should ask how that research has potential to help women's lives and what information is necessary to have such impact.* The desire to conduct research can either stem from a general theoretical interest in a subject matter (e.g., beliefs about rape), or from a specific political perspective (e.g., how can research help to decrease the incidence of rape). Although ultimately the goal should always be political, theoretical research can also be important to feminists (Jayaratne, 1983). Whatever the origins of the research topic, it is important to determine, specifically, the kind of information which will be most useful and will have the most positive impact on women's lives. One research goal is not always better or more appropriate for a given problem. For example, if a researcher is interested in helping battered women, legitimate research goals might vary from increasing public understanding of their plight to influencing legislation.

2. *When designing the study, we should propose methods that are both appropriate for the kind of question asked and the information needed and*

which permit answers persuasive to a particular audience. Once a researcher knows the research goal or question and what information is necessary, the types of methods needed in the research should be clear. This view has been stated frequently in the feminist literature (DuBois, 1983; Jayaratne, 1983; Healy and Stewart, in press; Scheuneman, 1986; Wallston, 1981). As a general guideline, if the research goal is descriptive of individual lives and designed to promote understanding of a particular viewpoint of the subjects, more qualitative methods may be appropriate. If the goal is to document the operation of particular relationships between variables (e.g. how a government policy affects women), more quantitative methods may be useful. For example, if a researcher is interested in investigating the lives of homeless women, there are numerous approaches she can take. If her goal is to influence legislation to offer employment training to these women, the most persuasive case may involve gathering statistics on women whose job training led to employment and permanent housing. However, if the goal is to help the public to understand these women, in-depth interviews and narrative accounts might be most appropriate.

3. *In every instance of use of either qualitative and quantitative methods or both, we should address the problems associated with each approach.* Thus, if using qualitative methods, we must be aware of methodological problems of poor representation and overgeneralization. Alternatively, if using quantitative methods, we must consciously and actively incorporate feminist values into the procedures. Because quantitative methods have historically exploited women and excluded feminist values, those using such methods should be particularly aware of these problems. (Examples can be found above, in the section on feminist criticism.)

4. *Whenever possible, we should use research designs which combine quantitative and qualitative methods.* This approach, termed a "mixed method," has been advocated by numerous authors as a way to offset the disadvantages of one method with the strengths of the other (Denzin, 1978; Healy and Stewart, in press; Jick, 1979). This strategy suggests the value of acquiring knowledge of both methods. Although this combination of methods is not always possible or even practical, it should result in a more powerful research product, that is, one which not only effectively tests theory but also is convincing.

5. *Whether the research methods are quantitative or qualitative, it is critical that procedures be bias-free or sex-fair.* Not only will such research better test theory or more accurately communicate the research goal, but such research should be more influential on policymakers and the public. In fact, because feminist research tends to be suspect already, it is especially critical that procedures be free from apparent contaminating bias. (See Grady, 1981, for examples of methods to minimize bias.)

6. *We should take the time and effort to do quality research.* This means learning and using a variety of appropriate research skills, rather than taking short cuts which are more expedient. (See Jayaratne, 1983, p. 151, for a discussion of the abundance of "quick and dirty research" in social science.)

7. *When interpreting results, we should ask what different interpretations, always consistent with the findings, might imply for change in women's lives.* We should consider interpretations that imply the most effective interventions for improving women's lives. For example, victim-blaming interpretations tend to result in individual intervention strategies, whereas situational/environmental interpretations can often yield more effective political strategies for change.

8. *We should always attempt some political analysis of the findings.* We should make an effort to explore how policy change suggested by research results might positively affect women's lives. This goal is not always clear from the findings and must be made explicit, when possible.

9. *Finally, as much as possible (given a realistic assessment of the frantic pace of academic life), we should actively participate in the dissemination of research results.* The importance of dissemination cannot be overstressed, since it is the goal of feminist research to make a difference in women's lives. If research is not "advertised" it will not have an impact, either on policymakers or on the public.

In conclusion, we would like to reemphasize that we view these strategies, combined with others discussed in the feminist literature, as a contribution to a dialogue focusing on the practical application of feminist theory in social research. Such dialogue can best advance feminist goals by producing research which not only positively affects women's lives, but also makes the research endeavor itself an exciting, relevant, and profitable experience for the researcher.

NOTES

1. It should be pointed out that criticism of quantitative methods has a long history which extends beyond the feminist community (Healy and Stewart, in press; Hornstein, 1988; Mies, 1983).

2. For example, the first author of this essay was told in her first year of graduate school (not at her present academic institution) that the faculty were concerned about her ability to conduct objective research because of her political (i.e., feminist) views.

3. See Hacker (1983) for an example of a discipline where mathematics is over-emphasized.

4. Not only is her return rate profoundly low, but the highly personal and lengthy nature of the questionnaire would result in a sample of women to whom this subject is unusually salient, such as women who are unhappy in their love relationships.

5. Popular media coverage of this research included headlines such as "Do Males Have a Math Gene?" in *Newsweek* (Williams & King, 1980) and "The Gender Factor in Math: A New Study Says Males May Be Naturally Abler Than Females" in *Time* (The Gender Factor, 1980).

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