

# Making Practice Decisions: Is What's Good for the Goose Good for the Gander?

Eileen Gambrill

*University of California at Berkeley*

Leonard Gibbs

*University of Wisconsin  
Eau Claire, WI*

This study explored criteria social workers and social work students reported using to make decisions in three situations: with clients, when seeking help from a physician regarding a serious medical problem of their own, and criteria they would ideally like to use when working with clients. Criteria included both those that do not provide a rigorous appraisal of the accuracy of claims such as experience with a few cases and what is usually offered in an agency, and criteria reflecting a rigorous appraisal of claims such as results of controlled experimental studies. Results showed that in five samples of social workers and social work students ( $n = 207$ ), respondents would hold their doctor to a statistically significantly higher standard of evidence than they would themselves. That is, respondents reported reliance on weak criteria when making decisions about their clients but wanted their physicians to rely on rigorous criteria. They reported that, ideally, they would like to use evidence-based criteria to make practice decisions. Possible reasons for reported use of different criteria in different situations are discussed and suggestions made for encouraging social workers to be more evidence-based (e.g., to search for research findings related to important practice decisions and critically appraise what is found as required by their professional code of ethics).

One of the most spirited debates in social work concerns different views of knowledge and how it can be gained (e.g., see Gomory, 1997). These views include relativistic ones in which it is argued that all ways of knowing are equally effective, logical positivism that views theory-free observation as possible and rejects the value of unobservable entities (abandoned decades ago), and science as we know it today in which it is assumed that there is no such thing as theory-free observation, that many key constructs are unobservable, and that certainty regarding claims is not possible (e.g., see Phillips, 1987, 1992). Selection of service methods is a key decision social workers make. In spite of the obligation described in the *Code of Ethics* of the National Association of Social Workers (1996) to draw on practice-related research findings when making decisions, research suggests that social workers do not do so (see Rosen, 1994; Rosen, Proctor, Morrow-Howell, & Staudt, 1995).

If evidentiary criteria about what is most likely to help clients are not considered, clients may be harmed rather than helped, money may be wasted on ineffective methods, and opportunities to use effective methods may be foregone. And, clients will be misinformed

or uninformed about the evidentiary basis of practice methods. Claims of effectiveness based on questionable criteria such as anecdotal case reports have been later shown to be false by controlled experimental studies. Consider the negative results found in controlled studies of the effects of “facilitated communication,” a method alleged to help nonverbal people talk (Jacobson, Mulick, & Schwartz, 1995). It was shown that communication alleged to be from previously nonverbal people was actually determined by the facilitators. “Recovered memory therapy” (methods used to encourage recall of early sexual abuse) was embraced by many social workers. Now this method has been found to lead to false memories, resulting in many lawsuits against its proponents (Stocks, 1998). The history of the mental health industry reveals a long list of false causes for personal troubles and social problems and harmful interventions to cure “mental illnesses” (see Breggin, 1997; Ofshe & Watters, 1994; Szasz, 1994; Valenstein, 1986).

### CRITERIA FOR EVALUATING CLAIMS

The kind of evidence needed to answer a practice question depends on the question. Every research method is limited in the kinds of questions it can critically test. For example, if our purpose is to communicate the emotional complexity of a certain experience (e.g., the death of an infant), then qualitative methods may be needed (e.g., detailed case examples, thematic analyses of journal entries, open-ended interviews at different times). If questions concern the effectiveness of a service, experimental studies are designed to control for a variety of biases (Campbell & Stanley, 1963; Cook & Campbell, 1979; Gray, 1997). Answering other kinds of practice questions such as “What is the accuracy of this risk assessment measure?” requires methods to determine false positive and false negative rates and positive predictive value.

#### Evidence-Based Criteria

All methods are vulnerable to certain kinds of errors which should be considered when evaluating the data they generate. Some tests are more rigorous than others in controlling for biases and so offer more opportunities to critically test claims.

***Demonstrated Track Record of Success Based on Data Gathered Systematically and Regularly.*** A social worker may keep careful track of outcomes pursued and related degree of change over many clients (Bloom, Fischer, & Orme, 1999). Such systematic data differ greatly from anecdotal reports (see later discussion of experience).

***Controlled Experimental Studies.*** Controlled experimental studies are needed to rigorously test claims regarding effectiveness. They involve random assignment of people to groups receiving and not receiving a treatment method. Unlike anecdotal reports, they are designed to rule out rival hypotheses about what may be true and so provide more opportunities to discover that a claim is not correct. Randomized controlled trials (RCTs) must, like any other method, be carefully appraised since they vary in methodological soundness regarding selection criteria, randomization, blindness of outcome ratings, and validity of dependent measures (Altman et al., 2001). Hallmarks of systematic reviews are exhaustive searches for all RCTs related to a question regarding the effectiveness of a method and critical appraisal of each study (Oxman & Guyatt, 1993).

***Critical Reading of Professional Literature.*** Practice decisions may be based on searching for and critically appraising research findings related to questions such as “Does X help clients?” Such search and careful appraisal, as well as consideration of the extent to which research findings apply to a particular client and consideration of the values and

expectations of the client, are hallmarks of evidence-based practice (Sackett, Richardson, Rosenberg, & Haynes, 1997; See also, Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000).

### Weak Criteria

Weak criteria for evaluating claims of effectiveness do not provide sound grounds on which to accept claims that a method does more good than harm, often because they consider only part of the picture (e.g., only examples that support a belief).

**Intuition.** Intuition is a common criterion used to evaluate the accuracy of claims. *Webster's New World Dictionary* (1988) defines intuition as "the direct knowing or learning of something without the conscious use of reasoning." The view that intuition involves a responsiveness to information that, although not consciously represented, yields productive insights, is compatible with the differences that Dreyfus and Dreyfus (1986) found between experts and novices, one of which was that experts rely on "internalized" rules that they no longer may be able to describe. No longer remembering where we learned something encourages attributing solutions to "intuition." When asked what made you think that "Y" service would be effective your answer might be, "Intuition." When asked to elaborate, you may offer sound reasons reflecting your knowledge of content and appropriate inference rules. Baron defines intuition as "an unanalyzed and unjustified belief" (1994, p. 26) and argues that beliefs based on intuition may be either sound or unsound. He notes that therefore, basing beliefs on intuition may have harmful consequences.

Although intuition may be a valuable source of ideas about what may be true, it is not a good guide to their accuracy. Relying on intuition is ethically questionable when other grounds, including a critical appraisal of intuitive beliefs, will result in better-reasoned decisions. Relying on intuition often means that we can use only some of the information relevant to a decision. Moreover, decisions based on intuition are likely to be inconsistent. But this inconsistency may not be evident because no one keeps track of the decisions made, the grounds for making them, and their outcomes. The greater the number of factors that must be considered in arriving at a well-reasoned decision and the more that is known about the relevance of considering them, the less likely is intuition to offer the best guide for decisions. In 136 studies that compared the predictive accuracy of "subjective, impressionistic" versus statistical methods, Grove and Meehl (1996) found that the statistical method is ". . . almost invariably equal or superior . . ." (p. 293). Finally, attributing judgment to "intuition" decreases opportunities to teach practice skills; one has "it" but doesn't know how or why "it" works.

**Recommendations of Other Professionals.** Such recommendations do not provide a sound basis for making practice decisions, since other professionals may rely on questionable criteria such as tradition or anecdotal experience.

**Experience.** Professionals often appeal to their anecdotal experiences to support claims of effectiveness. (Relying on documented track record of success is quite different, as discussed earlier.) A social worker may state, "I know cognitive behavioral methods are most effective with depressed clients because they are effective with my clients." Experience in everyday practice and beliefs based on this are the key source of what is known as *clinical or practice wisdom*. Although practice wisdom may help us guess what is effective, it is not a sound basis for evaluating claims of effectiveness because of the lack of comparison (Dawes, 1988). Our experience is often restricted and biased. When relying on experience we may not recognize that conditions have changed; what worked in the past may no longer work in the present. Another problem with relying on experience

concerns the biased nature of our memory of what happened. We tend to remember what is vivid, which often results in biased samples. We tend to recall our successes and forget our failures. Unless we have kept track of both hits and misses we may arrive at incorrect conclusions (see Nisbett & Ross, 1980).

We tend to be overconfident of our beliefs perhaps because of our interest in predicting what happens. This interest can encourage an illusion of control in which we overestimate how much control we really have. Also, as Dawes (1988) notes, we tend to create our own experience; if we are friendly, others are likely to be friendly in return. If we are hostile, others are likely to be hostile. We often alter views about the past to conform to current moods or views. We don't know what might have happened if another sequence of events had occurred. Overlooking this, we may unfairly praise or blame ourselves (or someone else). Relying on experience opens us to accepting irrelevant causes. Our tendency to look for causes encourages a premature acceptance of causes that may lead us astray. So experience, while honing skills in many ways, may also have negative effects such as a reluctance to consider new ideas and overestimates of success in helping clients. With all these concerns about learning from experience, what should we do? As Dawes (1988) reminds us, we can be cautious about generalizing from the past and present to the future: "In fact, what we often would do is to learn how to avoid learning from experiences" (p. 12).

**Personal Style.** Professionals may base practice decisions on what fits their personal style. What fits one's personal style may not be correlated with what helps clients attain hoped-for outcomes.

**Tradition.** Professionals may appeal to what has been done in the past to support claims. When asked why she was using genograms, a social worker may answer, "That's what our agency has used for the past five years." Advertisers often note how long their product has been sold, suggesting that this establishes its effectiveness. Because a method has been used for many years does not mean it is effective. Consider how long harmful practices of bloodletting lasted.

**Case Examples.** Here, conclusions about many clients are made based on a few unrepresentative examples. The case example fallacy involves faulty generalization. Gibbs (1991, p. 240) suggests three reasons why case examples so readily snare the unwary:

1. The detailed description of case examples has considerable emotional appeal, especially in comparison to the less vivid data from large representative samples that may be reported in the literature;
2. Social workers become immersed in the details of a particular case and forget that what may be true of this case may be untrue of others; and
3. Cases that "prove the point" can always be found.

Case examples are easy to remember because they have a story-like quality. Extreme examples often are selected, making them easy to remember, even though they are unrepresentative of other cases.

**Testimonials.** Testimonials are reports by people who have used a product or service that it is effective. Someone who has attended Alcoholics Anonymous may say, "I tried it. It works." The testimonial is a variant of the case example fallacy and is subject to the limitations of case examples in offering evidence for a claim.

**Familiarity.** Yet another criterion that may be used to make practice decisions is the helper's familiarity with a method. As with the criteria of personal style, familiarity may not match what has been found to help clients.

**Popularity and Numbers.** Popularity and numbers refer to the acceptance of claims simply because many people accept them. For instance, an agency may decide to adopt behavioral methods because many other agencies use these methods. Again, the question is whether there is any evidence that popular methods are effective. Consider efforts to diffuse assertive community treatment programs for the alleged severely and chronically mentally ill even though critical appraisal of related research provides no evidence that they are effective (Gomory, 1999).

**Authority.** The fallacy of authority includes the mistaken assumption that status is correlated with accuracy. Appeals to authority can be recognized by the assertion of a claim (e.g., "Play therapy is the best method to use with acting-out children") based solely on someone's status or position, with no description of related research findings (Gibbs, 1991, p. 27). Let us say that Ms. Sommers, a case manager for the elderly, tells her supervisor that she referred Mr. Rivers to the Montview Nursing Home because Dr. Lancaster told her that this home provides excellent services—even though Dr. Lancaster offered no evidence that it does. This decision is based on authority. Appeals to authority are a common social persuasion and advertising strategy (Cialdini, 2001). Appeals to unfounded authority also are common in the professional literature, such as citing a famous person to support a claim when in fact he or she has not conducted any critical tests of the claim.

## STUDY HYPOTHESIS

The idea for the investigation described here arose out of class discussions that suggested that whereas social work students wanted their physicians and dentists to rely on evidentiary criteria when making practice decisions about their personal health care, they relied on criteria such as intuition and what agencies usually offered when making decisions about clients. We investigated criteria social workers reported using in making decisions in three different situations:

1. with a client,
2. when seeking help from a physician regarding a potentially serious medical problem;
3. when making ideal practice decisions about clients.

We predicted that respondents would use more rigorous criteria in Situations 2 and 3 compared to Situation 1. This prediction was based on literature showing that social workers do not draw on practice related research literature in their work with clients (Rosen, 1994; Rosen et al., 1995) and the assumption that they would want those from whom they sought medical help to rely on practice-related research findings (out of self-interest) and, may want to draw on research findings when working with clients but, for a variety of reasons do not do so. We hypothesized that respondents who selected intuition as a criteria they relied on in their work with clients (Situation 1) would select other questionable criteria such as experience with a few cases. We selected intuition as the key questionable criteria based on the extensive literature showing that clinicians often rely on it in making clinical judgements (e.g., see Grove & Meehl, 1996).

## METHOD

Respondents were asked to check one or more criteria used to make practice decisions in three different situations. The situations were as follows (Exercise 1, Gibbs & Gambrill, 1999):

1. Think back to a particular client (individual, family, group, agency, or community) with whom you have worked. Place a checkmark next to each criterion *you used to make your practice decisions*. If you have not yet worked with a client to make a practice decision, think of the criteria you would probably rely on.
2. Imagine that you have a potentially serious medical problem, and you seek help from a physician to examine treatment options. Place a checkmark next to each criterion *you would like your physician to rely on* when he or she makes recommendations about your treatment.
3. Think back to a particular client (individual, family, group, agency, or community) with whom you have worked. Place a checkmark next to each criterion *you would like to use ideally* to make practice decisions. If you have not yet worked with a client to make a practice decision, think of the criteria you would ideally like to rely on.

Criteria included the following:

1. Your intuition (gut feeling) about what will be effective.
2. What you have heard from other professionals in informal exchanges.
3. Your experience with a few cases.
4. Your demonstrated track record of success based on data you have gathered systematically and regularly.
5. What fits your personal style.
6. What was usually offered at your agency.
7. Self-reports of other clients about what was helpful.
8. Results of controlled experimental studies (data that show that a method is helpful). Controlled experimental studies involve the random assignment of people to a group receiving a treatment method (e.g., cognitive-behavioral intervention) and one not receiving the treatment.
9. What you are most familiar with.
10. What you know by critically reading professional literature.

Each situation was followed by the same 10 criteria. Situation 1 appeared on the first side of one page and Situations 2 and 3 on the back of the page. Respondents were asked to complete Situation 1 before turning the page over. It was suggested that each person would learn more about their own decision making style if they completed Situation 1 before reading Situations 2 and 3. Turning the page was usually followed by an audible sound of "ah" when respondents "got" what the exercise was about.

### Scoring

One point was deducted for each criterion checked that does not provide a rigorous tests of claims of effectiveness: 1, 2, 3, 5, 6, 7, or 9. Three points were given for item 4; five for item 8; and two for item 10 in accord with the greater degree of rigor of these criteria. Total scores range from -7, indicating reliance on questionable criteria, to 10, indicating reliance on rigorous criteria.

### Sample

Five samples made up of a total of 83 social workers, 110 master's students in social work, and 14 social work bachelor's degree students completed the exercise (see Table 1). Two samples ( $n = 110$ ) included master's students at the University of California at Berkeley, one sample ( $n = 14$ ) included students enrolled in the second author's research class given to bachelor's degree students at the University of Wisconsin, Eau Claire, one sample ( $n = 23$ ) included social workers employed in a behaviorally oriented service agency stressing

integration of research and practice who participated in a workshop given by the authors, and a fifth sample ( $n = 60$ ) consisted of social workers and social work educators who participated in a workshop given by the authors. The average age of 86 first-year MSW students in one sample was 28. Eighty-two percent of these students were women and 33% indicated a minority status. Their experience ranged from many years of full-time employment to part-time voluntary service. MSW students completed the questionnaire at the beginning of a required first-year second semester research course. We did not collect demographic data regarding workshop participants.

## RESULTS

Scores for the UCB MSW student sample were as follows:  $-.13$  ( $SD 4.6$ ) for Situation 1,  $7.9$  ( $SD 2.0$ ) for Situation 2, and  $7.1$  ( $SD 2.8$ ) for Situation 3 (see Table 1). Mean overall scores for all samples combined were:  $0.68$  ( $SD 4.58$ ) for Situation 1;  $7.78$  ( $SD 2.17$ ) for Situation 2; and  $7.05$  ( $SD 2.71$ ) for Situation 3. A repeated measure ANOVA using a Scheff test for post-hoc comparisons was used to explore differences among situations. In all five samples, respondents would hold their doctor to a statistically significantly higher standard of evidence than they would themselves. Thus, social workers reported reliance on weak criteria when making practice decisions about their clients but wanted their physicians to rely on rigorous criteria. And, ideally, they would like to use evidence-based criteria to make practice decisions.

Intuition (criterion 1) was endorsed by 77% ( $n = 66$ ) of the 86 master's students in Sample 1 when making decisions about clients compared to 22% ( $n = 19$ ) in Situation 2 and 38% ( $n = 33$ ) in Situation 3 (see Table 2). Thus, even under ideal circumstances many master's students reported that they would rely on intuition when making practice decisions with clients, but the majority (78%) did not want their physicians to rely on intuition when making recommendations about their treatment. With clients, 64% ( $n = 55$ ) endorsed what they heard from other professionals in informal exchanges compared to 20% ( $n = 17$ ) with their physician and 27% ( $n = 23$ ) ideally with clients. Here again, we see a pattern similar to that shown in relation to other weak criteria including experience with a few cases (criterion 3), reliance on what fits with personal style (criterion 5), tradition (criterion 6), and familiarity with a method (criterion 9). The smallest difference was in relation to reliance on self-reports of other clients (criterion 7). There was a trend in the opposite direction regarding reliance on evidence-based criteria (results for demonstrated track record of success, controlled experimental studies, and what you know from critically reading the professional literature). Note that samples 3 and 4 reported the highest mean ratings for Situation 1. Sample 3 included students in a class given by the second author that stressed integration of research and practice. Sample 4 consisted of social workers in a behaviorally oriented agency in which integration of research practice was emphasized.

Ninety-four percent of respondents in the UCB sample ( $n = 86$ ) who endorsed intuition for Situation 1 endorsed two to six other questionable criteria. In contrast, only 26% of respondents in this sample selected other questionable criteria if they selected intuition in Situation 2 which involved a serious medical condition of their own, and only 22% of respondents selected other questionable criteria given that they selected intuition as a criteria in Situation 3 (what they ideally would rely on with clients). However, only 22% and 38% respectively of respondents selected intuition as a criteria in Situations 2 and 3 (see Table 2).

**TABLE 1. Analyses of Variance for Social Workers' Criteria for Decision Making in Three Situations in Five Independent Samples**

Samples	N	Situation 1* (Own Client)	Situation 2 (Own Doctor)	Situation 3 (Ideally With Clients)	Significance Level
1. 86 of 95 students in MSW Class (58 having practice experience)	86	Mean -0.13 SD 4.6 Mode -4.0	Mean 7.9 SD 2.0 Mode 9	Mean 7.1 SD 2.8 Mode 9	$p < .000$ , S1-S2 $p < .000$ , S1-S3 $p < .000$ , S2-S3 $p < .237$
2. MSW class	24	Mean -1.00 SD 4.54	Mean 6.75 SD 2.89	Mean 6.75 SD 2.50	$p < .000$ , S1-S2 $p < .000$ , S1-S3 $p < .000$ , S2-S3 $p < 1.00$
3. BSW class in research methods	14	Mean 5.28 SD 4.08	Mean 8.07 SD 2.01	Mean 7.71 SD 2.05	$p < .029$ , S1-S2 $p < .049$ , S1-S3 .097, S2-S3 $p < .948$
4. Social workers in a behavioral treatment agency serving children and families	23	Mean 3.26 SD 4.46	Mean 8.43 SD 1.50	Mean 7.78 SD 2.04	$p < .000$ , S1-S2 $p < .000$ , S1-S3 $p < .000$ , S2-S3 $p < .758$
5. 60 of 76 social workers and educators in a workshop	60	Mean 0.43 SD 3.67	Mean 7.67 SD 2.19	Mean 6.73 SD 2.93	$p < .000$ , S1-S2 $p < .000$ , S1-S3 $p < .000$ , S2-S3 $p < .236$
All cases combined	207	Mean 0.68 SD 4.58	Mean 7.78 SD 2.17	Mean 7.05 SD 2.71	$p < .000$ , S1-S2 $p < .000$ , S1-S3 $p < .000$ , S2-S3 $p < .084$

\*Higher scores mean a preference for stronger (methodologically sound) evidence to guide decision making.

These data suggest that social work students can accurately appraise the evidentiary status of different criteria as grounds for accepting knowledge claims about important practice decisions. Ninety-two percent of respondents in this sample endorsed Criterion 8 (results of controlled experimental studies) in Situation 2. This suggests that they are aware of the unique nature of such studies in controlling for biases that may yield misleading conclusions. Consider also the pattern of responses regarding personal style and tradition. Although over half of the respondents indicated that they relied on such criteria when making decisions about clients, only 3.6% wanted their physicians to rely on these criteria when making treatment recommendations and only 8% ideally would rely on tradition when making decisions about clients. Note too the number of respondents who endorsed competing criteria (e.g., experience with a few cases and data from randomized controlled trials). In the UCB sample ( $n = 86$ ), a probe of students' reported reliance on the results of controlled experimental trials when making decisions with clients (Situation 1) revealed that in no case in which this was endorsed, could they identify an experimental study relied on. If they did cite a source, it did not report a controlled trial. Thus the percentage endorsing this item in Situation 1 is inflated.



**TABLE 2. Endorsement of Criteria Over Three Situations by 86 Master's Degree Students (Sample 1)**

Criteria	With Your Client % (n)	When Seeking Help From a Physician % (n)	Ideally With Your Client % (n)
1. Your intuition (gut feeling) about what will be effective.	77% (66)	22% (19)	38% (33)
2. What you have heard from other professionals in informal exchanges.	64% (55)	20% (17)	27% (23)
3. Your experience with a few cases.	73% (67)	26% (22)	26% (22)
4. Your demonstrated track record of success based on data you have gathered systematically and regularly.	39% (34)	92% (79)	91% (78)
5. What fits your personal style.	62% (53)	3.6% (3)	27% (22)
6. What was usually offered at your agency.	59% (51)	3.6% (3)	8% (7)
7. Self-reports of other clients about what was helpful.	65% (56)	52% (45)	64% (55)
8. Results of controlled experimental studies.	37% (32)	92% (79)	86% (74)
9. What you are most familiar with.	53% (45)	19% (16)	14% (12)
10. What you know by critically reading professional literature.	67% (58)	88% (76)	86% (74)

## DISCUSSION

Our results suggest that what's good for the goose is not viewed as good for the gander. Social workers want their physicians to rely on scientific criteria when they make recommendations for treatment, but rely on weak evidentiary grounds such as tradition when working with clients. Limitations of this exploratory study include the self-report nature of the data. However these data are compatible with research findings regarding criteria relied on by professionals in interpersonal helping. And, results were consistent over five different samples of social work students and social workers. The higher endorsement of evidentiary criteria in the ideal situation when working with clients suggests that respondents understand what kinds of data are needed to critically appraise practice-related claims. The high endorsement of controlled experimental studies when personal health is at issue suggests also that respondents understand that such tests rigorously test claims about effectiveness (e.g., whether a treatment does more good than harm).

Is it hypocritical to want physicians to rely on rigorous criteria when one's own physical well-being is at stake, but not to rely on such criteria when making decisions about clients? Or does this reflect an unrecognized compartmentalization of beliefs and actions so that a value may not be acted on? Only if confronted with contradictions in our beliefs and actions may we recognize such contradictions. This exercise provides a tool

that can be used to review criteria relied on to make practice decisions in different situations and to consider the implications of relying on different criteria in different contexts. We have used this exercise in our classes as well as during workshops as a prelude to discussing different views of knowledge and their consequences for clients. The results have been similar to those described here. Participants can score their responses and these can be reviewed as they are collected and the group's overall response shared and discussed.

### Reasons Given For Use of Different Criteria in Different Situations

We have encountered several reasons as to why social workers should be satisfied by a lower standard of evidence:

1. Medicine is different;
2. No evidence exists regarding most social work practices;
3. Evidence may exist but there is no time to find and critically appraise it;
4. All criteria are equally valuable.

**Medicine is Different.** One reason given for the use of different criteria in these different situations is that medicine is different; it is alleged to be more rigorous and to deal with less complex problems. It is true that in medicine there are objective signs as well as symptoms (e.g., behaviors, feelings). However, the more one reads in medicine, the less certain it seems and the more error prone it is revealed to be (e.g., see Bogner, 1994; Kohn, Corrigan, & Donaldson, 2000; Sharpe & Faden, 1998). There are many "grey zones of clinical practice" in medicine (Naylor, 1995). Evidence-based medicine (EBM) originated as an alternative to authority-based medicine. Sackett and his co-authors (1997) suggest the following reasons for EBM:

1. new types of evidence emerge;
2. we usually fail to get it even though we need it to make practice decisions;
3. because of points 1 and 2, up-to-date knowledge and clinical performance deteriorate with time;
4. widely used continuing education formats such as conferences have little direct effect on improving professional practice (e.g., see Davis, Thomson, Oxman, & Haynes, 1995); and
5. some research suggests that a different approach to professional education (problem-based learning as described in Sackett et al., 1997) helps professionals keep up-to-date. (p. 5)

Currently, all but the last of these reasons apply to social work.

**Little Evidence is Available.** Another reason given is that little is known about how to help the clients that social workers encounter. Indeed, systematic reviews are available regarding many questions that arise in social work (e.g., see Cochrane Library as well as reviews published in professional journals). The Code of Ethics of the National Association of Social Workers (1996) calls on social workers to base practice decision on research and to honor informed consent requirements. This requires searching for research findings related to important practice decisions, critically appraising what is found, and sharing the results with clients, including informing clients when no evidence is available about recommended methods or alternatives. The probe showing that students do not rely on experimental studies, even when they say they do, suggests that either they do not know what an experimental study is (unlikely since 92% endorsed this in Situation 2) or that they are providing a socially desirable response. Relying on "What

is known by reading professional literature” to determine the evidentiary basis of practice methods requires critical appraisal skills. If students do not have such skills, they would not be able to critically appraise what they find.

**There Is No Time to Search for Evidence.** This is a real concern. However resources such as the Cochrane Database of Systematic Reviews makes this an easier task (see e.g., Chalmers, Sackett, & Silagy, 1997). The Campbell Collaboration has been formed to prepare systematic reviews of social interventions (see Davies & Boruch, 2001). The more knowledgeable social workers are regarding what is needed to rigorously test different kinds of practice claims (e.g., regarding effectiveness, risk, prevention), the more readily they can sift the wheat from the chaff.

**All Criteria are Equally Valuable.** There is no agreement on “one way of knowing” in social work and it is certainly not scientific reasoning as can be seen by examining the literature in social work on “different ways of knowing.” In reviews of research published in five social work journals, Glisson (1990) found that the majority of studies (63%) used surveys without probability sampling. Only a small percentage involved single case (1.9%) or experimental studies (4.6%). Fraser and his colleagues (1991) reported similar findings in a review of ten journals between 1985 and 1988. Some social workers have become enamored with postmodernism, a current form of relativism. Relativists argue that all methods (e.g., anecdotal reports and experimental studies) are equally valid in testing claims. It is assumed that knowledge and morality are inherently bounded by or rooted in culture (Gellner, 1992, p. 68). In the void created, some voices predominate, throwing us back on authority. If there is no means by which to tell what is accurate and what is not, if all methods are equally effective, the vacuum is filled by an “elite” who are powerful enough to say what is and what is not (Gellner, 1992).

Misunderstandings and misrepresentations of science may contribute to the belief that all criteria are equally valuable. Surveys show that most people do not understand the basic characteristics of science (Miller, 1987). Science is often misrepresented as a collection of facts or as referring only to controlled experimental studies. Misunderstandings and misrepresentations of science are so common that D. C. Phillips, a philosopher of science, entitled one of his books *The Social Scientist's Bestiary: A Guide to Fabled Threats to, and Defenses of, Naturalistic Social Science* (1992). Many academics confuse logical positivism and science as we know it today. Logical positivism emphasizes direct observation by the senses. It is assumed that observation can be theory-free. It is justification-focused, assuming that greater verification yields closer approximations to the truth. This approach to knowledge was discarded decades ago because of the induction problem, the theory-laden nature of observation, and the utility of unobservable constructs. In modern-day science, critical rationalism, the theory-laden nature of observation is assumed (our assumptions influence what we observe), and rational criticism is viewed as the essence of science (Miller, 1994; Popper, 1972; Phillips, 1987, 1992). Concepts are assumed to have meaning and value even though they are unobservable. Science is a way of thinking about and investigating the accuracy of assumptions about the world. It is a process for solving problems in which we learn from our mistakes. Scientific statements are those that are testable (they can be refuted).

Many people confuse science and pseudoscience, resulting in an antiscience stance. The term pseudoscience refer to material that makes science-like claims, but provides no evidence for them (Bunge, 1984). Pseudoscience is characterized by a casual approach to evidence (weak evidence is accepted as readily as strong evidence is). Indicators of pseudoscience include irrefutable hypotheses and a reluctance to revise beliefs even when

confronted with relevant criticism. It makes excessive (untested) claims of contributions to knowledge. Misunderstanding of science on the part of social workers reflect a failure in the education of social workers about knowledge and how it can be gained with potential negative consequences for clients (e.g., reliance on ineffective or harmful methods and uninformed or misinformed clients).

**Other Reasons.** Some respondents reported that they do not know how to critically review the quality of research reports. However, professionals can learn to critically appraise practice-related research and use helpful tools to do so (Gibbs & Gambrill, 1999; Greenhalgh, 2001; Spittlehouse, Acton, & Enoch, 2000). Many people accept a justification approach to knowledge development, focusing on gathering support for (justifying, confirming) claims and theories. Popper (1992, 1994) maintains that falsification (attempts to falsify, to discover the errors in our beliefs) by means of critical discussion and testing is the only sound way to develop knowledge. Confirmations of a theory can readily be found if one looks for them. Although we can justify the selection of a theory by its having survived more risky tests concerning a wider variety of hypotheses (not been falsified), compared with other theories that have not been tested or that have been falsified, we can never accurately claim that this theory is "the truth." We can only eliminate false beliefs. Antiscience (rejection of scientific methods as of value in critically testing claims) is common in academic settings (Patai & Kortege, 1994) as well as in the popular culture (e.g., John Burnham, *How Superstition Won and Science Lost*, 1987). Far from reinforcing myths about reality, science is likely to question them. This is one reason that the fear of science is as old as science itself (White, 1993). All sorts of questions that people may not want raised may be raised, such as: "Does this residential center really help residents? Does what I'm doing really help clients? How accurate is my belief about \_\_\_\_\_?" We should keep in mind that social work, like other helping professions, was founded on claimed rather than demonstrated specialized knowledge and values (e.g., see Friedson, 1986; Larson, 1997; Sharpe & Faden, 1998). Raising questions about the evidentiary status of claims highlights this history as well as related research illustrating the lack of relationship between licenses, training, and experience and many outcomes pursued (Christensen & Jacobson, 1994; Dawes, 1994). That is, nonprofessional psychological services are as effective as professional services in attaining many outcomes. Munz (1985) suggests that the function of false knowledge (untrue and unquestioned beliefs) is to maintain social bonds among people by protecting shared beliefs from criticism. This may be necessary to encourage cooperation in a group. However he would argue that knowledge cannot grow in such a society.

Dawes, Faust, and Meehl (1993) offer a number of reasons why professionals object to (and ignore) research findings illustrating the greater accuracy of statistical prediction compared to clinical prediction that apply as well to other kinds of practice decisions:

1. threats to professional status;
2. narcissistic beliefs about the validity of one's own judgment;
3. simple ignorance (regarding research findings); and
4. an aversion to the lack of predictability in human life (considering the evidentiary status of different criteria highlights the uncertainty in life including professional decision making).

They also suggest that statistical prediction can appear dehumanizing and that many people believe that "statistics do not apply to the individual" (p. 361, see also Grove & Meehl, 1996).

The data described here may reflect a belief that providing services to clients does and should entail, not a scientific approach to related claims and actions, but some unknowable mix of art, influence, and persuasion that can neither be objectively communicated to novices nor be subject to critical appraisal regarding the relationships among certain ingredients and hoped-for outcomes. Given calls in professional codes of ethics to draw on practice-related research findings and to involve clients as informed participants, and given that a scientific approach involves critical testing of knowledge claims and that services have been found to vary in their evidentiary base (for example, some have been found to do more harm than good), shouldn't professionals embrace a scientific approach?

## CONCLUSION

Although professional codes of ethics and accreditation guidelines call on helpers to draw on practice-related research findings, research suggests that many do not do so. The exploratory data described here suggest that social workers use different criteria in different situations; they want helpers whose services they seek to rely on evidence-tested criteria such as results of randomized, controlled trials yet rely on questionable criteria in their work with clients. The results suggest that helpers can identify methods that test claims critically since 92% of respondents reported that they would like their physicians to rely on results of controlled experimental studies when making recommendations. Valuing "truth, the search for truth, the approximation to truth through the critical elimination of error, and clarity" (Popper, 1994, p. 70) will help us to overcome the influence of other values and to honor professional codes of ethics which call on social workers to "critically examine and keep current with emerging knowledge relevant to social work and fully use evaluation and research evidence in their professional practice" (Standard, 5.02c NASW Code of Ethics, 1996). Evidence-based practice (EBP) is an alternative to authority-based practice in which decisions are made based on criteria such as anecdotal experience and tradition, criteria respondents reported they often rely on (see Gambrill, 1999). In EPB a sharp distinction is made between claims that rely on uninformed authority or consensus and those that have survived critical tests of their accuracy. "Evidence-based practice is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individuals" (Sackett, et al., 1997, p. 2; see also Gray, 1997). It involves integrating individual practice expertise with the best available external evidence from systematic research as well as considering the values and expectations of clients. Skills include converting information needs into answerable questions, efficiently tracking down the best evidence with which to answer these questions, critically appraising this evidence for its validity and usefulness, applying the results of this appraisal to work with clients, and, lastly, evaluating the outcome.

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**Offprints.** Requests for offprints should be sent to Eileen Gambrill, PhD, School of Social Welfare, 120 Haviland Hall, University of California at Berkeley, Berkeley, CA 94720-7400.