

IDENTIFYING PSYCHOSOCIAL DISORDERS IN
CHILDREN: ON INTEGRATING EPIDEMIOLOGICAL
AND ANTHROPOLOGICAL UNDERSTANDINGS

The development of a more satisfactory understanding of psychosocial disorders in children depends upon the successful combination of medical anthropological and epidemiological information. In this paper we describe one way this can be done. Our approach is to focus first on the level of the logic of inquiry, and only secondarily on the use of specific methods.

Questions of method become meaningful only after epidemiological and anthropological understandings have been used together to conceptualize a research project. Our approach therefore contrasts with some discussions in anthropology and in epidemiology which have been conducted as though problems of method can be considered alone. Some of these discussions have suggested that the methods of each discipline are complementary. Our view is that it is a serious mistake to focus discussions of the integration of anthropology and epidemiology primarily on the level of the methods or techniques of research. If the research question is set without the benefit of a conceptual integration of epidemiological and anthropological understandings, then a research program is unlikely to improve our understanding, no matter how sophisticated a combination of methods and techniques is used.

The success of researchers in integrating medical anthropology and epidemiology should not be evaluated by looking for the use of specific methods in particular ways. At times the conceptual integration may be successful yet the research question can be appropriately answered using methods from only one of the disciplines. In this paper we explore how better conceptual integration of these approaches, regardless of methods, can help to advance our understanding of psychosocial disorders in children. We seek to illustrate how taking up the concerns and asking the questions of one discipline can usefully inform work done using the methods of the other discipline.

We view this conceptual integration as important because often the focus on methods leads researchers to accept overly simple accounts of the phenomena they seek to understand. Too often the inadequacy of these accounts is discovered only after they have had harmful consequences (Rubinstein 1984; Simon 1983; Hall 1982). The principle reason for the failure of these understandings is that they have been developed using data from an artificially limited range of experience. Because of this observations are channeled toward particular normatively appropriate data, information anomalous to the model is discounted (Ward and Werner 1984; Argyris 1980; Rubinstein et al. 1984).

One way to avoid this is to insist that research keep theoretical models as

open as possible to new information. To do this we must recognize that researchers interested in mental health and illness have recourse to a number of different "levels" of structure in their explanations of the behaviors they observe (e.g., genetic, cognitive, psychological, social structural, experiential, and the like). Frequently a single level is associated with the theoretical work of a single discipline. Yet each of these levels is comprised of organized subsystems (Whitehead 1960). Focusing on one level to the exclusion of others always leads to the confounding of scientific models rather than to their improvement (Quine 1964; Newell 1973).

Each level affects and is affected by adjoining levels. Because of this it is important to follow a "rule of minimal inclusion: any explanation of behavior must take into account any and all levels of systemic organization efficiently present in the interaction between the system operating and the environment of that system" (Rubinstein et al. 1984: 93). Precisely which systemic levels need to be considered varies with the research question asked.

It is additionally important to understand that (*both* basic and applied) scientific research is a continuing process alternating between inductive and deductive work (cf., Rubinstein 1984). Any research finding is a product of this process and is in a fundamental sense an artifact abstracted from ongoing activity. These research products can help to provide categories, such as nosological systems, through which useful judgements about the world can be made. But the value of such categories depends upon their providing information that is useful for particular purposes. It is, therefore, also important to be conscious that, fundamentally, categories are reifications of processes and do not exist independently of the purposes for which they are developed.

The evaluation of nosological categories in psychosocial work is one area in which it is possible to sketch a strategy for bridging between epidemiological and anthropological levels of analysis. We argue that this bridging can be accomplished, for example, by asking an essentially anthropological question about the nature, meaning and significance of a particular nosological category and answering that question using whatever methods turn out to be appropriate (whether quantitative, qualitative, or a combination of the two).¹ In this approach methodological decisions appropriately follow from theoretical judgements. Methodological decisions in turn allow the selection of methods; questions of technique are secondary to questions of logic. In the following sections of this paper we use the example of "hyperactivity" to illustrate how this approach can be used to further the integration of epidemiology and anthropology and ultimately the understanding of psychosocial disorders of children.

CHILDREN AND THE "NEW MORBIDITY"

During the past twenty-five years people interested in children's health in the

United States have become increasingly concerned with questions of mental health and illness. This shift in focus has several interdependent causes. Among these are the dramatic changes in patterns of childhood morbidity and mortality that took place prior to this time. During the first half of this century morbidity and mortality among children were due primarily to infectious diseases and acute illness. But, by the middle of the century, the development of antibiotics and public health programs which improved environmental conditions had virtually eliminated these as serious threats to children's health (Perloff et al. 1984).

As a result of these developments, patterns of practice changed among pediatricians and others involved with promoting child health (Pawluch 1983). These practitioners began to spend more time on "well-child" care than they had previously, and this led to an increasing concern with the behavioral, psychosocial problems of children (Haggerty 1983, 1982). Well-child care in part has come to be viewed as a way to prevent psychosocial problems in children (e.g., Green 1985, 1983; Green et al. 1982). Yet, despite such professional judgements and the faith of many in the value of well-child care, evaluations of the efficacy of well-child visits for preventing psychosocial problems yield results that are equivocal at best. At worst, such research suggests that well-child care does not help prevent psychosocial difficulties among children (Feldman 1984; Gilbert et al. 1984; Rogers et al. 1974).

Equally important in focusing attention on children's mental health and illness has been the perception that the incidence and prevalence of psychosocial difficulties among children have been increasing. In 1975 Haggerty and his associates identified this apparent trend as the "New Morbidity". The new morbidity is comprised of psychosocial, behavioral and other problems which involve processes outside of the "strictly medical" (or perhaps, traditionally medical) purview (Haggerty et al. 1975: 94). It includes "Learning difficulties, and school problems, behavioral disturbances, allergies, speech difficulties, visual problems, and the problems of adolescents in coping and adjusting . . . [and] family social problems and the management and handling of everyday life stresses" (Haggerty et al. 1975: 316). They noted the growing importance of these problems of children, and for their caretakers.

Reports from clinicians and researchers appear to confirm this judgement. Starfield et al. (1980: 159), for example, report that between 5% and 15% of all children seen at seven primary care facilities during 1977 were "recognized as having behavioral, educational, or social problems." More recently, Starfield reported that in a seven year longitudinal study of 2,591 children (from primarily white middle-class, two-parent homes), 25.1% were diagnosed as having "psychosocial morbidity" and 17.3% as having "psychosomatic morbidity" (Starfield et al. 1984: 825).

Several studies of mental health problems and the use of medical services by children in Monroe County, New York underscore this sense of a rising

prevalence among children of psychosocial and behavioral problems. In a series of studies analyzing data from a cumulative psychiatric case register, Roghmann and his associates report that the treated prevalence of psychosocial problems among various categories of children ranges from 1% to 10%. They add that "as only about half of the children with such problems, as identified by pediatricians, are seen by psychiatric specialists, the total treated prevalence would be appreciably higher" (Roghmann et al. 1982). Their work thus suggests an identified prevalence of psychosocial problems among children of up to 20%, and leaves open the possibility that the true prevalence of such problems is in fact even higher.²

More detailed analyses of the cumulative psychiatric case register show increases in the treated incidence of situational disorders and behavioral disorders from 1960–1977. Roghmann et al. (1984: 789) suggest that this rise is due "partly to changes in diagnostic classification and partly due to changes in the availability of care". Although the observed rise in treated prevalence may be, in part, artifactual, they note that the "morbidity and mortality still encountered will increasingly be due to 'social causes' such as poverty or lack of care due to maldistribution of manpower and facilities" (Roghmann, et al. 1984: 372).

Despite such reports, it has turned out to be particularly difficult to identify cases of the new morbidity among children. This result is due to at least three factors. First, the new morbidity is comprised of a very heterogeneous set of difficulties. For instance, in a recent study Starfield, et al. (1980: 160), included;

psychoses, neuroses, personality disorders, behavioral and psychological problems, learning disabilities, educational problems, mental retardation, developmental problems, situational problems, social maladjustments, parent-child problems, syphills, gonorrhoea, sexual problems, pregnancy, family planning, enuresis, urinary frequency, feeding problems, adverse effects of medicinal, chemical and environmental agents, and complications of medical care.

Second, each of the specific psychosocial disorders that make up the "new morbidity" is comprised not of a single distinguishing behavior but rather of a heterogeneous and sometimes overlapping complex of behaviors. Third, it has been observed that the "pathological behaviors" associated with some presumed psychosocial disorders show great context sensitivity. Some researchers have come to believe that many of the children classed as having psychosocial disorders suffer not from some deficit but from the "medicalization of deviance" (Conrad and Schneider 1980).

In some settings certain children behave in ways that are called "pathological", but in other settings these same children act "normally". Viewing this inconsistency these researchers conclude that the children's "sickness" is an artifact of social processes — that it is a socially constructed category — rather than an objective fact. The socially constructed nature of sickness categories, they say, is further demonstrated by the flexibility of the category

boundaries. Frequently, they argue, the result of this flexibility has been that, as the authority of the medical profession has increased, behaviors or other characteristics previously thought of as odd, or curious, or handicapping have been redefined as sick; they have been medicalized. This medicalization, in turn, has the effect of narrowing the range of behaviors considered normal in a society and places many of these behaviors and attributes outside of the scope of things that lay-people can legitimately talk about (Conrad and Schneider 1980; Hufford 1982, 1983). In addition, the medicalization of deviance has been shown to lead to changes in the social roles (usually a narrowing) that are open to persons possessing the medicalized attribute (Penfold and Walker 1983; Scott 1969; Ablon 1984).

Kaplan (1983, see also Penfold and Walker 1983), for instance, shows how changes in psychiatric nosology have led to the linking of many feminine behaviors with specific psychiatric disorders (such as, "Hysterical Personality" or "Passive-Dependent Personality"). Conrad and Schneider (1980) show how this process has effected such diverse areas as alcoholism, opiate addiction, juvenile delinquency, child abuse, and homosexuality. Several researcher have argued that this same kind of social construction of sickness, and the increasing amount of behavior said to require medical rather than other kinds of attention, are illustrated by the case of "hyperactivity", which we discuss later in this paper.

Two research traditions have investigated the new morbidity. These two traditions can roughly be distinguished by their focus and research style. The first, grounded in epidemiological concerns, tends to seek patterns and to rely heavily on surveys and experimentation. The other, rather more anthropological in commitment, seeks to understand processes and favors the use of naturalistic observation and detailed behavioral description. Both traditions have produced interesting and important results. But, because they raise essentially different questions and use different logical rules of evidence and inference, each tradition has largely failed to take full account of the work of the other. Therefore, our understanding of the nature and significance of the new morbidity in children has not developed as fully as it could have.

COMBINING QUALITATIVE AND QUANTITATIVE APPROACHES

Coherently integrating qualitative and quantitative approaches is very difficult. Qualitative research, such a ethnographic descriptions of the context and meaning of particular behaviors, is often taken by survey researchers as interesting for its anecdotal value. But, because the results of this work are not generalizable to large populations and because the outcomes of ethnographic work may not be directly replicable, epidemiological researchers often value this anthropological research less than more traditional survey-style epidemiological research.³ In their view, qualitative work is at best useful for preliminary studies associated with the subsequent validation of a

survey instrument. For instance, a number of variables now generally considered important in psychosocial epidemiological studies — indices of social class, ethnicity, household patterning, social networks, and the like — were derived from anthropological understandings of particular communities (e.g., Hollingshead and Redlich 1958; Dunham 1959; Rapoport 1959; Srole et al. 1962; Leighton et al. 1966).

When viewed in this way, anthropological research is seen as valuable for two principle reasons. First, anthropological research can establish that some “things” previously unattended to should be taken into account. For instance, new “cultural” variables might be added to a survey questionnaire. Or, a traditional intervention (like psychotherapy) might be packaged differently for minority populations (e.g. Acosta et al. 1982). Second, the results of anthropological work undertaken early in a project can be built into sampling and questionnaire strategies. Such “preliminary” research may be seen as worth the investment of resources and time because it provides results that reused throughout the course of project can lead to improvements in research instruments.

Some qualitative researchers reject this conditional acceptance, claiming that it is mistaken for at least three reasons. First, they argue, it is wrong to assume that an anthropological understanding of a specific community can simply be transported to inform work in another, albeit demographically similar, community. They assert that survey instruments and questionnaire items can be developed which both assess social process in a community and reliably reflect the health care community’s professional judgement of the nature of illness and disease in that community. Yet, when used in another community these questionnaires and surveys may not adequately reflect community definitions of illness and disease. Rating instruments, questionnaire responses and the like, simply cannot be well understood without a thorough understanding of the specific context in which they are given (Adair and Deuschle 1970). Some epidemiological researchers have heeded this warning, but not always with results conforming to the spirit of the anthropological objection. For instance, cautions about the need to attend to social processes have often resulted in the definition of a new index (like, “ethnic group”) rather than in a concern with the local meanings (of ethnicity, for example) and their impact on the research.

Campbell (1978) described some aspects of this situation when he noted that although,

rules regarding the use of qualitative knowing are clearly present in the quantitative methods books, they are rarely exercised. The researcher is apt to feel that presenting such content undermines the appearances of scientific certainly, or that weaknesses on these points are evidence of his own incompetence. The field experimenter’s defensiveness vis-à-vis his laboratory colleagues leads to further minimizing of this content and still more so when he is earning his living as a contractor in programme evaluation (Campbell 1978: 194).

Second, anthropologically-oriented researchers argue that because within a

community the meanings and importance placed upon forms of behavior constantly undergo change, instruments appropriately used in a community at one time may at a later time be inappropriate. The anthropological understanding over time of even a single community requires ongoing qualitative research involvement (Ablon 1981, 1977; Foster et al. 1979). And, third, they argue that research structured around the use of preset questions excludes from consideration some types of important data (Argyris 1980; Rubinstein et al. 1984). The use of preset questions assumes a knowledge of the phenomenon being studied, often an inappropriate assumption. The structure hinders the revision of our knowledge in light of new information which might have been offered unsolicited.

For their part, anthropologically-oriented researchers have taken to heart some methodological lessons taught by epidemiological researchers, but not always in ways of which the latter would approve. Questions of sampling and the statistical treatment of data are now more widely used by anthropological researchers interested in health and behavior (Landy 1977; Brewer and Collins 1981; Schensul and Borrero 1982). Standardized interview schedules and survey questionnaires also sometimes comprise the major research focus in some areas of field work. However, the anthropological researcher's interest in these techniques often is not to make the research results generalizable but to deepen contextual understanding. For example, Estroff (1981) used the "Community Adaptation Schedule" with a convenience sample to gather texts that could then be analyzed in-depth, rather than only scored.

Despite the ambivalent attraction of anthropological researchers to epidemiological methods and of epidemiological researchers to anthropological information, attempts have been made at integrating the approaches. Yet, very little progress has been made. In part this is because attempts at integrating the two methods have most often really involved sanctioning under one administrative umbrella two parallel, but substantially separate, research programs, rather than the integration of them.

The results obtained by using either approach alone are incomplete and less robust than results obtained by successful integration of anthropological and epidemiological perspectives, employing a variety of methods and tools of inquiry (Campbell and Fiske 1959; Collins 1981; Wimsatt 1981). Even results of social research intended to provide information upon which interventions can be designed, if carried out within the canons of only one methodological approach, will be of limited use (Rubinstein 1984).

QUALITATIVE AND QUANTITATIVE UNDERSTANDINGS: "HYPERACTIVITY"

The effect of the schism between anthropological and epidemiological researchers is extraordinarily clear in the case of "hyperactivity". As one of the most frequency diagnosed psychiatric disorders in children during the

last two decades, "hyperactivity" serves as an exemplar of the new morbidity.⁴

Estimates of the prevalence of "hyperactivity" have varied widely (see, Table I). The generally accepted estimate is that "hyperactivity" affects between 3% and 5% of school-aged children (Barkley 1981). The prevalence of "hyperactivity" is thought to be higher in boys than in girls (around 6: 1), and in lower-income (or lower socio-economic) groups. Interestingly, however, based on analyses of teacher questionnaires or ratings, Trites (1979) classified as "hyperactive" 14.3% of a 14,083 sample of school children, and Lapouse and Monk (1958) estimated on the basis of teacher ratings that as many as 57% of boys and 42% of girls could be considered "hyperactive".

TABLE I
Some estimates of the prevalence of "hyperactivity" in children^a

Source	Prevalence estimate
Huessy (1967; 1974)	10–20%
Hussy and Gendron (1970)	10–20%
Miller et al. (1973)	9.3% boys; 1.5% girls
Cantwell (1975)	5–20%
Wender (1971)	5–20%
Stewart et al. (1966)	4%
Renshaw (1974)	3%
Lambert et al. (1978)	1.19%
Barkley (1981)	3–5%
Trites (1979)	14.3%
Sprague et al. (1974)	9% boys; 2% girls

^a After Bosco and Robin (1980).

Part of this great range in prevalence estimates is due to the fact that the behaviors thought characteristic of "hyperactive" children appear to be context sensitive. Thus, children may at one time display, and at other times not display, the diagnostically significant behaviors (Collins 1981; Douglas 1972; Sleator and Ullman 1981). In fact, Lambert et al. (1978) have shown that the diagnosis of "hyperactivity" varies depending upon whether the judgements of one or of a combination of parents', teachers', or physicians' determinations are accepted. They also argue that the diagnosis of "hyperactivity" varies as a result of the number of observers needed to agree on the diagnosis and the social position of these observers vis-à-vis the child.

Since the beginning of this century, the syndrome of behaviors that has been identified as hyperactivity have been classed under a series of changing diagnostic labels. Characteristically, children diagnosed as "hyperactive" are said to be more aggressive than non-hyperactive children, or to be "dis-

ruptive", because they often engage in "excessive vocal noises" that disrupt ongoing social activities. Risk-taking behavior of "hyperactive" children appears to exceed that of non-hyperactive children and is often associated with an increase in physical mishaps (like, scrapes and bruises, broken bones, and general accidents). Although generally not scoring significantly lower on intelligence tests (especially individually administered tests) than matched controls, "hyperactive" children are generally academic underachievers (Cantwell and Satterfield 1978; Douglas 1972), and their risk of school failure is 2—3 times greater than for non-hyperactive children.

In general, "hyperactive" children are thought to exhibit three types of problems which result in referral for treatment (Ross and Pelham 1981): (1) they tend to have problems in academic learning, resulting in school failure; (2) they seem to have trouble relating to their peers; and, (3) they have trouble complying with adult requests and commands (Safer and Allen 1976; Barkley and Cunningham 1979).

For some time researchers reasoned that since children who showed these troublesome behaviors acted very much like children with brain injuries, "hyperactive" children must also be neurologically impaired (Strauss and Lehtinen 1940). These children were therefore diagnosed as having Minimal Brain Damage (MBD). Much research effort went toward characterizing the differences between MBD and "normal" children and toward finding better ways to treat and manage troublesome MBD children. For the most part, this work proceeded using epidemiological research strategies such as various experimental designs and prevalence surveys among school-aged children. These efforts did not produce a convincing account of the etiology of MBD or effective treatments for these children.

In a recent review, Rutter (1978) noted that less than 5% of all children diagnosed as MBD show any evidence of structural brain damage, and that most children suffering brain damage did not develop the syndrome of behaviors used to define MBD children. Moreover, MBD children did not respond uniformly to pharmacologic treatment. This further indicated that it was unlikely that they suffered from some shared but unidentified organic disorder. MBD was replaced as a diagnostic category by the designation of "hyperactivity". This new diagnostic category was thought to have the advantage that it was descriptive of the "behavioral disorder" shown by this group of children.

When researchers working in qualitative traditions also became interested in the problem they noted that the group of children first diagnosed as MBD, and later as "hyperactive", was very heterogeneous. They relied mostly on naturalistic observation and pointed out that the behaviors of this group of children varied as to when, where and how troublesome they were. These researchers also noted that in everyday interaction many "hyperactive" children did not seem to be less bright than their peers. They therefore questioned whether the condition was really a disease entity. They offered a

number of alternative explanations — labeling and the social control of deviance, for instance — to account for the difficulties faced by these children. Each account argued that these children did not have a disorder and hypothesized that the source of problems lies in their social environments (Conrad 1975).

Although the conclusion that hyperactivity was not a “disease entity” was objectionable to epidemiological researchers, their own work *also* suggested that children classified as “hyperactive” were a very heterogeneous group.⁵ Continuing to rely heavily on the canons of epidemiological-experimental research, they too showed that although children diagnosed as “hyperactive” could be seen as different from other children on a number of measures of behavioral and cognitive activity, “hyperactive” children showed great variability in relation to all of these measures (e.g., Homatidis and Konstantreas 1981).

This turned out to be so, for example, for attention and impulse control (Douglas 1972; Brown and Quay 1977), for cognitive style (Sykes et al. 1973; Sprague et al. 1974), and for levels of motor activity (Whalen and Henker 1980). Variation in the characteristics of “hyperactive” children undoubtedly accounts in part for the wide range of estimates for the prevalence of “hyperactivity”. This variation was troublesome to both clinicians and to researchers. And, in 1972 the epidemiological research community’s attention was redirected when in an influential paper Douglas (1972: 260) argued that “hyperactivity is only one of a constellation of critical symptoms. [and that] it may be just as important to consider the quality of the hyperactive child’s behavior as its quantity”.

In addition to “over-activity”, Douglas identified inability to sustain attention or to control impulsivity as important qualities of “hyperactive” children’s behavior. It followed that disagreement about the etiology of these behaviors might be resolved (and appropriate interventions designed) if, rather than taking these children to form a single class whose behavior could be contrasted with other children’s behavior, research efforts were directed at understanding the difficulties faced by smaller, better diagnosed and more homogeneous groups of children.

There were two possible responses to Douglas’s suggestion. The first was to continue to view the global category of hyperactivity as consisting of a number of subtypes. Further research could then seek systematic contrasts between the global group of hyperactive children and other children, as well as to identify differences among subtypes of “hyperactive” children. This view depended upon interpretations of data that conformed to standards of experimental-epidemiological research.

An alternative response to Douglas’s argument was to conclude that it was a mistake to cling to the global category of hyperactivity. This view would require that the global category be partitioned into a number of smaller categories; the adequacy of each as a diagnosis would then be evaluated.

Thus, through work with smaller well-described groups of children, a number of etiologies and syndromes might be defined or a portion of the children previously diagnosed as "hyperactive" (sick) would now be understood to be "normal". This conclusion would be congenial with that reached by the qualitative research community, who had already challenged the usefulness of the global category of hyperactivity.

The eventual response of the psychiatric community was to redefine the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM-II) diagnostic category of hyperactivity (properly, "Hyperkinetic Reaction of Childhood") as the DSM-III category of Attention Deficit Disorder. Included *within* Attention Deficit Disorder were two subtypes — "with hyperactivity" (ADHD) and "without hyperactivity" (ADD). This response expanded the earlier experimental-epidemiologically derived model of what is happening with these children, and required no change in the governing values of this clinical or research community.

EVALUATING NOSOLOGY: ANTHROPOLOGY AND EPIDEMIOLOGY COMBINED

The establishment of the nosological category of Attention Deficit Disorder with two subtypes appears to us to have pushed the results of the earlier experimental-epidemiological work to its limit. However, efforts have continued towards evaluating the new nosological category. To the extent that this empirical research shows that the category Attention Deficit Disorder fails to deal adequately with the earlier noted anomalies, it suggests the need for new models of research and practice.

There have been several evaluations of the reconceptualization of hyperactivity as an Attention Deficit Disorder. In each case the investigators have worked from only one theoretical level of analysis; be it psychological, sociological or clinical (Douglas 1972; Eysenck et al. 1983; Conrad and Schneider 1980; Russell et al. 1983; cf., Collins 1981). As a result these investigations each encompass only a single systemic level. They have, in effects, ignored the rule of minimal inclusion which would require that an explanation of "hyperactive" behavior in individuals take into account the other systemic levels interacting with and in the environment of the children (Rubinstein, et al. 1984: 93). Thus, this empirical work has resulted only in general disagreement about the nature and reality of "hyperactivity" and Attention Deficit Disorder.

Even in research reports that consider information from different disciplines, we find that the theoretical levels of analysis are separated while methodological debates are joined (Whalen and Henker 1980). This joining of questions of method, while expanding the methodological options for studying behavior, cannot hope to achieve the objective of expanding our

fundamental understanding of behavior. Indeed, the latter is not possible unless our investigations encompass a broader range of systemic levels. As long as attention is focused on methodological issues, and the incorporation of conceptual materials from different levels is ignored, little progress toward better understanding this behavior should be expected (Rubinstein and Laughlin 1977; Argyris 1980).

A recent study undertaken to evaluate the diagnostic category of Attention Deficit Disorder (Rubinstein and Brown 1984) illustrates one way the bridging of levels might be achieved. In that study the investigators asked if the new nosological system presented in DSM-III served the joint diagnostic and research purposes for which it was developed. The strategy was to ask about the fundamental nature and role of the category of ADD/ADDH, much as anthropologists often ask about the nature and meaning of "folk" categories in everyday life. This essentially anthropological question might have been answered by detailed and intense observational study of children who had been diagnosed by clinicians and researchers as having ADD/ADDH. It turned out that the question could also be answered by using epidemiologic methods. The study serves to illustrate the point that the integration of different theoretical levels of analysis can provide results not obtained when efforts at integration are restricted to issues of method.

The heterogeneity of the group of children included in the category "Hyperkinetic Reaction of Childhood" provided an impetus for its redefinition as Attention Deficit Disorder with and without Hyperactivity. The psychological and epidemiological research in the area suggested that this difficulty could be dealt with if these children were sorted into two groups, one of which had more and the other of which had less severe problems. The qualitative research in contrast supposed that the heterogeneity of these children's behavior could be accounted for by seeing their difficulties as social, and therefore external to the children. The situation that results is a standoff: Qualitative researchers acknowledge the methodological rigor of psychological and epidemiological studies in the area but denigrate them for having reified social process; epidemiological and psychological researchers dismiss the qualitative results as unhelpful and hopelessly imprecise. The consequence for the research community in general is that both sets of heuristics and both sets of attendant biases are reinforced.

In order to avoid the methodological bickering that characterizes debates in this area, Rubinstein and Brown (1984) sought to evaluate the nosological category (in spirit a medical anthropological question) using a variant of a classic epidemiological research design, the retrospective case-control study.

Much epidemiological work takes place after some disease or disorder had affected a group. Because of this, epidemiologists interested in discovering the factors that increase an individual's risk of getting a disease or disorder must "work backward" from effect to cause. As epidemiology developed, a methodology for working with information about past expo-

tures was articulated and refined. The result is the “case-control”, or retrospective study, “probably the major contribution of epidemiologists and their predecessors to the general area of research methods” (Kleinbaum et al. 1982: 69). The *logic* of the case-control design requires that systematic, controlled comparisons be made between two groups, only one of which has the disorder or disease in question. Schlesselman (1982: 14) describes this research strategy:

The *case-control study*, also commonly called the *retrospective study*, follows a paradigm that proceeds from effect to cause. In a case-control study, individuals with a particular condition or disease (the *cases*) are selected for comparison with a series of individuals in whom the condition or disease is absent (the *controls*). Cases and controls are compared with respect to existing or past attributes or exposures thought to be relevant to the development of the condition or disease under study.

This kind of research is most straightforward when the conditions of interest are clearly bounded, identifiable entities. It is especially useful if these can be indexed by a specific test or syndrome. Even then retrospective data may be biased for a number of reasons, such as the refusal or the inability of study participants to respond to questions, lapses of memory, bias inadvertently introduced by the researcher, and the like. (See, Sackett 1979 for a review of these and other sources of bias.)

Assuming that cases are selected for clear reasons and that potential sources of bias in the retrospective data are guarded against, any case-control study is better or worse depending on the controls picked (Kleinbaum et al 1982: 67–70; Schlesselman 1982). In many studies controls have been selected from among healthy persons who otherwise are “matched” with the cases. But, this is a matter of tradition not of logic. Insisting that controls always be “normals” confuses issues of logic and design with questions of technique and strategy. Using normal controls can even result in a study’s being less useful than it might be otherwise. There can be good reasons for choosing controls who share with the cases some general diagnosis (like, cancer) when trying to figure out what makes the different sub-diagnoses (like, breast, throat, lung, etc.) different.

One area for the potential integration of anthropological and epidemiological understandings is in the specification of appropriate controls. Anthropology’s contribution can be made through better defining homogeneous groups through the proper identification of important demographic and other social characteristics. The Rubinstein and Brown study sought to assess to what degree children diagnosed as having Attention Deficit Disorder without Hyperactivity differ from children diagnosed as having Attention Deficit Disorder with Hyperactivity on a number of factors that previous research had shown to distinguish “normal” children from the general group of “hyperactive” children.

The specific objective of this research was to see whether a number of

standard clinical measures and diagnostic measures available in program records could be used to successfully predict the diagnosis of children seen at a therapeutic research program for ADD/ADDH children during a single year. Upon entering the program children were classified as either ADD or ADDH, using the DSM-III criteria. The classifications were made using the independent judgements of two clinical members of the program staff. Clinical ratings were made without knowledge of each child's individual history. As a result of the classification, an ADD sample was identified ($N = 23$), an ADDH sample was identified ($N = 23$), and three cases for which the classification could not be decided were deleted from further study. A satisfactory level of interrater agreement was obtained. The samples were equivalent on a number of possibly confounding characteristics including age, sex, birth history, and intelligence test scores. In addition, before being treated at the clinic each child was given a thorough physical examination. If that examination showed evidence of gross neurological, sensory, or motor impairment, obvious physical defects, or major disease the child was referred elsewhere for treatment and not entered in to the clinic's program. Therefore, all 46 of the children included in the study showed no organic basis for their diagnosis.⁶

Comparisons were made between the ADD and ADDH samples on number of variables that previous research had shown to distinguish normal children from "hyperactive" children. These factors are grouped in three sets of measures: attention and impulsivity measures; achievement tests; and rating scales of behavior. (These measures are described briefly in the Appendix to this Chapter, where the study means and standard deviations for each measure are also presented.)

Because the variable-to-subject ratio was too small to allow all of the variables to be used to estimate a discriminant function equation, a variable selection procedure was used. Three step-wise discriminant function procedures, using ADD/ADDH as the dependent variable, were carried out, one for each class of variables listed above (see, Table II). The objective was to select the measures that might be used in a fourth discriminant function analysis to best classify children as ADD or ADDH. Only one of the measures (Teacher Rating Scale of Impulsivity) had a level of significance sufficient for entry into the step-wise discriminant analysis.

Little success was achieved in sorting the children from each sample into ADD and ADDH categories on the basis of the discriminant function model containing only the TRSI (Wilk's lambda = 0.9153, $F(1, 38) = 3.517$, $p = 0.0684$). Using this model 54.5 percent of the children could be classified correctly as to diagnosis, only slightly more accurately than if the assignment had been made randomly (see, Table III).

Because hyperactivity is thought to increase the inability to control attention and impulsive behavior, ADDH children had been expected to score significantly lower on measures of achievement, attention, and impulse

TABLE II
Results of discriminant analyses

<i>Measure</i>	<i>R</i> ²	<i>F</i>	<i>P</i>
1. ATTENTION AND IMPULSIVITY			
Matching Familiar Figures Test			
Errors	0.0350	1.499	0.2278
Latency	0.0101	0.417	0.5221
Children's Checking Task			
Omissions	0.0089	0.368	0.5474
Commissions	0.0117	0.485	0.4899
Total	0.0160	0.667	0.4188
Embedded Figures Test	0.0000	0.000	0.9845
WISC-R Attention Concentration			
Arithmetic subtest	0.0202	0.846	0.3630
Coding subtest	0.0263	1.106	0.2992
Digit Span subtest	0.0022	0.089	0.7668
Total	0.0289	1.221	0.2765
2. ACHIEVEMENT			
Wide Range Achievement Test			
Arithmetic	0.0312	1.355	0.2510
Reading	0.0065	0.273	0.6043
Detroit Tests			
Related Words	0.0013	0.054	0.8177
Unrelated Words	0.0013	0.055	0.8154
Letters	0.0011	0.046	0.8308
Durrell Analysis	0.0022	0.007	0.9321
3. BEHAVIOR SCALES			
Conners Teacher Rating Scale	0.0024	0.093	0.7625
Conners Parent Rating Scale	0.0091	0.294	0.5914
Teacher Rating of Attention	0.0193	0.748	0.3924
Teacher Rating of Impulsivity	0.0847	3.517	0.0684 ^a

^a $p < 0.10$.

control, and on judgements of their behavior made by parents and teachers. The group means (presented in the Appendix, Table A1), which showed no significant differences between the two groups on the various measures, fail to support these expectations. The discriminant analyses presented in Table II and III, which yielded no significant ability to discriminate between the

TABLE III
Results of final discriminant analysis

Classified from	Observations Classified into		Total (%)
	ADD (%)	ADDH (%)	
ADD	12 (54.55)	10 (45.45)	22 (100)
ADDH	10 (45.45)	12 (54.55)	22 (100)
Total	22 (50.00)	22 (50.00)	44 (100)

two groups also failed to support these expectations. The diagnosis could not be predicted from these measures. Thus, a critical appraisal of this part of the psychiatric nosological system was achieved using methods from epidemiologic research.

Among the reasons for undertaking the work which led to the DSM-III was a desire to improve the accuracy and reliability of psychiatric diagnostic assessment and so to improve its "clinical usefulness for making treatment and management decisions in varied clinical settings" (Spitzer 1980: 2). One of the goals involved in this was that the resulting nosological system be comprised of categories which were consistent with data from research evaluating the validity of those categories. The redefinition of the DSM-II category of Hyperkinetic Reaction of Childhood as comprised of ADD and ADDH is a change consistent with this goal.

The redefinition of the category respected the important and consistent research finding that those children diagnosed as displaying Hyperkinetic Reaction of Childhood actually constituted a very heterogeneous group. It respected too the research-based view that this class of children was comprised of two subclasses such that members of both displayed difficulty in controlling their attention and impulses, and that one group also showed overactive behavior, which was often variable with the context in which the child was observed. The partitioning of the diagnostic category into ADD and ADDH was motivated by the desire to have the diagnostic category be consistent with the research-based understanding of the group's heterogeneity. If diagnosis could be made in a system which allowed children to be referred to a category comprised of a more homogeneous group of children, then more effective treatment and management modalities might be developed.

Part of the heterogeneity characteristic of children who had been dia-

gnosed as having Hyperkinetic Reaction Syndrome was great variation in the display of overactive behavior when these children were observed. The display of their hyperactivity was recognized as being context specific. Indeed, it was the context dependent nature of the display of hyperactivity that had lead some researchers to argue that, when there was no demonstrable organic basis for it, hyperactivity was in fact not a disease of the child.

In evaluating the independence of ADD and ADDH as psychiatric syndromes the underlying question is: does the partitioning of the diagnostic category into two subcategories account for the known heterogeneity of children diagnosed as "hyperactive"? The Rubinstein and Brown study suggests that this partitioning of the diagnostic category does not account adequately for the heterogeneity of behavior displayed by these children, whether for clinical or for research purposes. The clinical usefulness of the ADD/ADDH distinction is then doubtful.

In addition to showing that the distinction between ADD and ADDH does not adequately account for the heterogeneity of the behavior of hyperactive children, the results of the study may also be interpreted as supporting the view that hyperactivity is not a disease of the child. In fact, Rubinstein and Brown (1984: 412) concluded:

We interpret these results as supporting the view that many hyperactive children are not 'sick' in some medical sense but rather are involved in a complex process of social interaction, the meaning and significance of which we have yet to fully understand.

The results of this study bring into sharp focus two conflicting views of the nature of hyperactivity as a phenomenon. One view holds that hyperactivity is a real disease of the child, but one which must be conceptualized as having several distinct subtypes. The other holds that hyperactivity is not a disease of the child, but rather the reification of social processes which result in the labeling as sick of children who act badly.

Based on our reading of the literature in this area and on the results of the Rubinstein and Brown study we incline toward the latter view. The evaluation of the ADD/ADDH category serves to bring the two approaches into focus. This study is one step in an iterative process of research wherein our understanding of the phenomenon of "hyperactivity" is advanced by alternating attention between methodological concerns and conceptual levels. Neither the Rubinstein and Brown study nor other research can provide *the* clear result that can be used to arbitrate between the views of "hyperactivity" described above. For this, continuing research is needed.

This work can build on the basic anthropological insight that there is "such a vast variety of ways through which people conceive and interact with their environments and experiences that not even the most common objects or characteristics can be assumed by the researcher to have an invariant, objective existence outside of the context of some specified system of meanings" (Rubinstein 1984: 173). For the research community this means

recognizing that problematic situations do not become problems until they are so defined (Schön 1983; Dumont 1984). One approach that the research and clinical communities can use to incorporate this recognition into their work is to seek nosological categories that explicitly tie diagnosis to context and social process, and always to consider these categories to be provisional in a fundamental sense.

Such research might be carried out using a combination of anthropological and epidemiological considerations. Anthropological understanding of hyperactivity can be used to strengthen the design of studies that use epidemiological methods. One way this can be done is to use anthropological information to define the appropriate "case" and "control" groups. Thus, for instance, studies might be designed which incorporate widely used research and diagnostic measures and seek to predict on the basis of such instruments membership in *multiple* categories, rather than only in the two categories defined by ADD and ADDH.

This research process might begin by examining the *contexts* in which a child displayed behavior labeled as hyperactivity, as judged by multiple raters making multiple independent ratings. Then, the social processes through which children get diagnosed as "hyperactive in context 'X'" would be reported by researchers trained to make detailed descriptions of the interaction of children with their peers and with adults.

The literature on hyperactivity suggests that there are at least four contexts across which "hyperactive" children's behavior appears to vary: (1) home; (2) school; (3) clinician's office; and, (4) at play with peers. Since some children are reported to display hyperactive behavior in more than one of these contexts, categories need to be defined by the combination of these settings as well. An initial study might usefully examine hyperactive behavior in all of these four contexts, or that displayed in each of the four contexts, or at school, at home, and at play with peers, or only at home and at play with peers.

Work with appropriately specified groups of children would facilitate the exploration of questions of social process and meaning involved in the diagnosis of disorders like "hyperactivity". Beyond asking how a poorly defined group of children varies systematically from "normal" children, working with well-specified groups would allow the investigation of how the diagnosis of "hyperactivity" in specific contexts gains meaning from those contexts. It would also allow the exploration of the implications for the day-to-day lives of children diagnosed as disordered in those contexts.

Because they depart from earlier research which accepted the commitments of one or another tradition and incorporates some from each, such studies can properly be seen as indicating one way in which the understandings of psychosocial problems from different levels can be usefully incorporated into a coherent research program.

THE NONSPECIFICITY OF THE "NEW MORBIDITY"

The problems of reliability and validity confronting the diagnosis of psychosocial disorders in children are immense. Such difficulties are not unique to the category of Attention Deficit Disorder but must also be faced when determining that a child has behavioral, educational, social, or situational problems, or other of the many "disorders" that are taken to make up the "new morbidity" (e.g., Starfield et al. 1980: 160). In fact, the difficulties evident in the nosological treatment of childhood problems are also found in the professional categories used to deal with adults who have difficulties negotiating life (Dumont 1984).

Because the professional definitions of these disorders are said to be scientific and objective, and thus not culture dependent or culture specific in nature, anthropologically-oriented researchers object that this nosological system blurs the fact that all behavior is appropriate or inappropriate only in relation to specific contexts and in relation to the meanings that people give to those contexts. From this perspective what counts healthy or sick, or as desirable or nondesirable activities is socially constructed, and reflects the beliefs, values, and norms basic to an individual's society. This means that "folk" models of health and illness may vary substantially from professional models especially in the psychological and behavioral areas.

Examples of the disparity between professional and local models of health and illness are easily recognized in attempts to bring Western medicine to nonwestern settings (Foster and Anderson 1978). While there may be some resistance among health professionals to the idea that the Western medical and public health practices they champion are culturally situated, for the most part such cross-cultural work leads to an acknowledgement of and respect for the importance and reality of different culturally patterned ways of maintaining health and dealing with illness (Paul 1955, and compare Englehardt 1980 with Fox and Swazey 1984).

Qualitative researchers argue that in a plural society like the United States, it is equally important to pay attention to the different ways different groups of people socially construct health and illness. This claim is taken most seriously by health care workers when they deal with geographically or ethnically defined minority groups (e.g., Deuschle 1982; Harwood 1981).

Qualitative researchers extend this approach to the mainstream of our own society. They argue that in psychosocial work it is particularly important to recognize that there are many coexisting constructs of health and illness. Behavior deemed appropriate by some groups of lay-people may be defined as unhealthy both by professionals and by other groups of lay-people. Similarly health behavior, as professionally defined, may be seen as unhealthy by some nonprofessionals. This has led some researchers to claim that much of what is now called psychosocial disorder really reflects only culturally patterned variations of life style and social relations. The fact that

health care providers see many of the psychosocial disorders as being most prevalent in poor and minority populations has reinforced this social and cultural interpretation, and led to the further argument that these phenomena are not really disorders.

Clinicians and epidemiological researchers find this proposal unacceptable, and in response they have redoubled their efforts to find and state precisely the characteristics of the various psychosocial disorders. The DSM-III is one such response, and renewed interest in demonstrating the efficacy of "well-child" visits to pediatricians is another. These researchers and clinicians respond that the children and adults they see *are* disturbed and deserve some help. This is a proper response. But further developing a model of these troubles as "mental disease", which has already been demonstrated to be by itself inadequate, moves us further away from being able to be really helpful (Eysenck et al. 1983).

Furthermore, the result "saves the appearance" of the wisdom of expert knowledge; it does not use the discovery of difficulties with this knowledge — anomalous data — to revise the model in ways that lead to conceptual advances.⁷ This happens because each systematization directs attention toward specific characteristics of psychosocial problems, while also directing attention away from other aspects of those problems. Such selectivity makes it easier to make some useful judgements. But, directing attention away from some aspects of these problems also creates systematic biases in our research and clinical observations. If we are not self-conscious about this possibility, it may lead to over-simplification which hinders fuller understanding of psychosocial problems.

Unfortunately, neither anthropological nor epidemiological approaches escape this difficulty. After a point, the harder we strive to produce a picture of psychosocial problems consistent with either the basic concepts of the anthropological model alone or of the epidemiological model alone the less we put to good conceptual use data inconsistent with the framework from within which we work (Argyris 1980; Rubinstein et al. 1984).

Arguments over proper methodology and nomenclature further obscure our understanding of psychosocial problems. Giving voice to the difficulties this situation poses, Dumont (1984) provides the appropriate response of epidemiological researchers to extreme qualitative interpretations that deny the existence of psychosocial problems — "That the perceptions of a cloud are capricious and fleeting does not mean that a cloud is not there" (1984: 329). He also tells us how to reply to epidemiological researchers who would forge ahead insisting that their methodological strictures should always be used to measure the adequacy of research. Assuming that psychosocial problems have "objective" parameters permits "researchers and clinicians to draw meaningful inferences from statistical trends which, like the edges of any moving cloud tend to fulfill the fantasies of the beholder" (Dumont 1984: 328—329).

The role of the social environment and of social processes in the development of psychosocial difficulties is clearly significant, though poorly understood. It is therefore necessary to *understand* equally both how these problems develop, and how to form a useful set of nosological categories. Answers to these conjoined questions about the meaning, significance and nature of psychosocial problems for children, and for adults, clearly lie outside of the explanatory models of either anthropological or epidemiological research alone. They are also beyond the scope of traditional curative medical practice.

If we are to meet our desire to alleviate the suffering that psychosocial problems entail, we will need new forms of research collaboration, of theory, and of practice. To succeed these will need to include conceptual and social arrangements that are significantly different from those that now inform research and health care in the United States. These changes can most likely be brought about if emphasis is placed on the conceptual integration of different theoretical approaches rather than simply by attempting to coordinate separate, often inconsistent, methodological preferences.

APPENDIX

In the Rubinstein and Brown (1984) study, comparisons were made between the ADD and ADDH samples on a number of variables that previous research had shown to distinguish normal children from "hyperactive" children. These variables are assessed by three sets of measures: attention and impulsivity measures; achievement tests; and rating scale of behavior. This Appendix briefly describes these measures and presents the study means and standard deviations for each.

Measures of Attention and Impulsivity

Matching Familiar Figures Test (MFF). This test was developed to measure impulsivity. The MFF is a visual matching task in which a target figure and six alternatives are presented. The task is to choose from the six alternative figures the one that is identical to the target. Twelve target figures are presented during the test. Two measures are derived: (1) total number of errors in the choice of correct alternatives, and (2) the time in seconds between the presentation of the target and alternatives and the first response.

Children's Checking Task (CCT). The CCT was developed as a technique for measuring ability to sustain attention and effort to a task over time. During the CCT a child listens to a tape recording of a series of numbers. The child's task is to check off, in response to the tape recording, an almost identical series in a standard answer booklet. This checking task involves checking the recording against eighty 14-digit rows. Errors of omission are recorded.

TABLE A1
Means, standard deviations, and *t* tests for study measures

<i>Measure</i>	ADD (<i>N</i> = 23)		ADDH (<i>N</i> = 23)		<i>t</i> ^a
	\bar{X}	SD	\bar{X}	SD	
<i>Measure</i>					
Matching Familiar Figures Test					
Errors	13.25	7.51	16.17	7.73	1.30
Latency	126.83	50.09	135.39	89.09	0.40
Children's Checking Task					
Omissions	29.23	20.75	33.05	20.51	0.61
Commissions	10.77	15.75	15.76	29.47	0.69
Total	40.00	31.15	48.81	39.29	0.82
Embedded Figures Test	13.00	5.48	12.57	5.24	0.27
WISC-R Attention Concentration					
Arithmetic subtest	8.30	1.66	8.30	3.63	0.00
Coding subtest	35.43	11.68	37.61	15.43	0.54
Digit Span subtest	8.09	2.19	7.96	3.15	0.16
Total	51.83	12.93	53.81	19.46	0.42
Wide Range Achievement Test					
Arithmetic	27.62	6.06	25.22	7.47	1.16
Reading	54.62	16.68	51.96	17.65	0.52
Detroit Tests					
Related Words	34.55	7.90	34.73	10.30	0.07
Unrelated Words	43.41	15.13	43.26	15.73	0.03
Letters	10.54	0.86	10.04	1.00	0.38
Durrell Analysis	22.50	9.67	22.26	6.55	0.09
Conners Teacher Rating Scale	16.91	7.34	17.05	4.98	0.07
Conners Parent Rating Scale	19.18	4.97	20.65	4.31	0.06
Teacher Rating of Attention	52.68	12.26	55.90	11.28	0.86
Teacher Rating of Impulsivity	65.23	10.00	71.00	10.86	0.07

^a Nonsignificant for all measures.

Embedded Figures Test (EFT). The EFT requires the discovery of a simple target figure in a complex background. It is a measure of the ability to focus attention and to organize a perceptual field. In the clinic's files scores for the EFT were recorded that indicated the number of correctly identified figures.

Attention-Concentration Factor of the WISC-R. This measure represents the scores of each child on three subtests of the WISC-R. These subtests are: (1) arithmetic subtest, which assesses the level at which a child can success-

fully carry out arithmetic computations; (2) coding scales, which provide an indication of how many target symbols a child can code to a corresponding space; and (3) digit span subtest, which indicates the number of increasingly large spans of digits a child can recall correctly.

Measures of Achievement

Wide Range Achievement Test (WRAT). The clinical assessment procedures of the clinic included the administration to each child of the reading and arithmetic subtests of the WRAT. These are widely used as indications of a child's ability and grade level.

Detroit Tests of Academic Achievement. Three subtests of the Detroit Tests of Academic Achievement were administered to each child in the program. Each of these assesses the recall of related words, of unrelated words, and of letters. Subtest scores have been shown to be related to achievement.

Durrell Analysis of Reading Difficulty. The Durrell subtests for oral reading, oral comprehension, listening comprehension, and spelling were administered to each child. Raw scores, on these subtests and scores converted to grade level of achievement, were available in the clinic's files.

Rating Scales of Behavior

Conner's Rating Scales. Recorded for each child were the results of ratings by teachers (CTRS) and by parents (CPRS) on a ten item hyperactivity scale. Each teacher or parent rated the child on a four-point continuum (from "not at all" to "very much") for each of ten behaviors described on the scale. These included behaviors like, "restless and over active", and "sit and fidgets with small objects".

Teacher Ratings of Attention (TRSA). The attentional behavior of children who participated in the program was evaluated by their teacher using a scale that consisted of 19 descriptive statements that had been related to laboratory attention tasks. Teachers' judgements were made on a five-point scale ranging from "never describes this child" to "always describes this child".

Teacher Ratings of Impulsivity (TRSI). Each child's teacher completed a scale assessing impulsive behavior. It consists of twenty-one descriptive statements about impulse control that are responded to on a five point scale.

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NOTES

1. Although we refer to "qualitative" and "anthropological" methods interchangeably throughout this paper, it is important to note that traditional anthropological methods are only a subset of the qualitative approaches used in social research. Sociology, education, and other disciplines have also developed qualitative approaches to the study of social life. However, sometimes methodological terms shared by these approaches are given different meanings. For instance, traditionally anthropologists have used "ethnographic" to mean long term, participant-observation, while sociologists and education researchers use "ethnographic" to describe their observational methods (compare Estroff 1981; and Bluebond-Langner 1978 with Beuf 1979). Further contrasts among and between anthropological, sociological, education, and other approaches to qualitative research can be found by comparing Agar (1980), and Peltó and Peltó (1978) to Van Maanen (1983), and Miles and Huberman (1984); Spradley (1979) to Sudman and Bradburn (1982).
2. True prevalence refers to the number of people in a population who actually have a disease or disorder at a given point in time. Treated prevalence refers to the estimate of true prevalence based only on the number of people in a population who were under treatment for a disease or disorder at a given point in time. Similarly, true incidence measures the rate at which new cases of a disease or disorder occur during a specified period, and treated incidence is an estimate of true incidence based on the rate of new cases of a disease or disorder coming under treatment during a specified time. Because treated incidence and prevalence rates are based on a nonsystematic sampling of the population it is likely that they over- or underestimate the true incidence and prevalence rates of the disease or disorder.
3. Many of the epistemological issues that lead to the disjunction between qualitative and quantitative research are discussed by Rubinstein et al. (1984). The specifics of the clash between the foundational assumptions of psychosocial epidemiological research and anthropological research on mental health and illness are considered in detail by Rubinstein (1984).
4. There is considerable disagreement about the status of hyperactivity as a disease entity. For that reason, whenever we refer to hyperactivity as a diagnosis we enclose it in quotation marks.
5. Some epidemiologists would argue that, because what counts as a case is unclear, attempts at studying the epidemiology of psychosocial disorders are fundamentally misguided.
6. There are four general diagnostic possibilities. Children diagnosed as ADD could be: (1) true positives, that is there is a known organic basis for the diagnosis; (2) false positives, children incorrectly diagnosed as ADD; (3) children whose ADD diagnosis has an as yet undiscovered organic basis; and (4) children whose diagnosis has a social rather than organic basis. The study reported here examined only the latter three categories.
7. The general sociological reasons behind this "saving of appearances" by both qualitative and quantitative researchers is suggested by Merton's (1965) account of the "Hooke-Newton-Merton", or simply "kindle coal", principle of interaction among scientists: "when scientists report their differences in public, they are often moved to engage in polemical discourse designed to save their hypotheses (and so their faces) rather than to strive, quite disinterestedly, for Discovery of Truth" (Merton 1965: 29).

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