

From: Reis, T & C. Judd (Eds). *Handbook of Research Methods in Social and Personality Psychology*. 2000. Cambridge University Press.

## CHAPTER TWELVE

### Content Analysis and Narrative Analysis

CHARLES P. SMITH

This chapter introduces two important approaches to the analysis of qualitative material. Content analysis deals primarily with verbal material, but may be used with nonverbal material as well; narrative analysis deals only with verbal material, usually stories or accounts of personal experiences. These techniques may be used to study individuals, groups, cultures, or historical periods by means of either qualitative or quantitative research.

Of what special value are these methods that deal primarily with the analysis of samples of language? For one thing, language is a major, and often distinctive, source of information for social and behavioral scientists. Language both facilitates and reveals the development of persons and cultures. Language permits inferences regarding subjective experiences, intentions, and internal structures that influence overt behavior. Moreover, many phenomena of interest occur largely in the form of overt verbal behavior, including communication, socialization, interpersonal relations, attribution, moral reasoning, role-playing, and stereotyping.

Content and narrative analysis can provide information that may or may not be accessible by other methods. Sometimes qualitative material can best reveal innermost thoughts, frames of reference, reactions to situations, and cultural conventions. In fact, language often tells more about people than they want to disclose, or than they know about themselves, and it

For their many insightful contributions, I am greatly indebted to my wife, Judith Smith, and to colleagues including Colette Daiute, Dan P. McAdams, Harry T. Reis, David Rindskopf, Jody Veroff, and Joseph Veroff.

Correspondence should be directed to Charles P. Smith, 1724 Allard Rd., Chapel Hill, NC 27514 (e-mail: cpjbsmith@earthlink.net).

can bring to light things a researcher might not think to ask about. Archival material such as letters, diaries, and speeches may provide the only source of information about persons who are dead, unavailable, or uncooperative, and written or oral materials may provide the only feasible way of studying individuals in depth, earlier historical periods, or large-scale social phenomena, such as differences among cultures.

Research methods employing written or spoken language have gone in and out of vogue. In the late 19th and early 20th centuries, when psychology was regarded as the science of the mind, eminent scholars, including Galton, William James, Wundt, Freud, G. Stanley Hall, and Piaget, made extensive use of accounts of personal experiences, and the use of personal documents in the work of Thomas and Znaniecki (1918, 1919, 1920) demonstrated the importance of the subjective aspects of social life. However, in the 1920s behaviorism redefined psychology as the science of behavior; rejected the subjective, introspective, and mentalistic; and sought basic laws, often in the behavior of inarticulate organisms. Fortunately, during this period attention to the inner life continued in the writings of those who were clinically, humanistically, phenomenologically, or existentially oriented.

When interest in cognition and affect returned to mainstream psychology during the 1950s and 1960s, a basis had been laid for a more rigorous scientific approach to these topics. For some researchers this entailed reliable measurement by means of "fixed response" methods such as inventories, questionnaires, and hypothetical situations about which judgments or attributions are requested in terms of provided alternatives. For other investigators these methods did not capture the complexity of human thought and behavior. Some turned to methods such as content

analysis and narrative analysis that may be applied to phenomena that are less artificial and more reflective of an individual's constructs and contextual organization of experience.

The earlier-established method of content analysis is considered first and then compared with the more recent method of narrative analysis.

#### PART I: CONTENT ANALYSIS

Part I first considers the nature, scope, and applicability of content analysis and then explains how to conduct content-analytic research.

#### Characteristics and Uses of Content Analysis

**DEFINITIONS AND TERMINOLOGY.** *Content analysis is a technique used to extract desired information from a body of material (usually verbal) by systematically and objectively identifying specified characteristics of the material* (cf. Berelson, 1954; Holsti, 1969; Stone, Dunphy, Smith, & Ogilvie, 1966). The impartial and consistent application to all selected material of explicitly defined procedures of analysis is intended to be objective in the sense of yielding unbiased results that can be reproduced by other qualified investigators. Content analysis differs from clinical *interpretation*, which is more holistic and provisional, and for which specific criteria are not made explicit in advance.

Actually, the term "content" in content analysis is something of a misnomer, because verbal materials may be examined for content, form (e.g., style, structure), function (e.g., person gives suggestion), or sequence of communications (see Bakeman, this volume, Ch. 6).

By means of content analysis a large body of qualitative information may be reduced to a smaller and more manageable form of representation. In addition, qualitative information may be transformed into quantitative information, such as category frequencies or ratings. The term *coding* is commonly used to refer to the process of classifying or rating, and those who do the classifying are usually referred to as coders, although they are sometimes called judges, raters, or scorers.

Content analysis is applied to qualitative material, whether obtained from archival records, recording of naturally occurring behavior, or evoked responses (as from interviews or projective methods). Although the material to be analyzed may consist of recorded interactions, nonverbal behavior, photographs, filmed actions, graphic and artistic productions, or music (e.g., Simonton, 1994), content analysis usually employs

written or transcribed verbal material that I sometimes refer to as "text." The categorization of observable speech and behavior, although conceptually similar to content analysis, is usually dealt with under the heading of observational methods (see Bakeman, this volume, Ch. 6).

A sample of written or spoken language is used verbatim, preserving misstatements, omissions, errors of spelling and grammar, and so forth. Words, phrases, or errors in material to be analyzed may be classified in terms of their "manifest" or ordinary meaning or in terms of their "latent" or inferred underlying meaning.

**HISTORICAL BACKGROUND.** Examples of content analysis date back to the classification of theological terms in hymns in 18th-century Sweden (Dovring, 1954-1955) and to the analysis in 1838 of visual imagery in the dreams of people who had become blind at different ages (Van de Castle, 1994). Journalistic studies of trends in topics covered in newspapers date from the 1890s (Berelson, 1954). In social science, the value of content analysis was recognized early in the 20th century by such scholars as Max Weber and Harold Lasswell. During the 1940s and 1950s, major figures, including Berelson, Lazarsfeld, Osgood, Pool, and R. K. White, introduced many of the conventions of content analysis used in contemporary communications research (Holsti, 1969). The practical utility of content analysis was demonstrated during World War II in studies of propaganda techniques and enemy morale.

Although the term *content analysis* was probably first used in the field of journalism, psychologists used similar procedures to study individuals and groups. Notable examples include the Thematic Apperception Test (TAT; Murray, 1938), the use of personal documents (Allport, 1942), the analysis of verbal exchanges in small groups (Bales, 1950), and the analysis of dream reports (Hall & Van de Castle, 1966). Early work on computer-assisted content analysis culminated in a landmark volume by Stone et al. (1966).

**USES OF CONTENT ANALYSIS.** Content analysis may be used for exploratory research, theory development, hypothesis testing, or applied research. It may be used for description or for inference. Most people are familiar with the concept of content analysis even if they do not know the term. For instance, on January 14, 1996, *The New York Times* reported that a computer-assisted analysis of the vocabulary of an unsigned Elizabethan elegy indicated that it was probably authored by Shakespeare.

Analyses of verbal and other symbolic materials may differentiate between individuals, groups, or cultures. For example, content analysis has been used to distinguish between stories told by women who were or were not victims of childhood sexual abuse (Arkhurst, 1994) and between suicide notes that were genuine or simulated (Ogilvie, Stone, & Schneidman, 1966).

Conversely, content analysis may be used to show that groups that are thought to differ in certain respects do not differ. For example, stereotypes regarding differences between men and women or ethnic groups may not be supported by the blind analysis of appropriate materials from each group. An historically influential study of this type was conducted by Hooker (1957), who asked expert clinicians to make a blind analysis of the projective test responses of heterosexual and homosexual men who were closely matched for age, education, and IQ. At the time of her research, homosexuality was regarded as a severe emotional disorder and was often treated with electroshock therapy. To their surprise, when the two groups of unlabeled responses were mixed together, the clinicians could not identify heterosexuals and homosexuals more accurately than would be expected by chance. Hooker's research was credited with contributing to the eventual removal of homosexuality from the list of psychiatric disorders (*The New York Times*, November 22, 1996). When categories of analysis are explicit, this type of study provides a powerful method for challenging ideas concerning individual differences between groups.

Content analysis may reveal properties of texts that might go unnoticed by a reader, as evidenced by R. K. White's (1947) values analysis of Richard Wright's autobiography *Black Boy*. White comments:

Without making a systematic inventory of *all* the facts of a given kind, it is difficult to realize just how important and how insidious the errors of omission are in any ordinary subjective impression of a book or a personality. The errors of omission are, moreover, highly systematic errors; there is an inevitable selection of just those facts which fit most neatly into the interpreter's unacknowledged wishes and preconceptions. (1947, p. 441-442)

Also, unexpected information may be brought to light by content analysis. For example, contrary to their expectation, Osgood and Walker (1959) found "no evidence for greater *disorganization* of encoding behavior in suicide notes as compared with ordinary letters to friends and relatives" (p. 66).

Fixed response measures are clearly preferable to content analytic measures for obtaining some kinds of information. Alternatively, content analytic measures may reveal more adequately the complexity

of phenomena such as childhood experiences, moral reasoning, or cognitive styles. Open-ended interview questions, for example, permit a respondent to express his or her own constructs and frame of reference. Even interview responses may be of limited value if the respondent is not candid or is unable to provide information about matters of which he or she is unaware, such as ambivalence toward parents or children. To obtain that kind of information it may be necessary to analyze material obtained by means of unobtrusive or projective methods. *Unobtrusive measures* are obtained from behavior that has occurred for some other reason than the investigator's research. Such measures are nonreactive in the sense that the person is not aware of, or affected by, the measurement process. Letters to a friend, for example, might reveal feelings about parents that the writer might not reveal to an interviewer. Projective techniques, such as the thematic apperceptive method, might reveal still deeper conflicts of which the person is not consciously aware.

McClelland, Koestner, and Weinberger (1989) pointed out that projective measures of motives yield different information than self-report measures of motives. The former (implicit motives) best predict spontaneous behavior and long-term behavioral trends, whereas the latter (self-attributed motives) best predict near-term performance in situations where explicit incentives elicit striving for normative goals. For some purposes prediction may be improved by combining both kinds of measures. Possible reasons why the two types of measures often are not correlated are discussed by McClelland et al. (1989).

Although some kinds of variables, such as explanatory style, appear to be measured equally well by content analysis and by self-report (Peterson, 1992), other kinds of variables, such as conceptual-integrative complexity and implicit motivation, are best reflected in "thought samples," which permit a subject to express her or his characteristic construction of experience.

**SCOPE AND APPLICABILITY OF CONTENT ANALYSIS.** Illustrative uses of content analysis in different fields of psychology are presented in Table 12.1. In social sciences other than psychology, the technique has been used to describe and compare cultures and to study such topics as cultural change, propaganda, media coverage of political campaigns, factors affecting voting behavior, political leadership, the decision-making of corporate executives, family dynamics, and suicide. Content analysis has also been used in research in education, geography, psychiatry, and psycholinguistics.

**TABLE 12.1. Illustrative Topics Studied by Means of Content Analysis**

Field of Psychology	Illustrative Topics
Clinical	Childhood physical and sexual abuse, depression, effects of psychotherapy, object relations, personality assessment, suicide
Developmental	Conceptions of motherhood, development of conceptual complexity, ego development, language acquisition, moral reasoning, preschool crisis situations
Educational	Classroom climate, learning logs, problem-solving, readability of text, writing skills
Health	Emotional expression, factors affecting the immune system, causal explanations, quality of life, stress and coping, self-help groups
Industrial-organizational	Buyer-seller interaction, ethnicity and gender in advertisements, leadership, managerial success
Personality	Anxiety, creativity, cognitive and attributional styles, dependency, dreams, emotions, moods, motivation, personal causation, values
Social	Aggression, attributions, authoritarianism, belief systems, generativity, groupthink, gender roles, interpersonal relations, leadership, propaganda, self-definition, stereotypes, stigma

**ARCHIVAL RESEARCH.** Archival studies have employed personal and public documents to obtain information about such topic areas as attitudes and beliefs, aggression and violence, and leadership (Simonton, 1981). Winter (1992) has reviewed archival research including studies of eminent persons, societal motive patterns related to war and peace, the relationship of conceptual-integrative complexity to professional eminence, and the relationship of explanatory style to the electability of presidential candidates (see also Suedfeld, Tetlock, & Streufert, 1992).

The following studies illustrate the archival approach. Snowdon et al. (1996) found that a measure of idea density taken from autobiographies written by nuns in their 20s was strongly predictive of which nuns would develop Alzheimer's disease six decades later. When the autobiographies were written, Alzheimer's disease was unknown, and the use to which the archived materials would be put could not have been anticipated.

McClelland (1961) used both verbal and nonverbal archival material in a study of determinants of the rise and wane of economic growth in ancient Greece. Measures of economic growth at different historical periods were related to two different content-analytic measures of achievement motivation, one from Greek literature and one from designs on Greek vases (Aronson, 1958). Analyses revealed that signs of high achievement motivation were most frequent in a period of economic growth and significantly less frequent prior to economic decline.

**COMMUNICATIONS RESEARCH.** Content analysis has been applied most extensively in the cross-disciplinary field of communication (a) to study the substantive or formal characteristics of communications, (b) to make inferences about the characteristics and intentions of communicators, and (c) to make inferences from content about its effects on, or the characteristics of, its recipients. Berelson (1954), Holsti (1969), and Krippendorff (1980) summarized research on: (a) trends in communication content, (b) the comparison of different media, (c) style, (d) propaganda techniques, (e) military intelligence, (f) the intentions and psychological states of persons or groups, and (g) the attitudes, interests, and values of media audiences.

Two examples of contemporary research on communication and the mass media follow. Davis (1990) analyzed personal advertisements from a newspaper for evidence of sex-role stereotypes. He found that for desired attributes of a companion, women were more likely than men to specify "employment, financial, and intellectual status, as well as commitment, while men emphasized physical characteristics" (p. 43). Davis concluded that these differences were consistent with traditional sex-role stereotypes.

Taylor, Lee, and Stern (1995) analyzed photographic advertisements from business, women's general interest, and technical magazines and concluded that "Hispanic Americans are significantly underrepresented in magazine advertising, portrayals of Asian Americans reflect societal stereotypes, and [relative to prior

research findings] portrayals of African Americans have become less stereotyped over the years" (p. 608).

INTERVIEWS, SURVEYS, AND OPEN-ENDED QUESTIONNAIRES. Content analysis is the primary method of obtaining information from responses to "unstructured" or "open-ended" questions. Interviews are used in many kinds of research, including communications research, cross-cultural research, life history research, and narrative analysis (see Visser, Krosnick, & Lavrikas, this volume, Ch. 9).

Note that it may be possible to locate interview responses obtained by another researcher (or survey organization) who has already asked some or all of the questions contemplated for new research – possibly with a larger and more representative sample than many researchers can afford. For example, archived open-ended questionnaires, completed for the Harvard Study of Adult Development, made possible longitudinal research by Peterson, Seligman, and Vaillant (1988), who showed that pessimistic causal explanations given in 1946 predicted physical illness three decades later.

The analysis of material from group interviews by Schneider, Wheeler, and Cox (1992) illustrates research in industrial-organizational psychology. These authors analyzed notes from 97 panel (group) interviews with 350 employees from three financial service companies. The groups were asked to discuss the service climate of their organizations. "Quantitative analyses of the 33 coded themes revealed the routines and rewards most strongly related to service passion: responsiveness to consumers, hiring procedures... [etc.]" (p. 705). The analysis also suggested which procedures could be modified in order to improve organizational functioning.

Finally, the interview setting may be used for additional purposes. Veroff (1992) and his associates have made extensive use of thematic apperceptive measures of motivation in survey research. Veroff explained how to select stimuli and code stories obtained from survey interviews.

PERSONALITY THEORY AND ASSESSMENT. Content-analytic research in personality ranges from intensive studies of individuals to cross-cultural research, using archival materials, interview responses, psychotherapy transcripts, reported dreams and daydreams, and responses to projective methods, including the TAT, the Rorschach, and sentence completion.

Qualitative research, with cross-cultural implications, is illustrated by the following study of personality

taxonomy. Many Western psychologists have obtained evidence for a five-factor model of personality attributes, such as extraversion, emotional stability, and conscientiousness. To find out whether this model extends to non-Western cultures, Narayanan, Menon, and Levine (1995) asked students in two universities in India "to describe two 'critical incidents' observed in others or themselves that were particularly revealing about their personality" (p. 57). Coders not familiar with the five-factor model sorted incidents into a set of mutually exclusive meaningful categories. Ratings revealed that all but one of these categories were representative of the five factors, indicating that "the personality dimensions obtained with this qualitative culture-specific method were very similar to the Big Five structure" (p. 60), with only a few characteristics being specific to a non-Western culture.

Employing a projective technique, Ames & Riggio (1995) undertook to develop adolescent maladjustment norms for the Rotter Incomplete Sentences Blank. Such norms serve as guidelines for deciding whether to refer a student for counseling or therapy. High school and college students were asked to complete sentences "to express *your real feelings*." Responses were scored for degree of conflict (0–6). The results led to a recommended maladjustment cut-off score for adolescents and to recommendations to bring coding criteria in line with contemporary social mores.

A procedure for validating a coding system is illustrated in a study by McAdams and Constantian (1983) who obtained a measure of intimacy motivation by means of content analysis of stories written about six TAT-type pictures by 50 male and female college students. To validate their measure, they used the motive scores to predict intimacy-relevant thought and behavior at a later date. An experience sampling method (ESM) was used to obtain reports from the students regarding the situations they were in and their thoughts and behaviors over the course of a week. Participants wore pagers and, when signaled, took out a form and wrote answers to open-ended questions regarding what they were doing and thinking about when they were paged. As expected, the higher the intimacy motive scores, the more often participants were thinking of interpersonal situations and were engaged in interpersonal behavior. (For more information about ESM, see Reis & Gable, this volume, Ch. 8.)

Much of the literature on dream research has been reviewed by Hall and Van de Castle (1966; Van de Castle, 1994), whose sophisticated content

analyses of dream reports have provided information bearing on the validity of psychoanalytic theory, gender differences, and contextual factors affecting dream content.

### \* Steps in Content-Analytic Research

Content-analytic research typically involves the steps described below. Although listed sequentially, some of the steps may overlap or be carried out concurrently.

1. State the research problem and the goal of the research. What is to be identified, described, or measured? State hypotheses, if any.
2. Decide whether content analysis will provide the needed information, either by itself or in conjunction with another method.
3. Decide what type of qualitative material will best provide the information needed.
4. Decide how to select the chosen material and the amount needed.
5. Decide on a content analysis (coding) system – either a preexisting one or one that you develop. What categories or rating dimensions will best yield the information you want?
6. Obtain pilot material on which to try out the coding system. Does the material yield the desired information? If you have devised a new coding system, does it need to be revised?
7. Train coders. Make sure that satisfactory intercoder agreement can be obtained using the pilot material.
8. Obtain the final material to be analyzed.
9. Code the material, with identifying characteristics removed, and determine intercoder agreement; or perform computer-assisted content analysis.
10. Analyze the data; carry out cross validation if appropriate.
11. Interpret the results. Compare your findings with norms, if available.

Some of the key steps will now be discussed in greater detail.

**DECIDING ON THE TYPE OF MATERIAL TO BE ANALYZED.** Obviously, the material selected should reflect the phenomenon being studied. For example, to learn about the values transmitted by a culture, one might choose material from mass media or from products assumed to be representative of the culture, such as films, folktales, or selections from children's readers.

Some types of material are more informative than others. A study by Combs (1947), for example, demonstrated that autobiographical material was less likely to reveal socially or personally unacceptable motives than TAT stories. Dreams, daydreams, TAT stories, narratives of personal experiences, and ESM responses are not equivalent (see Emmons & King, 1992; Gottschalk & Gleser, 1969; McAdams & Zeldow, 1993; Winter, 1992, among others). Other factors affecting the choice of material include its availability, the time and expense required to obtain it, and whether unobtrusive measures are needed.

**ARCHIVAL MATERIALS.** Archival materials include symbolic cultural products, personal documents, publications, records and official documents, broadcast media transcriptions, and so on. The selection and use of archival materials is discussed by Simonton (1981) and Winter (1992). Two major archives, with informative websites, include the Murray Research Center at Radcliffe College and the Inter-University Consortium for Political and Social Research (ICPSR). There are many other archives that are more specialized.

**NATURALLY OCCURRING MATERIALS.** To capture naturally occurring behavior one might record broadcasts of live events or, with appropriate permission, conversations, psychotherapy sessions, e-mail exchanges, or group deliberations. Depending on the circumstances, the persons involved may or may not be aware that they are being studied. Somewhere between naturally occurring materials and elicited materials are those obtained by the experience sampling method.

**ELICITED MATERIALS.** Elicited material, such as responses to interview questions or projective methods, is obtained specifically for research purposes. Such material "is usually taken to be indicative of something beyond itself. A particular statement, for example, . . . has significance to the researcher because it may be taken to indicate the presence of a certain attitude, value, cognitive structure, or the like" (Cartwright, 1953, p. 423).

The selection of pictorial or verbal cues for thematic apperceptive measures is discussed by Smith, Feld, and Franz (1992). To a large extent cues determine the type and amount of imagery obtained, and special cues may have to be developed for special populations, as was done by Henry (1951) for research with Native Americans.

ADVANTAGES AND DISADVANTAGES OF DIFFERENT TYPES OF MATERIAL. Each type of material has its own advantages. One is availability. If one wants to study survivors of the Holocaust, it would be expensive and time-consuming to identify and interview them. However, there are several archives where videotaped interviews of survivors are available for research (Suedfeld, 1996). Some archival materials also have the advantage of being nonreactive. On the other hand, archival materials may not be available in sufficient quantity or for the population of interest, or they may not constitute a representative sample of the population of interest.

Naturally occurring behavior may be of value for its spontaneity and ecological validity, but it may be difficult to record and time-consuming to transcribe, and it may not be possible to study naturally occurring behavior in a representative sample of some population.

With material elicited specifically for research purposes, the researcher has greater control over the sources of the information, the amount and kind of information obtained, and the conditions under which it is obtained. In an interview study, for example, the researcher can determine who the interviewers and respondents will be, how many interviews will be obtained, and what questions will be asked. However, the responses will be reactive and may be obtained only from persons who are willing and available to respond.

Different types of elicited material are preferable for different purposes. For example, in a study of leadership among Naval officers, Winter (1992) found that "motive scores based on 'ordinary' verbal material (in this case, critical-incident interviews) predicted leadership performance far better than did scores based on thematic apperceptive methods" (p. 111). Similarly, Emmons and King (1992) show that for some purposes ESM responses are preferable to thematic apperceptive stories for the assessment of motives.

**OBTAINING THE MATERIAL TO BE ANALYZED (SAMPLING).** For a few research problems the entire body of available material can be used (e.g., all of the existing letters of an important historical figure). More often, however, the total body of relevant material is too large to be analyzed (e.g., all major newspapers in the United States published during a 10-year period). On what basis is a selection to be made? This is a very important question, because sample selection and sample size affect the informativeness, reliability, and generalizability of the findings. Of many possible factors that can undermine the value and credibility

of content-analytic research, the most common, in my judgment, is inappropriate sampling and insufficient sample size.

Content analytic research usually requires selection of both (a) the material to be analyzed (e.g., interview responses, articles, folktales) and (b) the sources of that material (e.g., persons, publications, societies). To select sources and materials, one may use a probability or a nonprobability sampling plan. Probability sampling permits the selection of an unbiased sample that is representative of the population and makes it possible to generalize the findings from the sample to the entire population. (Sampling theory and procedures are reviewed by Visser, Krosnick, & Lavrikas, this volume, Ch. 9).

However, with the exception of survey and communications research, probability sampling is not common in content-analytic studies. For one thing, it may not be possible to identify all the members of the total relevant population (e.g., all people with AIDS). More often, the researcher may feel that it is not necessary to select a probability sample, particularly if the research is exploratory or involves theory development and the emphasis is on internal rather than external validity (see Judd, Smith, & Kidder, 1991). In such cases a nonprobability sample may be used.

Unfortunately, there is no way of knowing the extent to which any type of nonprobability sample is representative. The least desirable type of nonprobability sample is that chosen on the basis of convenience, that is, participants or materials are used because they are easily available. Patton (1990) reviewed preferable kinds of nonprobability samples and their rationales. In-depth qualitative study of one or a small number of cases can provide valuable insights into phenomena that can subsequently be studied by quantitative methods.

**SAMPLING CONVENTIONS.** Somewhat different sampling issues arise for different types of material. Perhaps the most elaborate set of sampling considerations arise in media research. For example, to sample personal ads, Davis (1990) made decisions about sampling newspapers, seasons, and days of the week. Taylor et al. (1995) sampled 1,616 pictorial advertisements from a cross section of magazines over a 1-year period. Berelson (1954) noted that it may be necessary in communications research to sample each of three layers: (a) publications or other sources (e.g., radio stations), (b) issues or dates, and (c) content within issues. In sampling publications or other sources of communications, one



may need to take account of such factors as geographical location, frequency of publication, time of publication (morning or evening), target audience (women, sports fans), and size of circulation. For greater detail, see Holsti (1969) and Krippendorff (1980).

Sampling decisions encountered in cross-cultural research are illustrated in the work of Kalin, Davis, and McClelland (1966), who used folktales to study psychological correlates of heavy drinking in preliterate societies. In their research, the selection of societies and folktales was contingent on such factors as geographical area, separation of cultures, adequacy of folktale collections, and type of folktale.

In research using projective methods the sampling of content sometimes poses complex issues (see Smith et al., 1992). The sentence completion study described earlier (Ames & Riggio, 1995) illustrated some sampling decisions involving a projective method. The authors tested male and female students from public and private high schools in two geographical areas that differed in socioeconomic status. The material to be analyzed was sampled by the sentence stems, which had been selected on the basis of their ability to elicit responses that would reveal various kinds of inner conflicts. Although no actual population of items (sentence-completion stems) exists, one may construct a set of items intended to be representative of all possible items in the relevant domain (see Nunnally, 1978). The high internal consistency reliability ( $\alpha = .91$ ) of the scores suggests that a sufficient sample of items ( $N = 40$ ) was used. Although the authors took some steps to ensure "varied representation," one could not safely generalize their findings to all U.S. adolescents, much less to those in other countries. Also, they did not obtain sufficient information to permit the recommendation of norms for different social and ethnic subgroups.

**SAMPLE SIZE.** After a rationale is adopted for selecting some elements from a larger population of elements, the researcher must decide how many elements to select. Sample size affects the range, reliability, and accuracy of the values measured. Simply put, too little material will not provide enough information on which to make a sound estimate of whatever is being assessed. The optimal size for a sample will depend on the aim and characteristics of the proposed research and such extrinsic factors as the amount of time, money, and personnel available. The chapter by Visser, Krosnick, & Lavrikas, in this volume, discusses how to determine sample size if one wishes to use sample values to estimate values in the total population. If

population values are not important, then sample size will be determined by the kinds of statistical analyses to be carried out and the level of power desired for those analyses. For qualitative research it is not possible to calculate the effects of different sample sizes, but the same general considerations of reliability and precision should be kept in mind in deciding on the size of a sample (see Patton, 1990).

**CONTENT ANALYSIS (CODING) SYSTEMS.** This section describes the properties of content analysis systems, explains how such systems are devised, how qualitative material can be quantified, and how computers may be used for content analysis.

The coding system is the heart of the content analytic method. It specifies the information to be obtained from the material to be analyzed. If appropriate categories of analysis are not used, vital information may not be detected, and the analysis may reveal nothing of interest (McAdams & Zeldow, 1993). The coding system is also the primary basis for the objectivity of the method. It makes distinctions explicit and public, so that other researchers can use the same procedure.

Coding systems comprise (a) definitions of units of material to be analyzed, (b) categories or dimensions of classification, and (c) rules for applying the system. This information is recorded in a *coding manual* that also provides examples of what to code and what not to code for each category or dimension. The manual may also contain practice materials.

**UNITS.** Units provide a standard basis of comparison of one text with another. The absolute amount of some behavior is often less informative than its rate of occurrence or frequency per unit (Hall & Van de Castle, 1966). The advantages and disadvantages of different kinds of units (e.g., narrow vs. broad) are discussed by Holsti (1969, pp. 104ff.) and by Krippendorff (1980). There is no single best unit; what is best depends on the objectives of the research.

The term *text unit* is used here to refer to the largest body of material subjected to analysis in a particular investigation (e.g., an essay, an editorial, or an interview). Although a text unit usually has natural boundaries, as in the examples given above, it may have arbitrary boundaries (e.g., Snowden et al., 1996, coded only the last 10 sentences of each autobiography).

The term *coding unit* (or *recording unit*) is used to refer to that part of the text unit to which coding categories or dimensions are applicable. A coding unit may be a designated portion or segment of the text, or it



may be a designated aspect of the text, such as themes or characters.

Segments that have been used as coding units include (a) the entire text unit (e.g., an essay), (b) linguistically defined segments (e.g., words, clauses, sentences), (c) response segments (e.g., a response to an interview question), (d) physically defined segments (e.g., newspaper column inches), and (e) temporal segments (e.g., minutes of broadcast time).

Perhaps the most important aspect of the text that has been used as a coding unit is the theme, by which is meant the expression of a single idea, a statement about a topic, or a motif (e.g., themes of loneliness or accomplishment). A theme may be expressed in a few words, a phrase, or one or more sentences. When the theme is the coding unit, each theme in a text unit is identified by some specified criterion and then classified according to its properties. The character has also been used as a coding unit, in which case each character is classified according to some scheme, such as sex, role, or type of behavior (see Hall & Van de Castle, 1966).

Finally, the term context unit refers to the largest body of material that may be considered in order to make a coding decision (cf. Berelson, 1954). For example, to classify a word as a part of speech, it may be necessary to consider the entire sentence in which it appears; to interpret and classify a response to a particular interview question, it may be necessary to consider responses to the preceding and succeeding questions.

**CATEGORIES AND DIMENSIONS.** Categories and dimensions specify the information sought by the researcher—the variables to be assessed. Their application yields either a qualitative description or a quantitative measure of the variables of interest. Categories provide for classification into two or more alternatives, such as present-absent, or Christian-Jewish-Muslim, etc. Categories may represent underlying continuous variables, such as favorable, no opinion, unfavorable; or they may represent discrete nominal classes that belong in no quantitative order.

Some discussions of coding systems have not made clear that the terms character and theme can be used to refer to coding units in one system and to coding categories in another. When each character in a story is identified and then classified, the character is the coding unit. However, when the information desired is the number of characters in a story, the story is the coding unit, and the number of characters is the category.

Themes are coding units when each theme is identified and then classified. The coding systems developed

by David McClelland, John W. Atkinson, and their colleagues to measure motivation (e.g., McClelland, Atkinson, Clark, & Lowell, 1953) used stories as coding units, and themes, or types of "imagery," as coding categories. For example, in a story, feeling good about winning an essay contest would be indicative of the category "positive goal affect." An achievement motive score for each story is obtained by counting the number of thematic coding categories present.

Different kinds of coding categories or dimensions may be needed for the analysis of the formal properties of a text, such as psychological styles. For example, a category used for scoring stories for *self-definition* (Stewart, 1992) does not employ substantive themes but rather the presence or absence of causal thinking, regardless of content. As this example indicates, units for coding formal properties tend to be defined at a more abstract level than content units. For other examples, refer to the coding systems for explanatory style (Peterson, 1992) and conceptual-integrative complexity (Suedfeld et al., 1992).

Discussions of classification (e.g., Holsti, 1969, pp. 95ff.) usually specify that categories should be unidimensional, exhaustive, mutually exclusive, and independent (i.e., an entry in one category does not affect an entry in another category). These properties of categories have important implications for the statistical analysis of the data, including calculations of intercoder agreement. However, some researchers intentionally have employed coding categories that are not unidimensional, or not independent, or not mutually exclusive (e.g., Funkhouser, 1973; McAdams, 1992; Suedfeld et al., 1992; Weber, 1990, pp. 23ff., 32ff.).

Categories can also differ in breadth or inclusiveness, abstractness, and degree of inference required. Idiographic categories can be developed to apply only to a single individual and may be used for the intensive study of one person (e.g., throughout psychotherapy). However, most coding systems employ general categories that enable comparisons among individuals or groups.

Coding dimensions represent continuous variables. Intensity or degree can be measured by means of a numerical scale such as 0 (no conflict) to 6 (extreme conflict). Coding for intensity is problematic, however. When intensity is implied by words in the text (e.g., apprehensive vs. terrified; miffed vs. enraged), a researcher may wish to preserve that information. However, it is often difficult for a coder to make reliable judgments of degree or for a classification system to specify appropriate intervals on a quantitative scale. For example, for

degree of aggression, does killing an animal represent more or less aggression than injuring a human being?

Another way of assessing the degree of importance of a variable is to record the frequency of occurrence of some type of imagery, such as that indicative of aggression. Usually, each instance is given equal weight. The number of tallies in a coding unit is taken to be a measure of degree of aggression on the assumption that the greater the importance of the variable to the source, the more often it will be mentioned. When a frequency count is made, however, it is usually important to control for the length of the coding unit, because longer material tends to yield higher frequency counts. To help offset the effect of differences in length, many coding systems do not employ frequency counts; instead a category like aggression is scored only once per coding unit, no matter how many times it appears.

Although measures of intensity and frequency of the same variable from the same text tend to be positively correlated, they measure different aspects of the variable. Partly for this reason, frequency measures have also been considered problematic as measures of the importance or strength of a variable. Hall and Van de Castle (1966), Holsti (1969, pp. 122ff.), and Stone et al. (1966) discussed issues involved in measures of frequency and intensity. In their scales for anxiety, hostility, and other variables, Gottschalk and Gleser (1969) dealt with intensity, frequency, and length of material by obtaining a scale score based on summing the number of weighted categories coded per 100 words (see also Gottschalk, 1995).

**RULES.** Rules explain how to apply the coding system and how to deal with instances not explicitly addressed by the system. Rules may tell how to distinguish units, apply categories, and record coding decisions. An example of a rule is "Do not infer the presence of emotion on the basis of the setting or activity in which the character is engaged" (Hall & Van de Castle, 1966).

**CHARACTERISTICS OF CODING SYSTEMS.** Coding systems vary in their explicitness and detail. At the least explicit end of the continuum are systems that provide general guidelines for the classification of verbal material, together with a few examples. Generally such systems assume prior mastery of some theoretical orientation such as psychoanalytic ego psychology. Such systems are often intended to be used primarily for clinical or other applied purposes rather than for research. Although explicitness is a matter of degree,

guidelines alone usually do not constitute a content analysis system as commonly understood, due to their insufficient specificity and the resulting insufficient interjudge agreement among coders who are not immersed in the theoretical orientation underlying the guidelines.

Coding systems also differ in their simplicity or complexity. Complex systems may require chapter or book-length exposition, in part because they may contain more categories, but also because the categories may be more abstract. In their intimacy motive validation study, McAdams and Constantian (1983) employed both simple and moderately complex coding systems. For example, ESM responses to the question "What were you thinking about?" were given a "1" for mention of specific people in the participant's life or of relationships between people, or a "0" if no specific people or relationships were mentioned. In contrast, each participant's score for intimacy motivation was derived from an elaborate set of coding categories that require chapter-length exposition (McAdams, 1992).

Some coding systems are complex because they assess more than one dimension and then combine components from different dimensions in order to assign an individual to a stage or level (e.g., moral reasoning, Colby & Kohlberg, 1987; conceptual-integrative complexity, Suedfeld et al., 1992).

Some coding systems specify two or more stages of coding. For example, in the study of pessimistic causal explanations by Peterson et al. (1988), the text unit was first coded to identify instances of bad events for which causal explanations were given. Each explanation then became a coding unit that was rated on 7-point scales for stability, globality, and internality.

Another level of complexity, "contingency analysis," identifies the cooccurrences of symbols in a text (Osgood, 1959; Stone et al., 1966). This procedure can be used to study the associated thoughts of a single individual, the associations common to members of a group (e.g., Van de Castle, 1994), or sequential contingencies (see Bakeman, this volume, Ch. 6).

A different type of contingency is built into some scoring systems. Only if certain primary categories are coded as present is the text then coded for secondary categories. For example, for each story, the intimacy score consists of the number of primary and secondary categories present (McAdams, 1992).

**QUANTIFICATION.** Quantification is most often achieved by recording the presence or absence of specified information, or its frequency of occurrence. Less often a scale number or rating may be given, or a

physical or temporal measurement may be made, such as the number of column inches or the amount of broadcast time devoted to a news story. In some systems scores are obtained by summing the categories in a text unit that are indicative of a variable, such as the need for achievement. Typically each category is given equal weight, and sums are usually treated as if they were equal interval scores, although ordinal statistics are sometimes used.

**DECIDING ON A CODING SYSTEM.** Sometimes a researcher can use an existing coding system to obtain the information needed. If not, a new one must be devised, or it may be possible to supplement a preexisting coding system with additional categories of the investigator's own making.

**PREEXISTING SYSTEMS.** Coding systems of many kinds have been developed, as illustrated in Table 12.2. Additional coding systems are described in chapters in this volume by Bakeman and by Bartholomew, Henderson, and Marcia. One advantage of using coding systems that were developed from surveys or archival materials is that norms derived from large samples may be available.

**DEVISING NEW CODING SYSTEMS.** The approach to developing a new coding system will vary depending on several factors, including (a) whether a researcher wishes to test an existing theory, develop a new theory, or address an applied problem, as in market research; (b) the nature of the material to be analyzed; and (c) the population for which the system is intended (e.g., children or adults). Complementary discussions of the development of new coding systems are given by Bakeman (this volume, Ch. 6) and by Viney (1983).

Coding categories and dimensions should be defined explicitly, clearly, and in detail, so that different coders can agree on what material is included or not included in a category. A category may be defined either by an exhaustive list of what is to be included or by a statement of the meaning of the category (the class of responses to be treated as equivalent), together with illustrative examples of what kind of material is or is not included.

**TABLE 12.2. Some Coding Systems Developed for Social Science Research**

*Adjustment and adaptation*

Personal problem-solving skills (Ronan et al., 1995)

*Cognitive and personality orientations*

Agency (Wessman & Ricks, 1966)

Causal thinking (Pennebaker, Mayne, & Francis, 1997)

Origin-Pawn<sup>c,d</sup>

Psychological time perspective (Wessman & Ricks, 1966)

Responsibility<sup>c</sup>

Uncertainty orientation<sup>c</sup>

*Cognitive and attributional styles*

Conceptual-integrative complexity (Suedfeld et al., 1992)

Explanatory style (Peterson, 1992)

*Interpersonal relations*

Affiliation, aggression, dependency, intimacy<sup>b</sup>

Agency and communion (Mansfield & McAdams, 1996)

Interpersonal scripts (Demorest et al., 1999)

Social alienation<sup>a</sup>

Sociality<sup>d</sup>

*Life-span development*

Ego development (Hy & Loevinger, 1996)

Moral reasoning (Colby & Kohlberg, 1987)

Psychological stances toward the environment<sup>c</sup>

*Moods and emotions*

Anger, happiness, sadness, tension<sup>b</sup>

Anxiety, hope, hostility<sup>a,d</sup>

Depression<sup>a</sup>

Emotional expression (Pennebaker et al., 1997)

Positive affect, experienced quality of life<sup>d</sup>

*Motives*

Achievement (McClelland & Koestner, 1992)

Affiliation, motive to avoid success, power<sup>c</sup>

Fear of failure (Birney, Burdick, & Teevan, 1969)

Intimacy (McAdams, 1992)

*Psychoanalytically oriented constructs*

Anality, castration anxiety, defensive projection, ego strength, Genitality, masochism, orality, regression<sup>b</sup>

Object relations (McKay, 1992; Westen, 1991)

*Self and identity*

Generativity (McAdams & St. Aubin, 1992)

Self-definition and social definition (Stewart, 1992)

*Values*

Value analysis (White, 1951)

<sup>a</sup>See Gottschalk, 1995

<sup>b</sup>See Hall & Van de Castle, 1966

<sup>c</sup>See Smith, 1992a

<sup>d</sup>See Viney, 1983

New coding systems may originate from two contrasting orientations: the *a priori* (the categories are specified before the material is examined) and the *empirical* (the categories emerge from the material to be analyzed). *A priori* categories of analysis most often derive from psychoanalytic theory. For example, categories indicative of authoritarianism might be derived from a theory of cognitive structure. *A priori* categories might also derive from an applied purpose, such as to assess factors that affect morale and productivity. One possible problem with *a priori* categories is that they may not reflect the frame of reference of the source. For example, Cartwright (1953) found that terms used by professional economists could not successfully be applied in coding popular conceptions of how to control wartime inflation.

Empirical approaches may be either inductive or experimental. A purely inductive approach allows categories to emerge from the material without the influence of preconceptions. The inductive approach is most likely to be used in preliminary, exploratory, or qualitative research. For example, in preliminary research a researcher might review interview responses to a certain question, listing each different response. Next, similar responses would be classified into a smaller number of higher-order categories. These categories might then be used for content analysis, or they could be used as fixed alternative responses for questions to be used in a survey.

An inductive approach might also be used when one wants a summary description of some phenomenon in terms of the frame of reference of the respondent. For example, research in environmental psychology investigated "the assumption that favourite places can be used to regulate pleasurable and painful feelings" (Korpela, 1992, p. 249). From essays, categories were derived inductively for reasons for going to a favorite place. The article on service climate by Schneider et al. (1992) also provided a helpful description of the inductive derivation and subsequent refinement of coding categories.

Categories derived by the experimental approach reflect the effect of variations in an independent variable on the type of material to be analyzed. This approach was a major contribution made by McClelland, Atkinson, and their associates (e.g., McClelland et al., 1953) in research on the measurement of human motives. Previous studies of the effects of fear and hunger on perception had suggested an experimental procedure for the development of a motive scoring system, namely, to arouse a motivational state and then identify its effects on imaginative stories. Atkinson and

McClelland (1948) began by demonstrating that story content changed with increasing hours of food deprivation. However, not all of the changes that occurred had been anticipated. This led to a distinctive feature of their procedure: All changes in imaginative content (thematic imagery) that occurred as a result of motive arousal were considered indicative of the presence of the motive and constituted the motive scoring system.

Subsequent studies employed experimental arousal, or naturally occurring changes in motive-arousing conditions, to develop scoring systems for a number of additional motives. In addition, scoring systems were developed by comparing stories from naturally occurring groups that might be expected to differ with respect to motives such as power (see Smith, 1992a).

In practice the *a priori* and empirical approaches are usually combined. A theory suggests what to look for, and analysis suggests modifications and additions to the *a priori* scheme. For example, *a priori* categories that occur infrequently would be dropped, as might empirically derived categories that have no theoretical or practical significance.

The application of an *a priori* system also may suggest modifications in the underlying theory. The scoring systems and theories developed by Murray (1938) and his associates for the TAT and by Kohlberg and his associates (Colby & Kohlberg, 1987) evolved by means of the empirical refinement of criteria derived from guiding theoretical orientations.

In field research, a coding system may evolve over a period of time as field notes are taken and analyzed (see Miles & Huberman, 1994). Usually, however, before using a coding system for research, it is desirable to conduct preliminary research until the system requires no further modification.

It is a good idea to cross-validate a scoring system in order to ensure that the same scoring categories will emerge from a different population or will apply to a different population. The nature of the population for which a coding system was intended may limit its generality. For example, coding systems developed from material obtained from only one gender must be demonstrated to be applicable with the other. Finally, the nature of the text can affect the coding categories derived. For example, people may express a different kind of reasoning about hypothetical moral dilemmas than about moral dilemmas they have encountered in their lives.

INTERCODER AGREEMENT. Two kinds of reliability are of interest in content-analytic research: one is the reliability of the coder as a measuring instrument,

called intercoder, interjudge, or interscorer agreement; the other, as is discussed later, is the reliability of the frequencies or scores derived for quantitative research.

A high degree of agreement between two or more independent coders, blind to all identifying characteristics of the material, is a prerequisite for using a coding system for research. To enable a high level of agreement, the coding system must be clear and explicit. Agreement demonstrates the objectivity of the system and is a necessary, but not sufficient, condition for the validity of classifications or scores. An index of intercoder agreement should be reported either between a researcher and an independent coder or between two researchers coding independently. Less satisfactory are indexes of agreement between two separate codings of the same material by the same researcher or between a researcher and practice materials scored by an expert.

Indexes of intercoder agreement considered here deal with (a) categories and (b) scores. Illustrations are taken from the achievement motive scoring system (McClelland et al., 1953). The simplest, and most frequently reported, category index is the *percentage of agreement* between two or more coders in classifying material into two or more categories. For example, two coders might agree 80% of the time. Although it is better than no measure of agreement, there are two problems with this index. First, it will be affected by the frequency with which a category is present. Second, it does not take account of the amount of agreement that would be expected purely by chance.

The first problem is most evident with low or high frequency occurrences. Suppose that the category *achievement imagery* is present in only 2 of 100 stories. If the first person correctly codes 2 present and 98 absent, and the second person codes 100 absent, their percentage agreement will be 98, even though the second coder has missed all the instances of achievement imagery. To correct percentage of agreement for the frequency with which a category occurs, the following index was developed by McClelland et al. (1953); see also Smith, Feld, and Franz (1992, p. 529).

$$\frac{2 (\# \text{ of agreements between scorers on presence of category})}{(\# \text{ scored present by scorer 1}) + (\# \text{ scored present by scorer 2})}$$

It is helpful to compute this index for each category, both to assess agreement and to discover categories that may need to be dropped or revised. Although low or high frequency occurrences may lead to overestimation of agreement, some authors recommend that agreement include both occurrences and nonoccurrences (see McDowell & Acklin, 1996).

To correct for agreement due to chance, when coding categories are independent, mutually exclusive, and exhaustive, the Kappa index is recommended. To evaluate agreement when ordinal categories are employed, a weighted Kappa may be used. Kappa and weighted Kappa are explained by Bakeman (this volume, Ch. 6).

Some coding systems yield scores instead of category frequencies. For example, the achievement motive score for each story is the sum of the various imagery categories scored (e.g., achievement imagery, need, goal anticipation, etc.). The scores for each story are then summed to obtain the total score for each storyteller. The index of agreement between the scores assigned by two coders is usually a correlation coefficient (rank-difference or product moment).

How high should agreement be to be satisfactory? Published research has tended to regard as satisfactory percentage of agreement, or category present agreement, of approximately 85% or more or interscorer correlations of .85 or more (see Smith, Feld, & Franz, 1992). A Kappa of .80 or more is generally regarded as satisfactory (see, e.g., McDowell & Acklin, 1996). Although these are arbitrary standards, they derive from the consideration that accurate measurement would be represented by 100% agreement. In exploratory research, or in the application of a coding system to a new kind of verbal material (e.g., when a system developed for adults is applied to adolescents), a somewhat lower degree of intercoder reliability may be acceptable. A test of statistical significance is rarely, if ever, relevant for a measure of intercoder reliability. The question is not whether agreement is significantly better than chance, but how close it is to perfect.

Finally, after calculating agreement, coders usually discuss their differences and resolve them. In this process, one coder often realizes that he or she missed something, or misinterpreted something, and that the other coder's decision was correct. Thus, the resolved coding is likely to be somewhat more accurate than the index of agreement indicates.

**CODER TRAINING.** The following are required for training: a clear coding manual, ample practice materials, and an opportunity to discuss coding decisions with an expert scorer. A coder should learn to point to the portion of the text that led to a coding decision. The amount of practice required depends primarily on the size and complexity of the coding system. Smith, Feld, and Franz (1992) and Veroff (1992), among others, discuss the training of coders for the scoring of thematic materials, and the training of interview

coders is described in the preceding chapter on coded semistructured interviews (this volume). A researcher may train more coders than are needed and then use only those coders who demonstrate the greatest aptitude.

**COMPUTER-ASSISTED CONTENT ANALYSIS.** Early approaches to computer-assisted content analysis are reviewed by Krippendorff (1980). Of these, the most influential led to the development of the General Inquirer (Stone et al., 1966), a set of computer programs that recognized and classified English words using software "dictionaries" prepared by researchers. Some "general-purpose" dictionaries, such as the Harvard Psycho-Sociological Dictionary, were prepared to deal with a wide variety of social science research problems. Other broadly applicable dictionaries include an anthropological dictionary and dictionaries for categorizing values, group processes, and attitudes (based on the semantic differential). In the research on alcoholism by Kalin et al. (1966) described earlier, a "special-purpose" dictionary was prepared for the General Inquirer consisting of approximately 4,000 words and 95 theoretically relevant categories. By means of preliminary analyses on half of the folktales, the dictionary was refined and was then cross-validated on the other half of the material.

The General Inquirer, now extended to languages other than English, is also useful for information retrieval. It can list all instances of some specified type (e.g. all verbs), search for contingencies (the cooccurrence of two or more categories within a coding unit), or call up for inspection all sentences in which specified words are used. Systematic categorization of all text words and their contexts may disclose aspects of the material that had been overlooked. The General Inquirer has been used to resolve issues of disputed authorship and to discriminate between two sources of verbal material (e.g., genuine and simulated suicide notes).

Aspects of computer-assisted analysis, such as text entry, preediting, and dictionary preparation can be time-consuming; however, software preparation forces the researcher to be explicit about the coding distinctions to be made. The problems of having to preedit text and deal with idioms and syntax have been addressed in software developed by Gottschalk (1995) and his associates for the content-analytic assessment of a number of psychological states and traits. In some instances text entry may be facilitated by optical scanning devices. Alternatively, some kinds of elicited materials may be collected on the computer. For example,

Blankenship and Zoota (1998) found no differences in power motivation scores obtained from handwritten as compared with computer written TAT stories by college men and women.

Pennebaker, Mayne, and Francis (1997) used Linguistic Inquiry and Word Count (LIWC) software to identify empirically four predictors of health-related outcomes from writing samples. Computerized text assessment of these four variables in the bereavement narratives of partners of gay men who had died of AIDS predicted partner adjustment 1 year later.

Miles and Huberman (1994) discussed types of codes for computer-assisted qualitative research and the use of software to identify emergent themes or configurations and to facilitate cross-case analysis. They provided a helpful appendix on choosing computer programs for qualitative data analysis. For example, code and retrieve programs, such as ATLAS, NUDIST, and The Ethnograph, among others, help to divide the text into chunks and attach codes to the chunks. Weitzman and Miles (1995) authored a subsequent volume on computer programs for qualitative data analysis. Also, Hesse-Biber, Dupuis, and Kinder (1997) described a computer-assisted procedure for the qualitative analysis of multimedia data.

At present, the drawbacks of computer use for content analysis include the time required to construct special purpose dictionaries and the limitations of preexisting general purpose dictionaries (see, e.g., McAdams & Zeldow, 1993). Computer-assisted software that requires thematic or abstract conceptual analysis of text, such as that developed for coding achievement motivation, is not yet satisfactory, so far as I am aware. At present the computer may be of greatest value in dealing with large amounts of material, large numbers of variables, contingencies, patterns, and analyses that permit coding categories to emerge, and/or take account of context. Also, text already in the computer can be reanalyzed in terms of revised or alternative coding schemes.

**STATISTICAL ANALYSIS.** Statistics used for the analysis of content-analytic data are illustrated in the references cited (see also Krippendorff, 1980, Ch. 10). Prior to statistical analysis, it may be advisable to correct for the effect on scores of differences in the length of the coded material. Winter (1992) discussed the correction of archival materials for length. For other ways of dealing with differences in length, see Gottschalk and Gleser (1969), Hall and Van de Castle (1966), Pennebaker et al. (1997), and Smith, Feld, and Franz, (1992).

**RELIABILITY AND VALIDITY.** In quantitative research, the *reliability* of scores can refer to one or more aspects of consistency of measurement, namely, internal consistency, consistency between alternative forms, or test-retest consistency. Reliability assessments provide information about the repeatability, unidimensionality, and stability over time of the frequencies or ratings derived from content analysis. "For example, using scores assigned to thematic apperceptive stories, one may obtain measures of repeatability (from alternate forms), homogeneity (internal consistency among scores from different stories) and stability (test-interval-retest)" (Smith, 1995, p. 128). Steps to take to maximize the reliability of thematic measures are recommended by Smith (1992b). Further information about reliability is provided by Holsti (1969) and Krippendorff (1980), as well as in chapters in this volume by Bakeman; Bartholomew, Henderson, and Marcia; and John and Benet-Martinez. In particular, a different approach to reliability, that of generalizability theory, is presented in the chapters by Bakeman and by John and Benet-Martinez (see also a TAT study by Ronan, Date, & Weisbrod, 1995).

The *validity* of content analysis refers to whether coding assesses what it was intended to assess. An unbiased sample and a reliable assessment are necessary, but not sufficient, conditions for validity. High internal consistency is not necessary for validity (see Smith, 1992b). Several different kinds of validity have been distinguished. For content analytic measures the following are most relevant: concurrent validity (a measure can discriminate between existing groups, such as adults high or low in generativity; see Mansfield & McAdams, 1996); predictive validity (a measure can predict subsequent events or behaviors); construct validity (a measure is related as theoretically expected to other relevant variables; see McClelland & Koestner, 1992); and external validity (findings obtained with a measure can be generalized to other populations or contexts).

**CONCLUSIONS REGARDING CONTENT ANALYSIS.** Although labor intensive, content analysis can extract valuable information from qualitative material – information that may not be obtainable by fixed-response methods. Content analysis may be used when sources are aware of being studied and when they are not. And when sources are not available, or cannot remember, surviving documents may provide at least some of the information that is sought. Few other general procedures can be used to study individuals in depth, communications between persons, personal and social changes over time, and societies, past and present.

## PART II: NARRATIVE ANALYSIS<sup>1</sup>

### Overview

Narrative analysis both complements, and differs from, content analysis. Whereas there is general agreement about the characteristics of the content-analytic method, there is no such agreement about narrative analysis. Content analysis is derived from mainstream social science and is used primarily in quantitative research, whereas narrative-analytic systems are derived as much from literary and philosophical analysis as from social science and are used predominantly in qualitative research. Proponents of narrative analysis vary widely in their attitudes toward mainstream social science. Many emphasize subjectivity and reject the "objective," "realist," "positivist-empiricist," and "mechanistic" assumptions of traditional science with its goal of "context-free" and value-neutral laws (e.g., Gergen, 1985; Mishler, 1995; Polkinghorne, 1988; Riessman, 1993; Sarbin, 1986).

Although literary discussions of narrative go back at least to Aristotle's *Poetics*, contemporary narrative analysis dates back only to approximately the 1960s. Early-20th century influences on the study of narrative include Russian literary criticism and linguistics, Russian psychological theories regarding the social determinants of language and thought, and, in England, Bartlett's (1932) research on memory. More recent continental and Anglo-American influences on narrative analysis include structuralism, poststructuralism, hermeneutics, social constructionism, postmodernism, interpretive approaches in anthropology and sociology, and contributions from linguistics and cognitive psychology. For more detail, see Manning and Cullum-Swan (1994) and Riessman (1993).

**WHY STUDY NARRATIVES?** Narrative is regarded as a basic and universal mode of verbal expression (Bruner, 1986; McAdams, 1993; Miller, Hoogstra, Mintz, Fund, & Williams, 1994). Telling about past events is one of the earliest forms of children's discourse (McCabe & Peterson, 1991b; Nelson, 1989). In everyday conversation we recount experiences or tell stories to inform, instruct, entertain, impress, empower, exonerate, or cathart, among other things.

Narrative analysis permits a holistic approach to discourse that preserves context and particularity

<sup>1</sup> I am especially indebted to my colleague, Colette Daiute, and to her course on Narrative Analysis. Her organization of the subject matter and her assigned readings have made a major contribution to my presentation of the topic.



(Riessman, 1993). Advocates believe that narratives yield information that may not be available by other methods (Bruner, 1986; Polkinghorne, 1988; Veroff, Sutherland, Chadiha, & Ortega, 1993). Language transduces thoughts, feelings, and sensory experiences into a shared symbolic form. Thus, language is the medium through which meaning and socially constructed reality can best be studied. Narrative language provides access to subjective experience, providing insights into conceptions of self and identity and opening up new ways of studying memory, language and thought, and socialization and culture. Narratives can also be used for academic and clinical assessment as well as for academic and therapeutic interventions.

**DEFINITIONS.** Most narrative researchers would probably agree that a *narrative* is an oral, written, or filmed account of events told to others or to oneself (monologue), but is *not* verbal material that is purely descriptive, expository (e.g., an explanation of how to assemble furniture), disconnected, or abstract. For our purposes narrative is used to refer to accounts of personal experiences, or the experiences of others, or to fictional accounts, such as stories, myths, folktales, and fairy tales. According to Spence (1982), for most purposes the literal truth of an account of one's experience is not relevant. Spence contrasted historical truth ("what really happened") with narrative truth—"the criterion we use to decide when a certain experience has been captured to our satisfaction" (1982, p. 31).

A related literature on accounts has developed in sociology and in social psychology (see Orbach, 1997). *Accounts* have been defined as "storylike constructions containing description, interpretation, emotion, expectations, and related material" (Harvey, 1995, p. 3). Harvey sees the sociological heritage of this literature in treatments of saving face, justifications of behavior, and ascriptions of responsibility for problematic events. The social psychological heritage is the attribution literature on the way people interpret events.

**PERSPECTIVE, CONTEXT, AND FRAME.** Narratives are characterized by perspective and context. *Perspective* refers to the fact that a narrative contains a point of view toward what happened, telling us what is significant (Gee, 1991). Perspective may also refer to a narrator's taking into account what the listener needs to know (McCabe, Capron, & Peterson, 1991). *Context*, and the related term *frame*, are used variously to refer to (a) external influences on the narrator, (b) ways in which the narrator constructs the narrative, and

(c) characteristics of the resulting text. External influences include the historical period, physical surroundings, and culture (Gee, 1991), as well as the immediate social setting, that is, to whom the person is speaking and for what purpose (Miller et al., 1994; Tannen, 1993). Within the narrative, context has been "variously defined, in terms of an ongoing narrative ("plot"), the immediate semantic environment, [and] the literary tropes operating" (Manning & Cullum-Swan, 1994, p. 464). In narrative the particulars of an episode are embedded in a setting. One part cannot be understood in isolation ("taken out of context") from the rest.

One definition of frame is "an expectation about the world, based on prior experience, against which new experiences are measured and interpreted" (Tannen, 1993, p. 17). The narrator is influenced by frames representing different settings, roles, and cultural backgrounds.

**VARIETIES OF NARRATIVE.** Some authors believe that narrative structure is common to all cultures, whereas others have identified both cultural and individual differences in narrative structure (McCabe, 1997). A common structure was suggested by Propp's (1928/1968) analysis of Russian fairy tales. And indeed, the traditional European American tale tends to include certain common characteristics: a setting, a time-ordered sequence of events, a problem-solving or goal orientation, and a conflict or difficulty to be resolved (Mandler & Johnson, 1977). However, this Eurocentric view has given way to an appreciation that narratives from different cultures differ considerably in their customary form and properties (Gee, 1991; Invernizzi & Abouzeid, 1995; McCabe, 1997), although most narratives, except those of young children, include context, perspective, pattern, coherence, and human or human-like (animate) characters.

**FUNCTIONS OF NARRATIVE.** Reflecting back on events and telling about them can (a) provide meaning and coherence to, and perspective on, experience and one's social traditions (Bruner, 1990); (b) construct a person's knowledge (Bruner, 1986; Daiute, 1995), including a person's sense of self or identity (McAdams, 1993; Miller et al., 1994); (c) produce an organizing principle for human action (McAdams, 1993; Sarbin, 1986); (d) alter the teller's way of thinking about events, and/or sense of identity (McAdams, 1993; Polkinghorne, 1988; Schafer, 1992; Spence, 1982); and (e) bring about emotional adjustment and healing (e.g., McAdams, 1993; Pennebaker et al., 1997). For

listeners, narrative can "raise consciousness," create a shared history and a shared group identity, and preserve and transmit culture.

### Approaches to Narrative Analysis

Approaches are presented here by academic discipline. Mishler (1995) provided a more detailed review, particularly of the anthropological approach. Other treatments of the topic are given by Cortazzi (1993) and Riessman (1993). Helpful resources include *The Journal of Narrative and Life History*, and a Sage Publications series on narratives edited by Josselson and Lieblich.

**LINGUISTICS.** Linguists have studied such properties of narrative as units of meaning, macrostructure, cohesion between sentences, and perspective. Psycholinguists have dealt with language acquisition, development, processing, and pathology, whereas sociolinguists have focused on language in its social context.

**HIGH POINTS ANALYSIS.** Labov's sociolinguistic approach to the semantic function and structure of narrative has been broadly influential. Labov regarded narrative as "one method of recapitulating past experience by matching a verbal sequence of clauses to the sequence of events which actually occurred" (Labov & Waletzky, 1967, p. 20). Labov later modified his view of the temporal sequence in narrative (Mishler, 1995).

For Labov, *referential* clauses present the sequence of events (e.g., "this person had . . . too much to drink and he attacked me"). *Evaluative* clauses indicate the relative importance of the events (e.g., "He was beat up real, real bad"). The structure of a narrative reflects the way the narrator has organized and made sense of experience. According to Labov, a complete narrative consists of an abstract (summary), orientation (person, place, time, situation), complication (series of events terminated by a result), evaluation (point or significance of events, attitude of the narrator), resolution (outcome), and coda (returns perspective to the present; Labov, 1972). Like Aristotle, Labov and Waletzky (1967) stated that the narrator typically emphasizes "the point where the complication has reached a maximum [high point]: the break between the complication and the result" (p. 35). Using a modified high points analysis, Peterson and McCabe (1983) found structural changes in children's narratives between the ages of 3 and 9.

**EPISODIC ANALYSIS.** Episodic or story grammar analysis emphasizes the purposive and goal-seeking aspects of stories (see Peterson & McCabe, 1983). It derives from the work of Rumelhart (1975) and Mandler and Johnson (1977), among others. The basic structure includes one or more characters with motives that cause goal-directed actions ("attempts") that, in turn, cause consequences. This method lends itself to the study of developmental changes in narrative structure and children's understanding of motives, causality, perspective-taking, and planning. Peterson and McCabe (1983) compared the high points and episodic systems and discussed their strengths and weaknesses.

**POETIC STRUCTURE.** Gee (1991) regarded narrative as "a perspective that human beings take on the way in which certain themes fall into a satisfying pattern, a perspective stemming from their social identity and the resources their social group(s) make available to them" (p. 13). Temporal and causal elements are not emphasized. For Gee (1991) "all speech is produced in terms of *lines* (often a clause long) and *stanzas* (a small group of lines with one perspective and a narrow topic)" (p. 9). Gee gives an example of the poetic structure of an oral story told by a 7-year-old that exemplifies an African American cultural tradition of using rhythmic and poetic patterning to construct meaning, rather than linear progress to "the point."

**DEVELOPMENTAL PSYCHOLOGY AND EDUCATION.** Kathryn Nelson (1989, 1993) presented information on young children's narratives beginning with memories of experiences as early as 12 months of age and progressing to relatively complete stories by about the age of 8. Nelson (1989) obtained tape recordings of a female child's spontaneous presleep monologues from 21 months to 36 months of age. Possible functions served by "Emily's" speech are considered, including comprehending experience, self-regulation, problem-solving, and development of self.

Daiute (1995) has studied the construction of knowledge by third- and fourth-graders by means of written accounts of school-related events. She showed that Western-European norms applied to accounts of school-related experiences may not reveal the way children attempt to make sense of academic assignments. For example, the account of a class trip, written on a computer by Brant, a third-grade African American boy, makes no mention of the Renaissance, the intended focus of the outing.

LH SKOOI GO;S TO GARDNER MUSEUM  
 miss Gardner was loveubewul women she lived on the top  
 of the museum she payed the tackes her husbend did the woerks  
 when he died she was left olune all by her self but she  
 made the best of it . . . THE END (Daiute, 1995, p. 3)

This and other assignments suggest that "Brant tended to take a person-centered approach, focusing . . . on a character, the character's relationships, trials, and tribulations. . . . [This] suggests a more general theme - his meta-narrative perhaps - that life is difficult, and people spend considerable action and thought adjusting to the difficulties they face" (p. 24). Daiute (1995) derived an interpretive profile for each child that reflects his or her unique interpretive stance. Such information can help a teacher to understand why a child like Brant is not doing well in school.

The period from middle childhood through adolescence is studied from a feminist perspective by Debold (1995). Her interview procedure stems from prior research on female moral conflicts. Her analysis attempted to identify shifts in self-representation, as well as thoughts or feelings girls cannot or do not wish to talk about.

Other developmental research deals with the effect on children's narratives of parental interaction and of schools (McCabe & Peterson, 1991a), and with accounts of female experiences of moral conflict (Brown, Debold, Tappan, & Gilligan, 1991). Vitz (1990) recommended the use of narrative in moral education as contrasted with exercises in abstract moral reasoning.

**PERSONALITY.** The study of lives by means of narrative materials dates back to Henry Murray, Robert White, and their associates (Murray, 1938). The contemporary narrative analysis of lives began around the 1980s (see Cohler, 1982; McAdams, 1988; Sarbin, 1986). Life stories in social context have been reported by social psychologists, sociologists, and anthropologists (e.g., Angrosino, 1995; Josselson & Lieblich, 1993; Rosenwald & Ochberg, 1992).

McAdams (1993) life span theory of identity illustrates a narrative approach to the study of lives. It traces the determinants and development of the life story from an enduring narrative tone of optimism or pessimism acquired during infancy to the beginning of myth-making in adolescence through the generativity and integrity phases of middle and late adulthood. McAdams (1993) believed that each person constructs the core themes of a life story - a personal myth - that is revised throughout life. The story we compose defines who we are; it gives coherence to experience,

and unity and purpose to life. A life story may contain one or more imagoes (personified idealizations of the self such as "the rebel," "the loyal friend," or "the survivor"). Imagoes representing high or low agency and/or communion are found to be consistent with scores for power and intimacy motivation. McAdams (1993) reported many case studies that illustrate the complex dynamics of life-story construction and show a trend toward the integration of conflicting imagoes in later life.

Many forms of psychotherapy facilitate accounts of personal experiences. Some therapists participate in the coconstruction of a life story that is beneficial for the patient (Schafer, 1992; Spence, 1982). Of current interest is a movement called "narrative therapy," in which both therapists and clients engage in narrative procedures (see White & Epston, 1990).

**COGNITION.** Because most cognitive approaches are not of direct relevance to research in social psychology, they will not be dealt with in detail. Suffice it to say that important work has been carried out on the relation of narrative to encoding (Mandler & Johnson, 1977), schemata (Rumelhart, 1975), and memory (McCabe et al., 1991; Nelson, 1993). *Advances in Social Cognition* (1995, Vol. 8) contains discussions of many of these topics.

**SOCIAL PSYCHOLOGY, SOCIOLOGY, AND ANTHROPOLOGY.** Narrative research from these disciplines shares a social and cultural perspective. Some of it reflects a social constructionist viewpoint (e.g., Gergen, 1985), and/or the interpretive approach to culture (e.g., Geertz, 1973). The social construction of emotion, and of self and identity, are dealt with in the *Journal of Narrative and Life History* (1995, Vol. 5). Work, identity, and narrative are dealt with by Mishler (1992), and *The Narrative Study of Lives* (Lieblich & Josselson, 1994) is devoted to the topics of identity and gender.

Narrative research on the marital experiences of African American and White couples has been conducted by Joseph Veroff and his associates. These researchers developed a joint-narrative interview procedure in which a couple is asked to tell the story of their relationship beginning with how they met (see Veroff et al., 1993). Among other findings, narrative affect measures predicted marital happiness in the third year to a significant extent beyond the predictions of self-report affect measures.

Other topics addressed from a social perspective include abortion activists (Ginsberg, 1989), divorce

(Riessman, 1993), effects on family relationships of disclosure by gay and lesbian children (Ben-Ari, 1995), interpersonal scripts (Demorest et al., 1999) mass media (Berger, 1996), women's health (Riessman, 1993), and comparison of narratives of different social class, ethnic, and cultural groups (Gee, 1991; Invernizzi & Abouzeid, 1995; McCabe, 1997; Tannen, 1993).

### Methodological Considerations

Narrative research methods vary widely, and few sources are devoted primarily to narrative methodology (see Cortazzi, 1993; Mishler, 1986; Peterson & McCabe, 1983; Riessman, 1993). The analysis of life history narratives is discussed by Angrosino (1995) and Geiger (1986).

In general, the steps in narrative research are similar to those of content-analytic research. A clear formulation of the objectives of the research will guide the selection of a system of analysis, the kind of material to be analyzed, and the participants, groups, or societies from which the narratives originate.

A researcher may decide to use one or more existing analysis systems, adapt an existing system, or develop a new one. To teach narrative research methods, Riessman (1993) described her analysis of interview material using three different systems to study such topics as divorce, the effect of welfare policies on single mothers, and women's health.

The research topic, and the system(s) of analysis selected, usually delimit the kind of material (usually accounts of personal experiences or fictional stories) that will yield the desired information. For example, many studies of narrative *structure* have employed story recall. Narrative material may be elicited from participants; recorded from naturally occurring behavior, such as a "talk show"; or obtained from preexisting sources, such as personal documents or collections of folktales. Elicited material may be obtained by means of interviews, recall of a story or a film, or writing samples (e.g., an essay, thematic apperceptive stories). However, interview responses and recalled stories may have different properties (e.g., structural features).

There should be a rationale for the type and number of participants selected and whether one or a few persons are to be studied in depth or many persons are to be studied in less detail (see the earlier discussion of sampling). Developmental studies, such as those reviewed earlier, indicate the ages at which children can provide more or less complete narrative accounts in response to interview or recall procedures.

Transcription of oral narratives is a complex process that can affect interpretations (Mishler, 1986; Riessman, 1993, pp. 11-13, 20, 56ff.). Normally interviews are tape recorded. A videotaped interview provides more information, but may also induce greater self-consciousness. Responses must be transcribed in such a way as to preserve all information that might affect interpretation (e.g., pauses, emphasis, nonverbal communication).

A written or transcribed account is sometimes cast in the form of clauses, or even reorganized in temporal order (Mishler, 1995). Decisions about such matters can affect interpretations. Riessman (1993) discussed transformations and how to decide where interview narratives begin and end. For any transformation or interpretation of accounts, evidence of agreement between independent decisions increases confidence in conclusions.

Validity issues in narrative research are similar to those in any quantitative or qualitative research. However, some advocates of narrative analysis, and of qualitative research, do not regard the concept of validity as directly applicable to narrative research. Riessman (1993, p. 64-69) discussed this issue as well as criteria for judging the quality of narrative research.

### Content Analysis and Narrative Analysis in Perspective

Content analysis has developed within mainstream social science. There is little discussion of its epistemological presuppositions, although some researchers assume, implicitly or explicitly, that language reflects subjective experience. The replicability, internal validity, and external validity of content-analytic research are a function of recognized sampling, measurement, and research design conventions. More consideration has been given in content-analytic than in narrative research to the possibility that third-person accounts (e.g., TAT stories) can reveal information that may be omitted or altered in first-person accounts, such as interview responses.

Content-analytic coding systems might benefit from greater emphasis on information often obtained in narrative analyses regarding context, structure, and linguistic devices indicative of evaluation. Narrative research also suggests caution in assuming the cross-cultural applicability of content-analytic coding systems.

Narrative research may obtain information not usually available by other methods, such as in-depth understanding of the subjective experience of particular

individuals or the modes of thought and emotion characteristic of different cultures. Individual differences in the importance of narrative for personal functioning have received little attention. It seems likely that research employing a variety of methods in addition to narrative analysis to study phenomena such as emotion, self-image, or memory would reveal distinctive contributions made by each method.

Narrative analysis strongly reflects the influence of disciplines outside the behavioral and social sciences. Instead of seeking the explanation of natural phenomena, some narrative analysts seek the interpretation of meaning. Whereas explanations require empirical verification or falsification, interpretations do not. However, some narrative researchers appear to want to have it both ways, that is, to reject traditional science; interpret a relatively small number of narratives, often without evidence of independent agreement; and then attempt empirical generalizations about differences due to age, gender, ethnic groups, or cultures.

Advocates of both content and narrative analysis believe their methods produce information that is not attainable by other means. Although narrative analysis is still seeking its identity, it has already suggested new questions and insights for further study by means of mainstream social science. The future will reveal the distinctive possibilities of both types of analysis.

Finally, social psychological research might benefit from more often availing itself of information provided by different research methods. In some instances information from one method may agree with, or supplement, that obtained by another method. In other instances information from different methods may not be compatible. For example, checklist or scenario-based measures may or may not be consistent with content-analytic measures. In the past some researchers have assumed that objective self-report measures were superior to content-analytic measures because the former were more reliable, even though there was scant evidence for their construct validity. This chapter indicates that an acceptable level of reliability is often attainable for content-analytic or narrative measures and that such measures not only can possess construct validity and predictive validity, but may be the best available measures according to these criteria.

#### REFERENCES

- Allport, G. W. (1942). *The use of personal documents in psychological science* (Bulletin No. 49). New York: Social Science Research Council.
- Ames, P. C., & Riggio, R. E. (1995). Use of the Rotter Incomplete Sentences Blank with adolescent populations: Implications for determining maladjustment. *Journal of Personality Assessment*, 64, 159-167.
- Angrosino, M. V. (1995). Metaphors of ethnic identity: Projective life history narratives of Trinidadians of Indian descent. *Journal of Narrative and Life History*, 5, 125-146.
- Arkhurst, C. (1994). *The thematic apperception test stories of women with and without histories of childhood sexual abuse*. Unpublished master's thesis, City College of New York.
- Aronson, E. (1958). The need for achievement as measured by graphic expression. In J. W. Atkinson (Ed.), *Motives in fantasy, action, and society* (pp. 249-265). Princeton, NJ: Van Nostrand.
- Atkinson, J. W., & McClelland, D. C. (1948). The projective expression of needs: II. *Journal of Experimental Psychology*, 38, 643-658.
- Bales, R. F. (1950). *Interaction process analysis: A method for the study of small groups*. Cambridge, MA: Addison-Wesley.
- Bartlett, F. C. (1932). *Remembering*. Cambridge, England: Cambridge University Press.
- Ben-Ari, A. T. (1995). It's the telling that makes the difference. In R. Josselson & A. Lieblich (Eds.), *The narrative study of lives* (Vol. 3, pp. 153-172). Thousand Oaks, CA: Sage.
- Berelson, B. (1954). Content analysis. In G. Lindzey (Ed.), *Handbook of social psychology* (Vol. 1, pp. 488-522). Cambridge, MA: Addison-Wesley.
- Berger, A. A. (1996). *Narratives in popular culture, media, and everyday life*. Newbury Park, CA: Sage.
- Birney, R. C., Burdick, H., & Teevan, R. C. (1969). *Fear of failure*. New York: Van Nostrand-Reinhold.
- Blankenship, V., & Zoota, A. L. (1998). Comparing power imagery in TATs written by hand or on the computer. *Behavior Research Methods, Instruments, and Computers*, 30, 441-448.
- Brown, L. M., Debold, E., Tappan, M., & Gilligan, C. (1991). Reading narratives of conflict and choice for self and moral voices: A relational method. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development: Volume 2. Research* (pp. 25-61). Hillsdale, NJ: Erlbaum.
- Bruner, J. S. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Bruner, J. S. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.
- Cartwright, D. P. (1953). Analysis of qualitative material. In L. Festinger & D. Katz (Eds.), *Research methods in the behavioral sciences* (pp. 421-470). New York: Dryden.
- Cohler, B. J. (1982). Personal narrative and life course. In P. Baltes & O. G. Brim, Jr. (Eds.), *Life span development and behavior* (Vol. 4, pp. 205-241). New York: Academic Press.
- Colby, A., & Kohlberg, L. (1987). *The measurement of moral judgment* (2 vols.). Cambridge, England: Cambridge University Press.

- Combs, A. W. (1947). A comparative study of motivations as revealed in thematic apperception stories and autobiography. *Journal of Clinical Psychology*, 3, 65-75.
- Cortazzi, M. (1993). *Narrative analysis*. London: Falmer.
- Daiute, C. (1995, June). *Imposing the self on school*. Paper presented at the Twenty-fifth Annual Symposium of the Jean Piaget Society, Berkeley, CA.
- Davis, S. (1990). Men as success objects and women as sex objects: A study of personal advertisements. *Sex Roles*, 23, 43-50.
- Debold, E. (1995, June). *Knowing distress and controlling passion: Development of abstract reasoning and mind-body dissociations in adolescent girls*. Paper presented at the Twenty-fifth Annual Symposium of the Jean Piaget Society, Berkeley, CA.
- Demorest, A., Crits-Christoph, P., Hatch, M., & Luborsky, L. (1999). A comparison of interpersonal scripts in clinically depressed versus nondepressed individuals. *Journal of Research in Personality*, 33, 265-280.
- Dovring, K. (1954-1955). Quantitative semantics in 18th century Sweden. *Public Opinion Quarterly*, 18, 389-394.
- Emmons, R. A., & King, L. (1992). Thematic analysis, experience sampling, and personal goals. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 73-86). New York: Cambridge University Press.
- Funkhouser, G. R. (1973). The issues of the Sixties: An exploratory study. *Public Opinion Quarterly*, 37, 62-75.
- Gee, J. P. (1991). Memory and myth: A perspective on narrative. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 1-25). Hillsdale, NJ: Erlbaum.
- Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.
- Geiger, S. N. G. (1986). Women's life histories: Method and content. *Signs: Journal of Women in Culture and Society*, 11, 334-351.
- Gergen, K. J. (1985). The social constructionist movement in modern psychology. *American Psychologist*, 40, 266-275.
- Ginsburg, F. (1989). Dissonance and harmony: The symbolic function of abortion in activists' life stories. In Personal Narratives Group (Ed.), *Interpreting women's lives: Feminist theory and personal narratives* (pp. 59-84). Indianapolis: University of Indiana Press.
- Gottschalk, L. A. (1995). *Content analysis of verbal behavior*. Hillsdale, NJ: Erlbaum.
- Gottschalk, L. A., & Gleser, G. C. (1969). *The measurement of psychological states through the content analysis of verbal behavior*. Berkeley: University of California Press.
- Hall, C. S., & Van de Castle, R. L. (1966). *The content analysis of dreams*. New York: Appleton-Century-Croft.
- Harvey, J. H. (1995). Accounts. In A. S. R. Manstead & M. Hewstone (Eds.), *The Blackwell encyclopedia of social psychology* (pp. 3-5). Oxford, England: Basil Blackwell.
- Henry, W. E. (1951). The thematic apperception technique in the study of group and cultural problems. In H. H. Anderson & G. L. Anderson (Eds.), *An introduction to projective techniques* (pp. 230-278). Englewood Cliffs, NJ: Prentice-Hall.
- Hesse-Biber, S., Dupuis, P. R., & Kinder, T. S. (1997). New developments in video ethnography and visual sociology - analyzing multimedia data qualitatively. *Social Science Computer Review*, 15, 5-12.
- Holsti, O. R. (1969). *Content analysis for the social sciences and humanities*. Reading, MA: Addison-Wesley.
- Hooker, E. (1957). The adjustment of the male overt homosexual. *Journal of Projective Techniques*, 21, 18-31.
- Hy, L.-X., & Loevinger, J. (1996). *Measuring ego development* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Invernizzi, M. A., & Abouzeid, M. P. (1995). One story map does not fit all: A cross-cultural analysis of children's written story retellings. *Journal of Narrative and Life History*, 5, 1-19.
- Josselson, R., & Lieblich, A. (Eds.). (1993). *The narrative study of lives* (Vol. 1). Newbury Park, CA: Sage.
- Judd, C. M., Smith, E. R., & Kidder, L. H. (1991). *Research methods in social relations* (6th ed.). Fort Worth, TX: Holt, Rinehart & Winston.
- Kalin, R., Davis, W. N., & McClelland, D. C. (1966). The relationship between use of alcohol and thematic content of folktales in primitive societies. In P. J. Stone, D. C. Dunphy, M. S. Smith, & D. M. Ogilvie (Eds.), *The general inquirer: A computer approach to content analysis* (pp. 569-588). Cambridge, MA: MIT Press.
- Korpela, K. M. (1992). Adolescents' favourite places and environmental self-regulation. *Journal of Environmental Psychology*, 12, 249-258.
- Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills, CA: Sage.
- Labov, W. (Ed.). (1972). *Language in the inner city: Studies in the Black English vernacular*. Philadelphia: University of Pennsylvania Press.
- Labov, W., & Waletzky, J. (1967). Narrative analysis: Oral versions of personal experience. In J. Helm (Ed.), *Essays on the verbal and visual arts* (pp. 12-44). Seattle: University of Washington Press.
- Lieblich, A., & Josselson, R. (Eds.). (1994). *The narrative study of lives: Vol. 2. Exploring identity and gender*. Newbury Park, CA: Sage.
- Mandler, J., & Johnson, N. (1977). Remembrance of things parsed: Story structure and recall. *Cognitive Psychology*, 9, 111-151.
- Manning, P. K., & Cullum-Swan, B. (1994). Narrative, content, and semiotic analysis. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 463-477). Thousand Oaks, CA: Sage.
- Mansfield, E. D., & McAdams, D. P. (1996). Generativity and themes of agency and communion in adult autobiography. *Personality and Social Psychology Bulletin*, 22, 721-731.
- McAdams, D. P. (1988). Biography, narrative, and lives: An introduction. In D. P. McAdams & R. L. Ochberg (Eds.), *Psychobiography and life narratives* [Special issue]. *Journal of Personality*, 56, 1-18.
- McAdams, D. P. (1992). The intimacy motivation scoring system. In C. P. Smith (Ed.), *Motivation and personality:*



- Handbook of thematic content analysis* (pp. 229-253). New York: Cambridge University Press.
- McAdams, D. P. (1993). *Personal myths and the making of the self*. New York: William Morrow.
- McAdams, D. P., & Constantian, C. A. (1983). Intimacy and affiliation motives in daily living: An experience sampling analysis. *Journal of Personality and Social Psychology*, 45, 851-861.
- McAdams, D. P., & St. Aubin, E. de. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, 62, 1003-1015.
- McAdams, D. P., & Zeldow, P. B. (1993). Construct validity and content analysis. *Journal of Personality Assessment*, 61, 243-245.
- McCabe, A. (1997). Cultural background and storytelling. *The Elementary School Journal*, 97, 453-473.
- McCabe, A., Capron, E., & Peterson, C. (1991). The voice of experience: The recall of early childhood and adolescent memories by young adults. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 137-173). Hillsdale, NJ: Erlbaum.
- McCabe, A., & Peterson, C. (Eds.). (1991a). *Developing narrative structure*. Hillsdale, NJ: Erlbaum.
- McCabe, A., & Peterson, C. (1991b). Getting the story: A longitudinal study of parental styles in eliciting narratives and developing narrative skill. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 217-254). Hillsdale, NJ: Erlbaum.
- McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McClelland, D. C., Atkinson, J. W., Clark, R., & Lowell, E. L. (1953). *The achievement motive*. New York: Appleton-Century-Crofts.
- McClelland, D. C., & Koestner, R. (1992). The achievement motive. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 143-152). New York: Cambridge University Press.
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, 96, 690-702.
- McDowell, C., & Acklin, M. W. (1996). Standardizing procedures for calculating Rorschach interrater reliability: Conceptual and empirical foundations. *Journal of Personality Assessment*, 66, 308-320.
- McKay, J. R. (1992). Affiliative trust-mistrust. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 254-266). New York: Cambridge University Press.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Miller, P. J., Hoogstra, L., Mintz, J., Fung, H., & Williams, K. (1994). Troubles in the garden and how they get resolved: A young child's transformation of his favorite story. In C. A. Nelson (Ed.), *Memory and affect in development. The Minnesota Symposium on Child Psychology: Vol. 26* (pp. 87-114). Hillsdale, NJ: Erlbaum.
- Mishler, E. G. (1986). *Research interviewing: Context and narrative*. Cambridge, MA: Harvard University Press.
- Mishler, E. G. (1992). Work, identity and narrative: An artist-craftman's story. In G. C. Rosenwald & R. L. Ochsberg (Eds.), *Storied lives: The cultural politics of self-understanding* (pp. 21-40). New Haven, CT: Yale University Press.
- Mishler, E. G. (1995). Models of narrative analysis: A typology. *Journal of Narrative and Life History*, 5, 87-123.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Narayanan, L., Menon, S., & Levine, E. L. (1995). Personality structure: A culture-specific examination of the five-factor model. *Journal of Personality Assessment*, 64, 51-62.
- Nelson, K. (Ed.). (1989). *Narratives from the crib*. Cambridge, MA: Harvard University Press.
- Nelson, K. (1993). Events, narratives, memory: What develops? In C. A. Nelson (Ed.), *Memory and affect in development. The Minnesota symposia on child psychology: Vol. 26* (pp. 1-24). Hillsdale, NJ: Erlbaum.
- Nunnally, J. (1978). *Psychometric theory* (2nd ed.). New York: McGraw Hill.
- Ogilvie, D. M., Stone, P. J., & Schneidman, E. S. (1966). Some characteristics of genuine versus simulated suicide notes. In P. J. Stone, D. C. Dunphy, M. S. Smith, & D. M. Ogilvie (Eds.), *The general inquirer: A computer approach to content analysis* (pp. 527-535). Cambridge, MA: MIT Press.
- Orbuch, T. L. (1997). People's accounts count: The sociology of accounts. *Annual Review of Sociology*, 23, 455-478.
- Osgood, C. E. (1959). The representational model and relevant research methods. In I. D. S. Pool (Ed.), *Trends in content analysis* (pp. 33-88). Urbana: University of Illinois Press.
- Osgood, C. E., & Walker, E. G. (1959). Motivation and language behavior: A content analysis of suicide notes. *Journal of Abnormal and Social Psychology*, 59, 58-67.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
- Pennebaker, J. W., Mayne, T. J., & Francis, M. E. (1997). Linguistic predictors of adaptive bereavement. *Journal of Personality and Social Psychology*, 72, 863-871.
- Peterson, C. (1992). Explanatory style. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 376-382). New York: Cambridge University Press.
- Peterson, C., & McCabe, A. (1983). *Developmental psycholinguistics: Three ways of looking at a child's narrative*. New York: Plenum.
- Peterson, C., Seligman, M. E. P., & Vaillant, G. E. (1988). Pessimistic explanatory style is a risk factor for physical illness: A 35-year longitudinal study. *Journal of Personality and Social Psychology*, 55, 23-27.
- Polkinghorne, D. E. (1988). *Narrative knowing and the human sciences*. Albany: State University of New York Press.
- Propp, V. (1968). *The morphology of the folktale* (2nd ed., rev.). Austin: University of Texas Press. (Original work published 1928.)



- Context and narrative. New York: Basic Books.
- Smith, C. P. (1995). Personal problem-solving scoring of the TAT: Sensitivity to training. *Journal of Personality Assessment*, 64, 119-131.
- Rosenwald, G. C., & Ochberg, R. L. (Eds.). (1992). *Storied lives: The cultural politics of self-understanding*. New Haven CT: Yale University Press.
- Rumelhart, D. E. (1975). Notes on a schema for stories. In D. G. Bobrow & A. Collins (Eds.), *Representation and understanding: Studies in cognitive science* (pp. 211-236). New York: Academic Press.
- Sarbin, T. R. (Ed.). (1986). *Narrative psychology: The storied nature of human conduct*. New York: Praeger.
- Schafer, R. (1992). *Retelling a life: Narration and dialogue in psychoanalysis*. New York: Basic Books.
- Schneider, B., Wheeler, J. K., & Cox, J. F. (1992). A passion for service: Using content analysis to explicate service climate themes. *Journal of Applied Psychology*, 77, 705-716.
- Simonton, D. K. (1981). The library laboratory: Archival data in personality and social psychology. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 2, pp. 217-244). Beverly Hills, CA: Sage.
- Simonton, D. K. (1994). Computer content analysis of melodic structure. *Psychology of Music*, 22, 31-43.
- Smith, C. P. (Ed.). (1992a). *Motivation and personality: Handbook of thematic content analysis*. New York: Cambridge University Press.
- Smith, C. P. (1992b). Reliability issues. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 126-139). New York: Cambridge University Press.
- Smith, C. P. (1995). Content analysis. In A. S. R. Manstead & M. Hewstone (Eds.), *The Blackwell encyclopedia of social psychology* (pp. 125-130). Oxford, England: Blackwell.
- Smith, C. P., Feld, S. C., & Franz, C. E. (1992). Methodological considerations: Steps in research employing content analysis systems. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 515-536). New York: Cambridge University Press.
- Snowdon, D. A., Kemper, S. J., Mortimer, J. A., Greiner, L. H., Wekstein, D. R., & Markesbery, W. R. (1996). Linguistic ability in early life and cognitive function and Alzheimer's disease in late life. *Journal of the American Medical Association*, 275, 528-532.
- Spence, D. P. (1982). *Narrative truth and historical truth: Meaning and interpretation in psychoanalysis*. New York: Norton.
- Stewart, A. J. (1992). Self-definition and social definition. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 481-488). New York: Cambridge University Press.
- Stone, P. J., Dunphy, D. C., Smith, M. S., & Ogilvie, D. M. (1966). *The general inquirer: A computer approach to content analysis*. Cambridge, MA: MIT Press.
- Suedfeld, P. (1996). Thematic content analyses: Nomothetic methods for using Holocaust survivor narratives in psychological research. *Holocaust and Genocide Studies*, 10, 168-180.
- Suedfeld, P., Tetlock, P. E., & Streufert, S. (1992). Conceptual/integrative complexity. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 393-400). New York: Cambridge University Press.
- Tannen, D. (1993). What's in a frame? Surface evidence for underlying expectations. In D. Tannen (Ed.), *Framing in discourse* (pp. 14-55). New York: Oxford University Press.
- Taylor, C. R., Lee, J. Y., & Stern, B. B. (1995). Portrayals of African, Hispanic, and Asian Americans in magazine advertising. *American Behavioral Scientist*, 38, 608-621.
- Thomas, W. I., & Znaniecki, F. (1918, 1919, 1920). *The Polish peasant in Europe and America* (Vols. I & II [1918]; Vol. III [1919]; Vols. IV & V [1920]). Boston: Gorham Press.
- Van de Castle, R. L. (1994). *Our dreaming mind*. New York: Ballantine.
- Veroff, J. (1992). Thematic apperceptive methods in survey research. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 100-109). New York: Cambridge University Press.
- Veroff, J., Sutherland, L., Chadiha, L., & Ortega, R. M. (1993). Predicting marital quality with narrative assessment of marital experience. *Journal of Marriage and the Family*, 55, 326-327.
- Viney, L. L. (1983). The assessment of psychological states through content analysis of verbal communications. *Psychological Bulletin*, 94, 542-563.
- Vitz, P. C. (1990). The use of stories in moral development: New psychological reasons for an old education method. *American Psychologist*, 45, 709-720.
- Weber, R. P. (1990). *Basic content analysis* (2nd ed.). Newbury Park, CA: Sage.
- Weitzman, E. A., & Miles, M. B. (1995). *Computer programs for qualitative data analysis*. Thousand Oaks, CA: Sage.
- Wessman, A. E., & Ricks, D. F. (1966) *Mood and personality*. New York: Holt, Rinehart and Winston.
- Westen, D. (1991). Clinical assessment of object relations using the TAT. *Journal of Personality Assessment*, 56, 56-74.
- White, M., & Epston, D. (1990). *Narrative means to therapeutic ends*. New York: Norton.
- White, R. K. (1947). Black boy: A value analysis. *Journal of Abnormal and Social Psychology*, 42, 440-461.
- White, R. K. (1951). *Value analysis: The nature and use of the method*. Glen Gardner, NJ: Libertarian Press.
- Winter, D. G. (1992). Content analysis of archival materials, personal documents, and everyday verbal productions. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 110-125). New York: Cambridge University Press.