

The new handbook of methods in nonverbal behavior research

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The New Handbook of Methods in Nonverbal Behavior Research
edited by Jinni A. Harrigan, Robert Rosenthal, and Klaus R. Scherer

THE NEW HANDBOOK OF METHODS IN NONVERBAL BEHAVIOR RESEARCH

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FOREWORD

For many years the Handbook of Methods in Nonverbal Behavior Research (Scherer & Ekman, 1982) has served researchers looking for methods to study nonverbal behavior and the expression of affect. This new handbook, *The New Handbook of Methods in Nonverbal Behavior Research* (Harrigan, Rosenthal, & Scherer, 2005), is an updated volume with new material on coding and methodological issues for a variety of areas in nonverbal behavior: facial actions, vocal behavior, and body movement. Issues relevant to judgment studies, methodology, reliability, analyses, etc. have also been updated.

The topics in this volume are broad and include specific information about methodology and coding strategies in education, psychotherapy, deception, nonverbal sensitivity, and marital and group behavior. There is also a chapter detailing specific information on the technical aspects of recording the voice and face, and specifically in relation to deception studies. The material in this volume will be beneficial for both new researchers and those already working in the fields of nonverbal behavior, affect expression, and related topics. One of the outcomes of this volume will be to help in further refining research methods and coding strategies that permit comparison of results from various laboratories where research on nonverbal behavior is being conducted. This will advance research in the field and help to coordinate results so that a more comprehensive understanding of affect expression can be developed.

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INTRODUCTION

JINNI A. HARRIGAN, ROBERT ROSENTHAL, AND
KLAUS R. SCHERER

The renaissance of theorizing and research on emotion in the last 30 years (after decades of neglect during the hegemony first of learning theory and then the excesses of the cognitive revolution) has been primarily due to the influential work on facial expression pioneered by Tomkins (1962, 1963) and vigorously pursued by Ekman (Ekman & Friesen 1975, 1978), Izard (1971, 1991), and their collaborators (Ekman *et al.* 1972, 1982, 1987; Ekman & Rosenberg 1997; Izard *et al.* 1980). Photos with the prototypical expressions of the basic emotions adorn most textbooks of psychology and remind students and researchers alike of the powerful role of nonverbal behavior during emotional episodes. Even though much of present-day emotion research is carried out with paper-and-pencil assessment of verbal reports of emotional experiences, the affective sciences are probably one of the areas that assign a privileged role to the study of the *nonverbal* concomitants of emotional experiences. The chapters in this Handbook are intended to provide an overview of the methodology that is available for this purpose, along with examples from the use of these methods in current research on affective phenomena, focusing on particular channels or modalities of nonverbal expression or on important domains of application. In this introductory chapter, we discuss some of the basic issues inherent in any research activity that aims at the analysis of naturally occurring or experimentally induced behavior on the one hand or the inferences observers draw from such behavior on the other.

It has been 20 years since an earlier volume on research methods in nonverbal behavior research was published—*Handbook of methods in nonverbal behavior research* (Scherer & Ekman 1982). Since then, there have been almost 50 articles and books published each year featuring nonverbal behavior as a subject in its own right (i.e. facial expression, gaze, vocal quality, paralinguistic features, posture and body position, head nods, hand gestures, etc.) or as a measure of various attitudes, personality styles, diagnoses, or abilities. Online Psych Info indicates that 489 articles and books appeared between 1960 and 1981 in which nonverbal behavior was either the subject of study or used as a measure. The number has swelled to over 3000 articles and books since 1982, representing a six-fold increase. Examples include a broad range of research using nonverbal behavior (e.g. in relation to American Sign Language, as a measure of prejudice, as an aid in eyewitness memory, as an indicator of power and status, as reflecting communication difficulties for those suffering anorexia nervosa, as part of courtship signals, as reflecting emotional arousal in alexithymia, in judging personal-

ities of strangers, and in detecting deception). There is hardly an area in the study of human behavior where nonverbal behavior is not involved.

There is a remarkable variety and number of research questions in many areas of psychology, anthropology, sociology, linguistics, psychotherapy, medicine, education, and the law where some form of nonverbal behavior has been used as an index. Consider, for example, studies of infant social development; expressions of attraction, persuasion, prejudice, compassion, compliance, affiliation, etc.; cultural differences in expressive behavior; clinical assessment and intervention; personality and attitude (e.g. extraversion, dominance, independence, defensiveness); legal testimony and jury selection; person perception; language acquisition; job interviews and evaluations; social cognition and information processing. In many of these areas, the assessment of nonverbal behavior serves as a measure of underlying affect. In consequence, the precise measurement of nonverbal behavior and the observer inferences based on it, are of central importance to the affective sciences.

The reasons for the relevance of this Handbook are several. One reason, indicated above, is that there has been a burgeoning of nonverbal behavior research since the earlier methodology volume was published. In addition, since nonverbal behavior is so readily used in research on human behavior (i.e. as a measure and as a subject in its own right), it is studied by researchers and theorists who come from the ranks of many diverse disciplines. A volume focused on research methodology specific to the nonverbal behavior area will enhance the efficiency, reliability, and comparability of the data collected within these diverse disciplines, and will help promote communication among disciplines. Data organized in such a fashion will spur the development of theories to better understand nonverbal behavior and its role in the many facets of human life.

The field of nonverbal behavior has graduated through the developmental stages of any new field, with well-formed subfields of behavior within the general domain of nonverbal behavior. These subfields include: facial actions, vocalizations, eye contact, body movement, and the perception of interpersonal space. Coding procedures have been developed, measures of reliability have been advanced, and specific techniques for data analysis have evolved.

For the new researcher coming into this vast field of inquiry, a methods text is invaluable, permitting the researcher to learn the various subsets of behavioral categorization, recording devices and techniques, appropriate reliability measures, and statistical analyses. Using well-established classification systems and methodological procedures allows researchers to concentrate on their specific questions and on the theoretical implications of their work, rather than having to create behavioral categories, coding strategies, reliability procedures, etc. This will lead to greater efficiency and reliability, and will permit comparability of data collected by different research labs and directed by different research questions. In time, such building on the work of pioneers in the field of nonverbal behavior and their followers, will allow for refinement of measurement techniques and analyses and, overall, will advance knowledge and theory in this rapidly growing field of inquiry.

For researchers from the diverse disciplines who study nonverbal behavior, the opportunity to select measures, coding and recording procedures, and analytic techniques, will allow comparison across research questions and theoretical orientations.

Finally, for the experienced nonverbal behavior researcher, this volume will provide updated material and information about the latest techniques available, presented by experts in the various subfields of nonverbal behavior.

This volume on nonverbal behavior methodology will inject a measure of organization in codification of nonverbal behaviors so that more standard and more reliable data are collected, and results from studies of divergent topics can be compared. To mention but a few examples of recommendations made in different chapters of this Handbook that are likely to greatly enhance the quality of the data and augment the comparability and cumulativeness of the results—recording techniques that ensure high quality of the research records for coding or judgment, observational and experimental designs that allow clear inferences from the behavioral data, objective and reliable measurement of standard sets of parameters in different domains, the use of standard measures of rater or judge reliability and validity, and the regular reporting of information such as confusion matrices and effect sizes.

There was no coherent theory to organize the study of nonverbal behavior in 1982, and today, 20 years later, there is still no articulated theory linking all the various categories of nonverbal behavior in a meaningful way. This state of affairs may be partially due to the different conceptual and categorization systems used to define and code nonverbal behavior. In addition, the amorphous nature, complexity, variety, and interactive quality of nonverbal behavior make it a difficult subject to unify. Describing all of a human being's behavior (save the verbal channel) is a daunting task. Complexities abound in the variety, fluidity, patterning, and environmental influence on single or combined nonverbal behaviors. However, a common theoretical foundation for nonverbal behavior has enormous potential for understanding human behavior. Theoretical progress is being made across the subfields of nonverbal behavior. For example, relationships have been found in the experience of emotion among physiology, facial action, and vocal signals. Associations have been revealed among personality characteristics, nonverbal displays, and medical and psychological conditions.

Technology (in the form, for example, of inexpensive, good-quality videography) has helped immensely in recording, preserving, analyzing, and comparing collected data. In addition to educating new researchers on these available technical methods, this volume will bring together research findings and knowledge from a variety of scattered journals and books.

Another value of this volume is the comprehensive overview of the field by leading researchers who provide informative, scholarly, and empirical as well as theoretical foundations for their work.

In the chapters of this book we will discover how the actions and patterns of the human subject in interactions with others can be studied across a diverse empirical framework. These writings will tell us where the field of nonverbal behavior has taken us in the last 20 years, what and how coding methodologies have been refined, and what is new in recording and data analysis. In summary, this volume will provide an up-to-date overview and hands-on information concerning the many methods and techniques that are available to code or rate affective behavior and emotional expression in different modalities.

The volume, apart from this introduction, is organized into three major sections: basic research methods and procedures, domains of application, and supplemental

materials. The first section describes the basic research methods and procedures in the main subfields in nonverbal behavior: facial actions, vocalizations, and proxemics/kinesics/gaze. These chapters are devoted to discussions of relevant variables, coding strategies and instruments, methodology and research design considerations, and special analytic techniques. Probably the most widely recognized areas in nonverbal behavior are the face and the voice. Each of these chapters includes the most recent research on methods of studying the face (Chapter 2 by Jeffrey Cohn and Paul Ekman) and the voice (Chapter 3 by Patrik Juslin and Klaus Scherer) as signaling systems and offers critical comparisons of the procedures for distinguishing among facial movements and among vocal parameters, with assessment methods and instruments for each of these important subfields. Proxemics (use and perception of interpersonal space), kinesics (body/head movement), and gaze behavior are explored in Chapter 4 (by Jinni Harrigan). This chapter includes delineation of pertinent categories of head and body movement and position, and information on coding instruments and systems developed to describe the various actions of the body. Methods used for studying proxemics and eye contact are covered in this chapter, with attention to relevant variables for operationalizing gaze behavior and spatial parameters in social settings with respect to territoriality, intimacy, personal space, public behavior, and cultural differences. Chapter 5 (by Robert Rosenthal) describes research designs and methods for investigating the inferences observers draw from different nonverbal behaviors in judgment studies. It includes a systematic discussion of such matters as judge sampling and stimulus presentation, as well as various statistical analysis techniques.

The second section (domains of application) involves research investigations using composites of nonverbal behaviors and shows how these variables can be studied and understood in conjunction with one another. We begin with Chapter 6 in which Judy Hall, Frank Bernieri, and Dana Carney describe research methodology and analysis of data on interpersonal sensitivity with respect to the decoding or judging of others' affect and the encoding (i.e. exhibiting) of nonverbal behavior. In Chapter 7, Elisha Babad presents information regarding measurement issues of nonverbal behavior in the classroom from the perspective of the student and the teacher. Ann Kring and Barbara Stuart (Chapter 8) cover methodological issues with respect to psychopathology including both the therapists' and clients' nonverbal behavior, and important considerations for this special population. In Chapter 9, Mark Frank focuses on an area in the nonverbal behavior literature which has received a good deal of attention—deception. There are many important issues regarding the assessment of nonverbal behaviors which can reveal or conceal deceptive communication. Information on coding systems used in research on marital interaction is presented in Chapter 10 (by Dan Yoshimoto, Alyson Shapiro, Kelly O'Brien, and John Gottman). Their work discusses research design points, coding and reliability issues, and decisions for analyzing the intricate interplay of concomitant behaviors (i.e. facial actions, vocal tone, body movement, etc.). In Chapter 11 (by Janine Giese-Davis, Karen Altree Piemme, Caroline Dillon, and Susan Twirbutt), a detailed strategy is presented for coding and integrating variables composed of various nonverbal, vocal, and verbal behaviors that have been combined at a macrovariable level and representing conceptual domains such as emotion regulation, affect suppression, emotional self-efficacy, emotion restraint and repression.

Finally, the chapter in the supplemental materials section (Chapter 12 by Mark Frank, Patrik Juslin, and Jinni Harrigan) contains advice, including important technical information, which can serve as a guide for the acquisition of hardware and the design of the recording process. This section also contains the comprehensive introductory chapter from the first handbook, *Handbook of methods in nonverbal behavior research* (Scherer & Ekman 1982). This chapter is reproduced here, with extensive annotations and additional references, as many of the issues raised in that chapter remain relevant to the concerns of researchers today.

The reviews of the methodology for the measurement of nonverbal behavior in the affective sciences show that high-quality research in this area is complex, often straddling the disciplinary boundaries, costly, and time-consuming. However, the chapters in this Handbook also highlight the rewards, in particular the powerful insights into emotion processes and their role in social interaction gained through this type of research and the important potential for application in health, education, criminology, and organizational behavior. We hope that this volume can counteract the regrettable tendency in the study of affective phenomena to rely primarily on verbal report of felt affect. Feeling states are certainly a very important component of emotion, integrating many of the underlying component processes (Scherer 2004), but provides only one access to the phenomenon. In addition, given the many problems with verbal report, such as reliance on fallible memory, response, and self-presentation biases (Rosenthal & Rosnow 1969), asking people how they feel is hardly a royal road to understanding emotion or a gold standard for the 'true' state of the person (Scherer & Ceschi 2000).

Of course, nonverbal behavior is also subject to control or regulation in the interest of self-presentation or the manipulation of others. However, there is also 'leakage', in the form of markers for the use of display rules (e.g. pressing the lips together—Ceschi & Scherer 2003) or clues to deception (such as micromomentary facial movements—Ekman 2001; see also Chapter 9). Researchers can use such nonverbal cues to evaluate the total pattern of verbal and nonverbal behavior, much of which might be strategically controlled or strategically manipulated. Researchers focusing exclusively on verbal report, especially when it is obtained with standardized scales administered in an anonymous fashion via questionnaire or computer screen, lack this information and have to take the participant's verbal report at face value.

Just as researchers often place greater reliance on the interpretation of subtle nonverbal cues than on verbal statements, in everyday life, we all tend to scrutinize nonverbal facial, vocal, and gestural delivery as we interpret the verbal message. Thus, the inferences made from nonverbal cues constitute a topic of central importance to researchers in the affective sciences. Research has shown the incredible capacity of human beings to extract essential, and often valid, information from very small 'slices' from the stream of nonverbal behavior (Ambady & Rosenthal 1992). Such inferences are often at the root of our first, and often even more lasting impressions, of other people's personality, affect, competence, or behavioral intentions. Most of the processes described above, both with respect to the production of certain behaviors and of the rapid, automatic inferences, operate at an unconscious level and thus would not even be available for verbal report, even if the person concerned did not try to censor the information given or unwittingly bias the report. Thus, it is through the techniques

described in this Handbook that researchers are able to access processes that are of central importance in understanding human affect, especially in sensitive contexts such as interpersonal relations, health, or deception.

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BASIC RESEARCH METHODS AND PROCEDURES
