References

- Adamson, L. B., & Bakeman, R. (1985). Affect and attention: Infants observed with mothers and peers. *Child Development*, 56, 582–593.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Lawrence Erlbaum.
- Allison, P. D., & Liker, J. K. (1982). Analyzing sequential categorical data on dyadic interaction: A comment on Gottman. Psychological Bulletin, 91, 393–403.
- Anderson, T. W., & Goodman, L. A. (1957). Statistical inference about Markov chains. Annals of Mathematical Statistics, 28, 89-110.
- Altmann, J. (1974). Observational study of behaviour: Sampling methods. *Behaviour*, 49, 227–267.
- Altmann, S. A. (1965). Sociobiology of rhesus monkeys. II. Stochastics of social communication. *Journal of Theoretical Biology*, *8*, 490–522.
- Attneave, F. (1959). Applications of information theory to psychology. New York: Henry Holt.
- Bakeman, R. (1978). Untangling streams of behavior: Sequential analysis of observation data. In G. P. Sackett (Ed.), *Observing behavior* (Vol. 2): *Data collection and analysis methods* (pp. 63–78). Baltimore: University Park Press.
- Bakeman, R. (1983). Computing lag sequential statistics: The ELAG program. *Behavior Research Methods & Instrumentation*, 15, 530-535.
- Bakeman, R. (1992). Understanding social science statistics: A spreadsheet approach. Hillsdale, NJ: Erlbaum.
- Bakeman, R., & Adamson, L. B. (1984). Coordinating attention to people and objects in mother-infant and peer-infant interaction. *Child Development*, 55, 1278-1289.
- Bakeman, R., Adamson, L. B., & Strisik, P. (1989). Lags and logs: Statistical approaches to interaction. In M. H. Bornstein & J. Bruner (Eds.), *Interaction in human development* (pp. 241–260). Hillsdale, NJ: Erlbaum.
- Bakeman, R., Adamson, L. B., & Strisik, P. (1995). Lags and logs: Statistical approaches to interaction (SPSS Version). In J. M. Gottman (Ed.), *The analysis of change* (pp. 279– 308). Hillsdale, NJ: Erlbaum.
- Bakeman, R., & Brown, J. V. (1977). Behavioral dialogues: An approach to the assessment of mother-infant interaction. *Child Development*, 49, 195-203.
- Bakeman, R., & Brownlee, J. R. (1980). The strategic use of parallel play: A sequential analysis. *Child Development*, 51, 873–878.
- Bakeman, R., & Brownlee, J. R. (1982). Social rules governing object conflicts in toddlers and preschoolers. In K. H. Rubin & H. S. Ross (Eds.), Peer relationships and social

- skills in childhood (pp. 99-111). New York: Springer-Verlag.
- Bakeman, R., & Casey, R. L. (1995). Analyzing family interaction: Taking time into account. *Journal of Family Psychology*, 9, 131–143.
- Bakeman, R., & Dabbs, J. M., Jr. (1976). Social interaction observed: Some approaches to the analysis of behavior streams. Personality and Social Psychology Bulletin, 2, 335–345.
- Bakeman, R., & Dorval, B. (1989). The distinction between sampling independence and empirical independence in sequential analysis. *Behavioral Assessment*, 11, 31–37.
- Bakeman, R., Forthman, D. L., & Perkins, L. A. (1992). Time-budget data: Log-linear and analysis of variance compared. *Zoo Biology*, 11, 271–284.
- Bakeman, R., McArthur, D., & Quera, V. (1996). Detecting group differences in sequential association using sampled permutations: Log odds, kappa, and phi compared. Behavior Research Methods, Instruments, and Computers, 28, 446-457.
- Bakeman, R., & Quera, V. (1992). SDIS: A sequential data interchange standard. Behavior Research Methods, Instruments, and Computers, 24, 554-559.
- Bakeman, R., & Quera, V. (1995a). Analyzing interaction: Sequential analysis with SDIS and GSEQ. New York: Cambridge University Press.
- Bakeman, R., & Quera, V. (1995b). Log-linear approaches to lag-sequential analysis when consecutive codes may and cannot repeat. *Psychological Bulletin*, 118, 272–284.
- Bakeman, R., & Robinson, B. R. (1994). Understanding log-linear analysis with ILOG: An interactive approach. Hillsdale, NJ: Erlbaum.
- Bakeman, R., Robinson, B. F., & Quera, V. (1996). Testing sequential association: Estimating exact p values using sampled permutations. Psychological Methods. 1, 4–15.
- Bishop, Y. M. M., Fienberg, S. E., & Holland, P. W. (1975). *Discrete multivariate analysis*. Cambridge, MA: MIT Press.
- Box, G. E. P., & Jenkins, G. M. (1970). *Time-series analysis: Forecasting and control.* San Francisco: Holden-Day.
- Brazelton, T. B., Koslowski, B., & Main, M. (1974). The origins of reciprocity: The early mother-infant interaction. In M. Lewis & L. A. Rosenblum (Eds.), *The effect of the infant on its caregiver* (pp. 49-76). New York: Wiley.
- Brennan, R. L. (1983). Elements of generalizability theory. Iowa City: ACT Publications.
- Brown, J. V., & Bakeman, R. (1980). Relationships of human mothers with their infants during the first year of life: Effects of prematurity. In R. W. Bell & J. P. Smotherman (Eds.), *Maternal influences and early behavior* (pp. 353-373). New York: Spectrum.
- Brown, J. V., Bakeman, R., Snyder, P. A. Fredrickson, W. T., Morgan, S. T., & Helper, R. (1975). Interactions of black inner-city mothers with their newborn infants, *Child Development*, 46, 677–686.
- Brownlee, J. R., & Bakeman, R. (1981). Hitting in toddler-peer interaction. *Child Development*, 52, 1076-1079.
- Cairns, R. B., & Green, J. A. (1979). How to assess personality and social patterns: Observations or ratings? In R. B. Cairns (Ed.), *The analysis of social interactions: Methods, issues, and illustrations* (pp. 209–226). Hillsdale, NJ: Lawrence Erlbaum.
- Castellan, N. J. (1979). The analysis of behavior sequences. In R. B. Cairns (Ed.), *The analysis of social interactions: Methods, issues, and illustrations* (pp. 81-116). Hillsdale, NJ: Lawrence Erlbaum.

- Chatfield, C. (1973). Statistical inference regarding Markov chain models. *Applied Statistics*, 22, 7–20.
- Cohen, J. A. (1960). Coefficient of agreement for nominal scales. Educational and Psychological Measurement, 20, 37–46.
- Cohen, J. (1968). Weighted kappa: Nominal scale agreement with provision for scaled disagreement or partial credit. Psychological Bulletin, 70, 213–220.
- Cohen, J. (1977). Statistical power analysis for the behavioral sciences. New York: Academic Press.
- Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences. Hillsdale, NJ: Lawrence Erlbaum.
- Cohn, J. F., & Tronick, E. Z. (1987). Mother–infant face-to-face interaction: The sequence of dyadic states at 3, 6, and 9 months. *Developmental Psychology*, 23, 68–77.
- Condon, W. S., & Ogston, W. D. (1967). A segmentation of behavior. *Journal of Psychiatric Research*, 5, 221–235.
- Conger, A. J., & Ward, D. G. (1984). Agreement among 2 × 2 agreement indices. *Educational and Psychological Measurement*, 44, 301–314.
- Cook, J., Tyson, R., White, J., Rushe, R., Gottman, J., & Murray, J. (1995). The mathematics of marital conflict: Qualitative dynamic modeling of marital interaction. *Journal of Family Psychology*, 9, 110–130.
- Cronbach, L. J., Gleser, G. C., Nanda, H., & Rajaratnam, N. (1972). The dependability of behavioral measurements: Theory of generalizability for scores and profiles. New York: Wiley.
- Crosbie, J. (1995). Interrupted time-series analysis with short series: Why it is problematic; How it can be improved. In J. Gottman (Ed.), *The analysis of change* (pp. 361–398). Hillsdale, NJ: Erlbaum.
- Dabbs, J. M., Jr., & Swiedler, T. C. (1983). Group AVTA: A microcomputer system for group voice chronography. Behavior Research Methods & Instrumentation, 15, 79–84.
- Duncan, S., Jr., & Fiske, D. W. (1977). Face to face interaction. Hillsdale, NJ: Lawrence Erlbaum.
- Edgington, E. S. (1987). Randomization tests (2nd Ed.). New York: Marcel Dekker.
- Ekman, P. W., & Friesen, W. (1978). *Manual for the facial action coding system*. Palo Alto, CA: Consulting Psychologist Press.
- Fienberg, S. E. (1980). *The analysis of cross-classified categorical data*. Cambridge, MA: MIT Press.
- Fleiss, J. L. (1981). Statistical methods for rates and proportions. New York: Wiley.
- Fleiss, J. L. (1986). The design and analysis of clinical experiments. New York: John Wiley.
- Fleiss, J. L., Cohen, J., & Everitt, B. S. (1969). Large sample standard errors of kappa and weighted kappa. *Psychological Bulletin*, 72, 323–327.
- Gardner, W. (1995). On the reliability of sequential data: Measurement, meaning, and correction. In J. M. Gottman (Ed.), *The analysis of change* (pp. 339–359). Hillsdale, NJ: Erlbaum.
- Gart, J. J., & Zweifel, J. R. (1967). On the bias of various estimators of the logit and its variance with application to quantile bioassay. *Biometrika*, 54, 181–187.
- Garvey, C. (1974). Some properties of social play. Merrill-Palmer Quarterly, 20, 163-180.
- Garvey, C., & Berndt, R. (1977). The organization of pretend play. In *JSAS Catalog of Selected Documents in Psychology*, 7, 107. (Ms. No. 1589).

Good, P. (1994). Permutation tests: A practical guide to resampling methods for testing hypotheses. New York: Springer-Verlag.

- Goodenough, F. L. (1928). Measuring behavior traits by means of repeated short samples. *Journal of Juvenile Research*, 12, 230–235.
- Goodman, L. A. (1983). A note on a supposed criticism of an Anderson-Goodman test in Markov chain analysis. In S. Karlin, T. Amemiya, & L. A. Goodman (Eds.), Studies in econometrics, time series, and multivariate statistics (pp. 85-92). New York: Academic Press.
- Gottman, J. M. (1979a). Marital interaction: Experimental investigations: New York: Academic Press.
- Gottman, J. M. (1979b). Time-series analysis of continuous data in dyads. In M. E. Lamb, S. J. Sumoi, & G. R. Stephenson (Eds.), Social interaction analysis: Methodological issues (pp. 207–229). Madison: University of Wisconsin Press.
- Gottman, J. M. (1980a). Analyzing for sequential connection and assessing interobserver reliability for the sequential analysis of observational data. *Behavioral Assessment*, 2, 361–368.
- Gottman, J. M. (1980b). The consistency of nonverbal affect and affect reciprocity in marital interaction. *Journal of Consulting and Clinical Psychology*, 48, 711–717.
- Gottman, J. M. (1981). *Time-series analysis: A comprehensive introduction for social scientists*. New York: Cambridge University Press.
- Gottman, J. M. (1983). How children become friends. *Monographs of the Society for Research in Child Development*, 48(3, Serial No. 201).
- Gottman, J. M. (1990). Chaos and regulated change in family interaction. In P. Cowan and E. M. Hetherington (Eds.), *New directions in family research: transition and change*. Hillsdale, NJ: Erlbaum.
- Gottman, J. M., & Bakeman, R. (1979). The sequential analysis of observational data. In M. E. Lamb, S. J. Suomi, & G. R. Stephenson (Eds.), *Social interaction analysis: Methodological issues* (pp. 185–206). Madison: University of Wisconsin Press.
- Gottman, J. M., & Levenson, R. W. (1992). Marital processes predictive of later dissolution: Behavior, physiology, and health. *Journal of Personality and Social Psychology*, 63, 221–233.
- Gottman, J. M., Markman, H., & Notarius, C. (1977). The topography of marital conflict: A sequential analysis of verbal and nonverbal behavior. *Journal of Marriage and the Family*, 39, 461–477.
- Gottman, J. M., & Parker, J. (Eds.) (1985). Conversations of friends: Speculations on affective development. New York: Cambridge University Press.
- Gottman, J. M., & Ringland, J. T. (1981). The analysis of dominance and bidirectionality in social development. *Child Development*, 52, 393–412.
- Gottman, J., Rose, F., & Mettetal, G. (1982). Time-series analysis of social interaction data. In T. Field & A. Fogel (Eds.), *Emotion and interactions* (pp. 261–289). Hillsdale, NJ: Lawrence Erlbaum.
- Gottman, J. M., & Roy, A. K. (1990). Sequential analysis: A guide for behavioral research. New York: Cambridge University Press.
- Haberman, S. J. (1977). Log-linear models and frequency tables with small expected cell counts. *Annals of Statistics*, 5, 1148–1169.
- Haberman, S. J. (1978). Analysis of qualitative data (Vol. 1). New York: Academic Press.

- Haberman, S. J. (1979). Analysis of qualitative data (Vol. 2). New York: Academic Press.
- Hamilton, G. V. (1916). A study of perserverence reactions in primates and rodents. Behavior Monographs, 3 (No. 2).
- Hartmann, D. P. (1977). Considerations in the choice of interobserver reliability estimates. *Journal of Applied Behavior Analysis*, 10, 103–116.
- Hartmann, D. P. (1982). Assessing the dependability of observational data. In D. P. Hartmann (Ed.)., *Using observers to study behavior: New directions for methodology of social and behavioral science* (No. 14, pp. 51–65). San Francisco: Jossey-Bass.
- Hartup, W. W. (1979). Levels of analysis in the study of social interaction: An historical perspective. In M. E. Lamb, S. J. Suomi, & G. R. Stephenson (Eds.), *Social interaction analysis: Methodological issues* (pp. 11-32). Madison: University of Wisconsin Press.
- Hays, W. L. (1963). Statistics (1st ed.). New York: Holt, Rinehart, & Winston.
- Hollenbeck, A. R. (1978). Problems of reliability in observational research. In G. P. Sackett (Ed.), *Observing behavior* (Vol. 2): *Data collection and analysis methods* (pp. 79–98). Baltimore: University Park Press.
- Hubert, L. (1977). Kappa revisited. Psychological Bulletin, 84, 289-297.
- Jaffe, J., & Feldstein, S. (1970). Rhythms of dialogue. New York: Academic Press.
- Johnson, S. M., & Bolstad, O. D. (1973). Methodological issues in naturalistic observation: Some problems and solutions for field research. In L. A. Hamerlynch, L. C. Handy, & E. J. Mash (Eds.), Behavior change: Methodology, concepts, and practice (pp. 7– 67). Champaign, IL: Research Press.
- Jones, R. R., Reid, J. B., & Patterson, G. R. (1975). Naturalistic observations in clinical assessment. In P. McReynolds (Ed.), Advances in psychological assessment (Vol. 3, pp. 42–95). San Francisco: Jossey-Bass.
- Kemeny, J. G., Snell, J. L., & Thompson, G. L. (1974). *Introduction to finite mathematics*. Englewood Cliffs, NJ: Prentice-Hall.
- Kennedy, J. J. (1983). Analyzing qualitative data: Introductory log-linear analysis for behavioral research. New York: Praeger.
- Kennedy, J. J. (1992). Analyzing qualitative data: Log-linear analysis for behavioral research (2nd ed.). New York: Praeger.
- Knoke, D., & Burke, P. J. (1980). Log-linear models. Newbury Park, CA: Sage.
- Krokoff, L. (1983). The anatomy of negative affect in blue collar marriages. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.
- Landesman-Dwyer, S. (1975). The baby behavior code (BBC): Scoring procedures and definitions. Unpublished manuscript.
- Losada, M., Sanchez, P., & Noble, E. E. (1990). Collaborative technology and group process feedback: Their impact on interactive sequences in meetings. CSCW Proceedings, 53-64.
- Miller, G. A., & Frick, F. C. (1949). Statistical behavioristics and sequences of responses. *Psychological Review*, 56, 311–324.
- Miller, R. G., Jr. (1966). Simultaneous statistical inference. New York: McGraw-Hill.
- Morley, D. D. (1987). Revised lag sequential analysis. In M. L. McLaughlin (Ed.), Communication year book (Vol. 10, pp. 172–182). Beverly Hills, CA: Sage.
- Morrison, P., & Morrison, E. (1961). Charles Babbage and his calculating engines. New York: Dover.
- Noller, P. (1984). Nonverbal communication and marital interaction. Oxford: Pergamon Press.

Oud, J. H., & Sattler, J. M. (1984). Generalized kappa coefficient: A Microsoft BASIC program. Behavior Research Methods, Instruments, and Computers, 16, 481.

- Overall, J. E. (1980). Continuity correction for Fisher's exact probability test. *Journal of Educational Statistics*, 5, 177–190.
- Parten, M. B. (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology*, 27, 243–269.
- Patterson, G. R. (1982). Coersive family process. Eugene, OR: Castalia Press.
- Patterson, G. R., & Moore, D. (1979). Interactive patterns as units of behavior. In
 M. E. Lamb, S. J. Sumoi, & G. R. Stephenson (Eds.), Social interaction analysis:
 Methodological issues (pp. 77-96). Madison: University of Wisconsin Press.
- Pedhazur, E. J., & Schmelkin, L. P. (1991). Measurement, design, and analysis: An integrated approach. Hillsdale, NJ: Erlbaum.
- Rechten, C., & Fernald, R. D. (1978). A sampled randomization test for examining single cells of behavioural transition matrices. *Behaviour*, 69, 217–227.
- Reynolds, H. T. (1984). Analysis of nominal data. Beverly Hills, CA: Sage.
- Rosenblum, L. (1978). The creation of a behavioral taxonomy. In G. P. Sackett (Ed.), *Observing behavior* (Vol. 2): *Data collection and analysis methods* (pp. 15–24). Baltimore: University Park Press.
- Raush, H. L., Barry, W. A., Hertel, R. K., & Swain, M. A. (1974). Communication, conflict, and marriage. San Francisco: Jossey-Bass.
- Sackett, G. P. (1974). A nonparametric lag sequential analysis for studying dependency among responses in observational scoring systems. Unpublished manuscript.
- Sackett, G. P. (1978). Measurement in observational research. In G. P. Sackett (Ed.), Observing behavior (Vol. 2): Data collection and analysis methods (pp. 25–43). Baltimore: University Park Press.
- Sackett, G. P. (1979). The lag sequential analysis of contingency and cyclicity in behavioral interaction research. In J. D. Osofsky (Ed.), *Handbook of infant development* (pp. 623– 649). New York: Wiley.
- Sackett, G. P. (1980). Lag sequential analysis as a data reduction technique in social interaction research. In D. B. Sawin, R. C. Hawkins, L. O. Walker, & J. H. Penticuff (Eds.), Exceptional infant (Vol. 4): Psychosocial risks in infant—environment transactions. New York: Brunner/Mazel.
- Shannon, C. E., & Weaver, W. (1949). *The mathematical theory of communication*. Urbana: University of Illinois Press.
- Shotter, J. (1978). The cultural context of communication studies: Theoretical and methodological issues. In A. Lock (Ed.), *Action, gesture, and symbol: The emergence of language* (pp. 43–78). London: Academic Press.
- Siegel, S. (1956). Nonparametric statistics for the behavioral sciences. New York: McGraw-Hill.
- Smith, P. K. (1978). A longitudinal study of social participation in preschool children: Solitary and parallel play reexamined. *Developmental Psychology, 14*, 517–523.
- Smith, P. K., & Connolly, K. J. (1972). Patterns of play and social interaction in preschool children. In N. Blurton Jones (Ed.), *Ethological studies of child behavior* (pp. 65–95). Cambridge: Cambridge University Press.
- Soskin, W. F., & John, V. P. (1963). The study of spontaneous talk. In R. G. Barker (Ed.), The stream of behavior: Explorations of its structure and content (pp. 228–287). New York: Appleton-Century-Crofts.

- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. Child Development, 48, 1184–1199.
- Stern, D.N. (1974). Mother and infant at play: The dyadic interaction involving facial, vocal, and gaze behaviors. In M. Lewis & L. A. Rosenblum (Eds.), *The effect of the infant on its caregiver* (pp. 187–213). New York: Wiley.
- Suen, H. K. (1988). Agreement, reliability, accuracy, and validity: Toward a clarification. *Behavioral Assessment*, 10, 343–366.
- Suomi, S. J. (1979). Levels of analysis for interactive data collected on monkeys living in complex social groups. In M. E. Lamb, S. J. Suomi, G. R. Stephenson (Eds.), Social interaction analysis: Methodological issues (pp. 119–135). Madison: University of Wisconsin Press.
- Suomi, S. J., Mineka, S., & DeLizio, R. D. (1983). Short- and long-term effects of repetitive mother-infant separations on social development in rhesus monkeys. *Developmental Psychology*, 19, 770–786.
- Taplin, P. S., & Reid, J. B. (1973). Effects of instructional set and experimenter influence on observer reliability. *Child Development*, 44, 547–554.
- Tapp, J., & Walden, T. (1993). PROCODER: A professional tape control coding and analysis system for behavioral research using videotape. Behavior Research Methods, Instruments, & Computers, 25, 53-56.
- Tronick, E. D., Als, H., & Brazelton, T. B. (1977). Mutuality in mother-infant interaction. *Journal of Communication*, 27, 74-79.
- Tronick, E., Als, H., & Brazelton, T. B. (1980). Monadic phases: A structural descriptive analysis of infant-mother face to face interaction. *Merrill-Palmer Quarterly*, 26, 3-24.
- Tuculescu, R. A., & Griswold, J. G. (1983). Prehatching interactions in domestic chickens. *Animal Behavior*, 31, 1–10.
- Uebersax, J. S. (1982). A generalized kappa coefficient. Educational and Psychological Measurement, 42, 181–183.
- Upton, G. J. G. (1978). The analysis of cross-tabulated data. New York: Wiley.
- Wallen, D., & Sykes, R. E. (1974). Police IV: A code for the study of police-civilian interaction. (Available from Minnesota Systems Research, 2412 University Ave., Minneapolis, MN 55414.)
- Wampold, B. E. (1989). Kappa as a measure of pattern in sequential data. *Quality and Quantity*, 23, 171–187.
- Wampold, B. E. (1992). The intensive examination of social interaction. In T. R. Kratochwill & J. R. Levin (Eds.), Single-case research design and analysis: New directions for psychology and education (pp. 93–131). Hillsdale, NJ: Erlbaum.
- Wickens, T. D. (1989). Multiway contingency tables analysis for the social sciences. Hillsdale, NJ: Erlbaum.
- Wickens, T. D. (1993). Analysis of contingency tables with between-subjects variability. *Psychological Bulletin*, 113, 191–204.
- Wiggins, J. S. (1973). Personality and prediction. Reading, MA: Addison-Wesley.
- Williams, E., & Gottman, J. (1981). A user's guide to the Gottman-Williams time-series programs. New York: Cambridge University Press.
- Wolff, P. (1966). The causes, controls, and organization of the neonate. *Psychological Issues*, 5 (whole No. 17).