

LLOYD W. WEST,
*Department of Educational
Psychology,
University of Calgary.*

MAPPING THE COMMUNICATION PATTERNS OF ADOLESCENTS

ABSTRACT: The current academic interest in interpersonal communication is noted and a rationale and technique for mapping the self-disclosure patterns of adolescents is presented. An attempt is made to link the study of interpersonal communication to the mainstream of the ecological systems approach to the behavioral sciences. Counsellors are encouraged to experiment with the clinical usage of the SDIA and to report their experiences in the various publications of the field.

INTRODUCTION

Few research topics are as old and few are as timely as the study of human interaction. In the preface to their book, *Speech behavior and human interaction*, Borden, Gregg, and Grove (1969) observe that researchers have been studying the human communication process for over 5,000 years. Sereno and Mortensen (1970), on the other hand, note the staggering increase in communication research during the past decade.

The current popularity of communication as an object of research stems from a rather pervasive interest in the topic. Once the domain of the humanities and social sciences, interpersonal communication has recently captured the attention of such new disciplines as cybernetics and information theory. Knowler (1966) lists more than 20 academic disciplines which now have a declared interest in some aspect of the topic. Clearly, interpersonal communication has become a multi-disciplinary field.

Unfortunately, the popularity of a field of study does not assure scientific progress in that field. The independent and uncorrelated

pursuits of varied students of human communication have resulted in "a teeming wilderness of facts and notions (Smith, 1966, p. 8)," ". . . a jungle of unrelated concepts, . . . and a mass of undigested, often sterile, empirical data (Westley & MacLean, 1957, p. 31)." Since interpersonal communication is a messy field of study, those who would speak on the topic run the risk of contributing to greater obfuscation. Perhaps the communication patterns of adolescents are sufficiently instructive to counsellors, however, to warrant that risk.

This paper will deal with a very restricted aspect of interpersonal communication. Its major purpose is to provide a rationale and to elaborate a technique for mapping the *self-disclosure* patterns of adolescents. Perhaps we should begin with a definition of our terms. What do we mean by self-disclosure and what is implied by "pattern" and "mapping"?

Self-disclosure, according to Jourard (1964) consists simply in "talking about oneself to another person (p. 21)." Since it is possible to dissemble or misrepresent oneself, however, we must restrict the use of the term to the authentic or veridical information which an individual reports about himself.

All people necessarily communicate, but not all communication is necessarily self-disclosure. One may speak profusely and say very little about himself vis-à-vis the topic of discussion. Objective and impersonal communication is, in fact, the paragon of scientific discourse. Self-disclosure and detached objectivity are "birds of a different feather," yet both have a legitimate place in the affairs of man.

Human communication is not entirely capricious. The research of Rickers-Ovsiankina and Kusmin (1958) and of West (1968) suggests that the individual through a long history of social learning develops relatively stable habits respecting self-disclosure. The extent to which an individual communicates information about himself, the persons to whom that information is communicated, and the degree of caution which he exercises in such communication, collectively comprise his unique *style* or *pattern* of self-disclosure.

Watzlawick, Beavin, and Jackson (1967) contend that "The search for pattern is the basis of all scientific investigation. Where there is pattern there is significance (p. 36)." Random events do not constitute a pattern, but a set of interrelated and regulated events does. When we explore the communication patterns of an adolescent we seek to discover the implicit and perhaps unconscious "rules" which constrain and regulate his communication behavior. For any specific situation these rules may be either functional or self-defeating. In order to help the adolescent overcome self-defeating interpersonal relations, it is useful to consider the implications of the regularities or rules which presently pattern his behavior.

To "map" is simply to represent or to chart in such detail that patterns, configurations, and relationships become apparent. Through mapping patterns of self-disclosure we gain insight into the transactions which occur between persons and the behavioral assumptions that underlie their communicative exchanges.

Before elaborating upon the mapping technology, we must first give some attention to the rationale or theoretical framework that justifies its usage.

AN ECOLOGICAL SYSTEMS APPROACH

It was previously observed that human communication is a multi-disciplinary field and one which is somewhat disorganized. Scholars in the field have been busily doing their own thing, creating extraneous theories, and conjuring neologisms. Far too little attention has been paid to a disciplined and coordinated study of the topic. This picture, however, is changing. Many students of interpersonal communication, virtually trapped in a private and largely unproductive cul-de-sac, are beginning to recognize the need for some organizing and unifying frame of reference. Increasingly, it is believed that General Systems Theory can provide the required perspective (von Bertalanffy, 1968). Accordingly, this paper will not present a novel theory. Rather, it will attempt to link the rationale for mapping the communication patterns of adolescents to the mainstream of the ecological systems approach.

The literature which lucidly describes the systems approach is widely scattered and difficult to track. I must, therefore, present a brief overview for the benefit of those who are unfamiliar with the topic.

Generally speaking, any identifiable whole comprised of interdependent and interrelated parts may be construed as a system. An automobile may be viewed as a system of interrelated mechanical parts. A society is a system comprised of interdependent people. The mission of Apollo II, which transported man to the moon, was a highly organized system of interrelated tasks and functions. A philosophy may be studied as a coherent system of ideas, and religion may be seen as a system of beliefs, values, and commitments. What we choose to identify and study as a system is rather arbitrary provided we take cognizance of its relationship to other systems.

Essentially, the ecological system approach is a holistic approach which pays very close attention to the interrelatedness and interdependence of the constituents of a whole. According to Kast and Rosenzweig (1970), Kurt Lewin was among the first psychologists to adopt a holistic approach to the study of personality. Lewin found intrapsychic explanations quite inadequate. He insisted that in order to understand the individual we must take into account his environment or total phenomenal field. Sullivan (1953) moved even farther toward a holistic approach by viewing personality as an elaboration of social relationships. Today, several psychologists, notably Carson (1969) and Bales (1970), approach personality almost entirely through an exploration of the transactions which occur between persons.

For a very excellent book entitled, *Pragmatics of Human Communication*, Watzlawick, Beavin, and Jackson (1967) developed an explicitly ecological systems frame of reference. These writers introduce their thesis with the following ecological illustration:

The fox population of a certain area in Northern Canada shows a remarkable periodicity in the increase and decrease of its members. In a cycle of four years it reaches a peak, declines to near extinction, and finally starts rising again. If the attention of the biologist were limited to the foxes, these cycles would remain unexplainable, for there is nothing in the nature of the fox or of the whole species that would account for these changes. However, once it is realized that the foxes prey almost exclusively on wild rabbits, and that these rabbits have almost no other natural enemy, this *relation between* the two species provides a satisfactory explanation for an otherwise mysterious phenomenon (Watzlawick, Beavin, & Jackson, 1967, p. 19).

After providing other illustrations of this sort, the writers contend that:

... a phenomenon remains unexplainable as long as the range of observation is not wide enough to include the context in which the phenomenon occurs. Failure to realize the intricacies of the relationships between an event and the matrix in which it takes place, between an organism and its environment, either confronts the observer with something "mysterious" or induces him to attribute to his object of study certain properties the object may not possess (p. 20).

By failing to take system relationships into account, psychologists of the past have inappropriately attributed a mass of peculiarities to the individual, the singular focus of their study. Consider the following situations: if others are engaged in meaningless cocktail banter, but you have more exciting things to do and to think about, have you some personality quirk like "introversion"? Might you not be an "extrovert" under the circumstances? And if you are visibly disturbed because "all of those about you are losing their heads and blaming it on you," do you possess some mental or emotional disease? Is it not reasonable to be disturbed in a disturbing situation?

I suspect that monadic personality descriptions which ignore systemic relationships will shortly be regarded as fictions hardly good enough to amuse children. When Sears (1951) first charged that psychologists tend to think monadically, he was criticizing their limited focus on the behavior of a single individual and their failure to take interrelatedness and interdependence into account. The ecological systems approach is an antidote to such monadic thinking.

Aureswald (1968), an eloquent spokesman for the ecological systems approach, believes that the helping professions, by failing to observe the total set of interlocking systems which surround the individual, are "often in the position of a man desperately trying to replace a fuse when it is the entire community power line that has broken down (p. 207)." He suggests that counsellors should concern themselves less with defense mechanisms, repressed conflicts, and psychological traits, and should devote their full attention to helping the family and significant others provide maximum support for their client. Aureswald is convinced that if we could identify the "lacks and distortions in the transactional arena of each interface (p. 212)" we would know what

was needed and the task of the helping person would be automatically defined. At this point I would emphasize that we map the communication patterns of adolescents expressly for the purpose of determining the quality of transaction at the interface between the adolescent and significant others.

Arthur Koestler (1967) also has made a significant contribution to our understanding of man's interdependence and interrelatedness to his world by observing that "parts" and "wholes" in an absolute sense simply do not exist anywhere. Every existent, including man, is a "holon," i. e., both a whole and a part. Man is a complete system and a component of a supersystem, depending on the way you look at it. Looking inwardly, he sees himself as an autonomous whole, but looking outwardly, as a dependent part. His *self-assertive tendency* is a manifestation of his autonomy and wholeness. His *integrative tendency* is an expression of his dependence upon a supersystem which is larger than himself. Man does seek inner direction: freedom and autonomy, but he also seeks outer direction: order and belongingness. He seeks to be known by others, but he also seeks anonymity. He seeks participation with others, but he also seeks solitude and privacy. The systems approach and the concept of the "holon" help us to integrate these otherwise apparent contradictions. Moreover, we need not wax mystical, nor create demons with Rollo May, in order to accept, integrate, and synthesize the *yin* and the *yang*. The healthy or fully functioning person, from an ecological systems perspective, is one who can effectively counter-balance the opposing forces of "partners" and "wholeness" which are inherent in the hierarchical structure of all systems.

Perhaps these comments will suffice as an introduction to the systems approach. We must bear in mind, however, that there are many systems principles to which we have not even alluded. You, no doubt, will hear a great deal of the systems approach in the future. It has relevance to all aspects of counselling and is rapidly gaining the attention of the helping professions.

In an article published in the *Canadian Counsellor*, I suggested that there was "a time and a place for *disclosing* and a time and a place for *concealing* (West, 1970)." I am more convinced of this position today than I was four years ago. Self-disclosure can effectively serve as a bridge or interface between otherwise isolated individuals linking them together in synergic relationship. The "Janus face" which sees our partness impels us toward such integration, but the face which perceives our wholeness commands us to protect our individuality and our dignity by preserving a modicum of privacy (Koch, 1971). Contrary to an over-simplified but popular view, spontaneous or unrestricted self-disclosure is patently maladaptive and, fortunately, practised by very few. With deference to Albert Ellis, we declare the spontaneous disclosure rule to be the epitome of irrational assumptions.

Social psychologists have given considerable attention to the study of the primary group and it is generally agreed that the family, close relatives, and intimate friends comprise the most vital, lasting, and

influential force in the psychosocial development of the adolescent. Even in the educational arena, James S. Coleman (1966) found that the characteristics of the primary and peer groups accounted for more variance in academic achievement than such variables as teaching method, class size, and school facilities. For these reasons we have chosen to focus upon the "symbiont system" in mapping the communication patterns of adolescents. A symbiont system may be defined simply as consisting of an adolescent subject and specified significant others.

There are an enormous variety of environmental influences at work upon the individual. If we had to treat each stimulus as a separate and unique event, the effects of which had to be independently worked out, the problem of systematic analysis would be insurmountable. A science of human behavior depends upon our ability to reduce an enormous variety of influences to relatively few practical indicators. Because the symbiont system provides a critical influence on the development of the adolescent and because this influence is largely mediated through communication, we suggest that the self-disclosure patterns of the adolescent within the symbiont system can provide these parsimonious indicators.

Perhaps some comment on the special status of self-disclosure is required. Jourard (1964) maintains that through self-disclosure the individual not only becomes known to others but also becomes vulnerable. Those who know his needs can "help him to meet them or else ensure that they will not be met (Jourard, 1964, p. 3)." In other words, the target of self-disclosure gains reinforcement power — the power to influence or "shape" the behavior of the discloser. We, therefore, postulate a functional relationship between amount of self-disclosure to a target and the influence or reinforcement power of that target. Through mapping the disclosure patterns of adolescents, we discover who has been granted "the power and the glory" to shape their behavior. It is suggested, therefore, that an idiographic study of the adolescent should always begin with an inventory of his communication patterns, within the symbiont system.

METHODOLOGY

The technique for mapping the communication patterns of adolescents which is presented in this paper is based upon an approach developed by Sidney Jourard and Paul Lasakow (1958). These investigators designed a self-report questionnaire to elicit data that could be analyzed with reference both to *content* (i. e., "what" the subject discloses) and *target* (i. e., the person "to whom" he discloses). Since the Jourard Self-disclosure Questionnaire (JSDQ) was designed primarily for use with college students, West and Zingle (1969) developed a similar instrument to investigate the communication patterns of adolescents. This inventory, The Self-disclosure Inventory for Adolescents (SDIA), has stimulated considerable interest and has proved both useful and reliable in research work. We are aware of no similar instrument for surveying the communication patterns of adolescents which has been so carefully developed and thoroughly tested.

The SDIA consists of 48 topical items which make reference to the individual and/or his "proprium" by use of the personal pronouns "I" or "my." The subject reads each item and circles one of a set of four response options (never, hardly ever, sometimes, or often) to indicate the degree to which that item becomes a topic of conversation with a designated target (mother, father, friend of the same sex, etc.).

Item content may be classified into six broad categories: school, health, economic, personal, family, and boy-girl relations. Although the 48 items of the SDIA were initially designed and placed in the preceding categories on an *a priori* basis, recent factor analytic studies (yet to be reported) give some empirical support to the original classification. We must not assume, however, that interpersonal communication always falls into discrete topical categories. "Appetite and food preferences," for example, are not exclusively health topics. "The responsibilities I have at home" are frequently discussed in connection with economic concerns and the item "How wealthy or poor my family is" relates both to a discussion about the family and to economic concerns. Of particular interest is the fact that the item on embarrassing situations loads highly on "school" and "boy-girl relations" as well as on the "personal" factor. Apparently school life and boy-girl relations provide the major settings in which the typical adolescent experiences embarrassment.

Since the SDIA has been described (West, 1968; West & Zingle, 1969) and studies of its reliability and validity (West & Zingle, 1969; West, 1971) have been reported elsewhere, I shall not labor you with those details. It will be sufficient for our purposes simply to note that the SDIA can provide a useful, reliable, and valid measure of the degree to which an adolescent communicates about himself in each of six content areas and to any specified symbiont. It also provides a summary score representing the total amount of disclosure on all topics to each target.

Research clearly indicates that the content and amount of self-disclosure varies considerably with sex of subject and with target or recipient of disclosure. For example, on the basis of available normative data, a raw score of 8 for disclosure of boy-girl relations to mothers would represent the 45th percentile for girls, but the 78th percentile for boys. Obviously girls typically communicate more about this topic to mothers than do boys. With respect to targets, a raw score of 6 in the economic category for girls would represent the 2nd percentile for disclosure to mothers, the 15th percentile for disclosure to fathers, the 56th percentile for disclosure to friends of the opposite sex, and the 99th percentile for disclosure to teachers. It should be clear that a meaningful interpretation of disclosure scores must be based on some normative guidelines. The same absolute degree of self-disclosure has different meanings for boys and girls and for different targets.

Tentative percentile norms based on a sample of 191 Edmonton and Calgary girls and 185 Edmonton and Calgary boys are now available. Since percentile norms are not amenable to arithmetical operation, means and standard deviations for the total inventory and for

each topical subscale are also provided. Although the present norming samples are neither large nor statistically representative of adolescents in general, a cautious use of the available norms permits us to draw reasonable inferences from an SDIA protocol.

Scoring the SDIA can be somewhat tedious. For individual cases, hand scoring can be efficient, but for a large number of cases computer scoring is highly recommended. The hand-scoring procedure involves the following steps: (a) Assign the weights "0" for "never," "1" for "hardly ever," "2" for "sometimes," and "3" for "often" to each item response; (b) If W_i represents the weight assigned to the i^{th} item of the inventory, then subscale scores are computed as indicated in Table 1.

Table 1
Computing Topical Subscale Scores for the SDIA

Topical Subscale	Computation of Subscale Score
1. School	$W_1 + W_7 + W_{10} + W_{12} + W_{17} + W_{22} + W_{38} + W_{46}$
2. Economic	$W_5 + W_8 + W_{19} + W_{24} + W_{29} + W_{33} + W_{41} + W_{47}$
3. Health	$W_2 + W_9 + W_{13} + W_{21} + W_{27} + W_{31} + W_{34} + W_{37}$
4. Personal	$W_{11} + W_{14} + W_{25} + W_{28} + W_{32} + W_{42} + W_{44} + W_{48}$
5. Family	$W_3 + W_6 + W_{15} + W_{23} + W_{26} + W_{35} + W_{39} + W_{45}$
6. Boy-Girl Relations	$W_4 + W_{16} + W_{18} + W_{20} + W_{30} + W_{36} + W_{40} + W_{43}$

(c) To compute the total score for disclosure to a specific target sum the weights assigned with reference to that target to all items of the inventory

48

(i.e., $\sum_{i=1} W_i$); and (d) Note that the preceding scoring procedure must be

carried out separately for each target.

The hand scoring procedure can be greatly facilitated by using a simple record form designed to serve the unique purposes of the investigator. At the University of Calgary we have reduced the considerable labor of scoring by using CDC computer facilities, the *Statistical Package for the Social Sciences* (Nie, Bent & Hull, 1970), and appropriate COMPUTE cards based on Table 1.

Scoring the SDIA produces a matrix of raw scores such as that illustrated in Table 2.

As previously noted, these scores must then be referred to a table of relevant norms if reasonable inferences are to be drawn. The SDIA scores presented in Table 2 are those of a 12-year-old boy who was referred by the school system to a university-based family counselling

Table 2
SDIA Scores for a 12-year-old Boy in Raw-score Form

TARGET	Topical Subscale						Totals
	School	Economic	Health	Personal	Family	Boy-Girl Relations	
Mother	12	9	16	6	5	3	51
Father	8	9	15	7	4	1	44
Friend (Same Sex)	12	10	10	10	9	1	52
Teacher	0	0	0	0	0	0	0

service designed to help reticent and withdrawn boys. The absolute level of disclosure to specified targets is directly apparent from the table. The subject, for example, appears to communicate somewhat more openly with his mother than with his father and appears completely closed to his teacher. How atypical is this lad's communication with significant others? It is this question which requires reference to some norming group.

Table 3
Percentile Scores on SDIA for a 12-year-old Boy

TARGET	Topical Subscale						Totals
	School	Economic	Health	Personal	Family	Boy-Girl Relations	
Mother	27	15	84	24	27	41	27
Father	22	25	88	48	32	24	36
Friend (Same Sex)	25	28	57	30	31	6	18
Teacher	7	70	54	49	57	77	5

For illustrative purposes only, Table 3 presents the same SDIA results in percentiles based upon the only available norms. Note the additional meaning which attaches to these scores. Compared to adolescent boys of the norming sample, the subject communicates a great deal about health matters. Indeed, relative to other topics he appears to be preoccupied with health concerns. This preoccupation, incidentally, can be explained by the subject's concern about his small and fragile physical appearance. Moreover, the fact that he discloses so little about many topics to teachers is by no means atypical (at least for adolescents) and perhaps should not unduly concern us. The relatively low level of communication with teachers about *school concerns*,

however, is quite a different matter and does merit our attention. The total SDIA profile thus generates hypotheses regarding both targets and topics to which attention should be given in our efforts to "open" channels of communication with significant others.

The SDIA may be regarded as a survey, diagnostic, or information collecting instrument which enables us to map the self-disclosure patterns of adolescents. In research it enables us to investigate the correlates of various disclosure patterns and in counselling it enables us to gather information upon which to base counselling decisions and to stimulate informed discussion regarding interpersonal communication. Although the SDIA has had considerable use in research, its usefulness to counsellors remains to be tested in practice. I would therefore encourage counsellors to experiment with the clinical usage of the instrument and would urge them to report their experiences in so doing.

Before concluding, I would like to emphasize some limitations to our present technology and some cautions to be observed. Ideally, the mapping of communication patterns should go beyond tables to graphical representation. A single graph can say more than many words but graphs can also be misleading. A bar which is twice as long as another has the appearance of representing a quantity twice as great. Such representation is inappropriate to measures which have not been made on a ratio scale. Yet, few of the measures in education and psychology meet the requirements of even an interval scale. Graphing percentile scores can be particularly misleading. The 80th percentile does not indicate twice the quantity indicated by the 40th percentile. Moreover, the difference between the 70th and 80th percentile is not equivalent to the difference between the 50th and 60th percentiles. If pictorial representation of SDIA scores is desired, it is recommended that this representation should be based only on raw scores. Although percentile scores have interpretive value they should not be used in graphical representation.

Secondly, if we are to observe the total systems approach we must not restrict our attention to a single subset of interfaces within the system. An interface, for our purposes, is simply a point of contact, a pair-bond, or a channel of communication between any two members of a system. A system comprised of two members has only one internal interface as illustrated in Figure 1.

Systems comprised of 3 members have 3 such interfaces, those comprised of 4 members have 6, and those comprised of 5 have 10. The general formula for calculating the number of possible interfaces within a bounded symbiotic system is: $I = n(n-1)/2$, where n equals the number of persons regarded as members of the system.

Consider a symbiotic system consisting of an adolescent subject, his mother, father, two brothers, a sister, and three close friends. Using the general formula, we calculate the existence of 36 possible interfaces. The SDIA, however, explores the transactions which occur only at 8 of these interfaces, namely those which link to the subject. Unless we go beyond SDIA information we may fail to attend to some important communications about the subject which occur among other

members of the system, for example, between mother and father, or between sister and girl friend. Such communication has a considerable impact upon the climate in which the adolescent lives and therefore must not be totally ignored.

Finally, we must keep in mind that it takes at least two to communicate. Hence, the amount and nature of communication which occurs between two persons cannot be considered the property or an attribute of one. There are many ways in which the behavior of one individual affects the communication of another. Jourard (1964) refers to the dyadic effect whereby the self-disclosures of one individual elicit self-disclosure from the other. Barrowcliffe (1971) found that adolescent boys disclose more to authoritarian fathers than to permissive fathers. He speculated that authoritarian fathers, perhaps, forcefully extract disclosures from their sons whereas permissive fathers show greater respect for privacy. Whatever the explanation, the conditions under which disclosures are made cannot safely be ignored. As personality constructs, communication patterns and self-disclosure are conspicuously confounded. They do, however, characterize *relationship* and provide a rather faithful index of the nature of exchange at the interface between members of a symbiont system.

RESUME: On discute de l'intérêt dans le milieu académique pour les problèmes de communication et on présente un rationnel et une technique pour identifier les formes de révélation du soi des adolescents. On s'efforce de relier l'étude de la communication interpersonnelle à l'approche écologique des sciences du comportement. On encourage les conseillers à expérimenter l'usage clinique de la technique et de faire rapport de leurs observations dans des publications qui touchent au domaine.

NOTE: Single copies of the SDIA and available norms may be obtained from the writer.

REFERENCES

- Aureswald, E. H. Interdisciplinary versus ecological approach. *Family Process*, 1968, 7(2), 202-215.
- Bales, R. F. *Personality and interpersonal behavior*. New York: Holt, Rinehart & Winston, 1970.
- Barrowcliffe, W. T. Target authoritarianism as a correlate of self-disclosure of adolescents. Unpublished M. Ed. thesis, University of Calgary, 1971.

- Borden, G. A., Gregg, R. B., & Grove, T. G. *Speech behavior and human interaction*. New Jersey: Prentice-Hall, 1969.
- Carson, R. W. *Interaction concepts of personality*. Chicago: Aldine, 1969.
- Coleman, J. S. *Equality of educational opportunity*. Washington, D.C.: U.S. Government Printing Office, 1966.
- Jourard, S. M. *The transparent self*. New York: von Nostrand, 1964.
- Jourard, S. M., & Lasakow, P. Some factors in self-disclosure. *Journal of Abnormal Sociology and Psychology*, 1958, 56, 91-98.
- Kast, F. E., & Rosenzweig, J. E. *Organization and management: A systems approach*. New York: McGraw-Hill, 1970.
- Knowler, F. H. The present state of experimental communication research. In Reid, P. (Ed.), *The frontiers in experimental speech communication research*. New York: Syracuse, 1966.
- Koch, S. The image of man implicit in encounter group theory. *Journal of Humanistic Psychology*, 1971, 11, 109-127.
- Koestler, A. *The ghost in the machine*. New York: Macmillan, 1967.
- Nie, N. H., Bent, D. H., & Hull, C. H. *Statistical package for the social sciences*. New York: McGraw-Hill, 1970.
- Rickers-Ovsiankina, M. A., & Kusmin, A. A. Individual differences in social accessibility. *Psychological Reports*, 1958, 4, 391-406.
- Sears, R. R. A theoretical framework for personality and social behavior. *American Psychologist*, 1951, 6, 478-479.
- Sereno, K. K., & Mortensen, C. D. *Foundations of communication theory*. New York: Harper & Row, 1970.
- Smith, A. G. *Communication and culture*. New York: Holt, Rinehart & Winston, 1966.
- Sullivan, H. S. *The interpersonal theory of psychiatry*. New York: Norton, 1953.
- von Bertalanffy, L. *General systems theory*. New York: Braziller, 1968.
- Watzlawick, P., Beavin, J. H., & Jackson, D. D. *Pragmatics of human communication*. New York: Norton, 1967.
- West, L. W. Patterns of self-disclosure for a sample of adolescents and the relationships of disclosure style to anxiety and psychological differentiation. Unpublished doctoral dissertation, University of Alberta, 1968.
- West, L. W. Some implications of self-disclosure studies for group counseling with adolescents. *Canadian Counsellor*, 1970, 4, 57-62.
- West, L. W. A study of the validity of the Self-Disclosure Inventory for Adolescents. *Perceptual and Motor Skills*, 1971, 33, 91-100.
- West, L. W., & Zingle, H. W. A self-disclosure inventory for adolescents. *Psychological Reports*, 1969, 24, 439-445.
- Westley, B., & MacLean, M. A conceptual model for communication research. *Journalism Quarterly*, 1957, 34, 31-38.