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Satisfaction, Dissatisfaction, And Self-Actualization Among Top Level Employees Of The City Of Albuquerque - An Appraisal Of Organizational Climate.

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BY
VERN H. CURTIS
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THESIS

Submitted in Partial Fulfillment of the
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ABSTRACT OF THESIS

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ABSTRACT

Having problem areas and potential problem areas identified within one's organization would be welcomed by most, if not all, administrators. It was the purpose of this thesis to identify and isolate any potential problem area or areas concerning high level personnel of the City of Albuquerque; also to establish any relationship between self-actualization and Rensis Likert's organizational climate model.

The primary tools for determining problem areas were a self-actualization test and Likert's semantic differentials which characterize an organization's climate. Each department in the City was compared to the City in total to determine any differences with respect to these two measures. Any differences were tested to determine if they were statistically significant. The comparison of self-actualization and organizational climate variables was accomplished by analysis of their correlation coefficients. Through the use of t-Test analysis it was then determined if any coefficients were statistically significant.

It was found that only one of the 18 departments was significantly different than the City in total with regard to self-actualization. However, 15 departments had one or more organizational variables that were significantly

different than the City in total. With the use of the various exhibits and appendices, each department should be able to take an objective look at its own strengths and weaknesses.

It was also found that thirty-six of Likert's fifty organizational variables had a statistically significant correlation with self-actualization. Thirty-five were positive and one was negative.

Satisfaction, dissatisfaction, and organizational "trends" since 1963 were also viewed, but few distinctive or significant conclusions could be drawn.

Hopefully the City of Albuquerque, in total and as individual departments, will use the results and develop programs or actions parallel to their needs. Moreover, this study points to some possible new relationships between the concept of self-actualization and various types of organizational climates.

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CHAPTER I

INTRODUCTION

A. STATEMENT OF THE PROBLEM

Personnel problems are recurrent aspects of both private and public administration. Individuals responsible for administering or supervising personnel generally agree that one of the most difficult problem areas lies in the motivation of their personnel. Many aspects of motivation and work have been explored in business and industry, but few studies have dealt directly with the problems of high level public administration.

This thesis deals with high level employees of the City of Albuquerque, New Mexico. In order to develop a systematic analysis of the City of Albuquerque, an interview was conducted with Colonel George Schold, Director of Personnel in the City.[1] This interview documented a series of "problems" as perceived by the Personnel Department. These "problems" are interrelated but bridge separate administrative areas:

1) the recruitment of competent personnel

2) the retaining of competent personnel

3) the identification of potential problem areas.

This thesis will attempt to probe beneath these "problem" areas, and identify the variable relationships which may give

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[1]Interview with Colonel George Schold, Director of Personnel, City of Albuquerque, November 24, 1968.

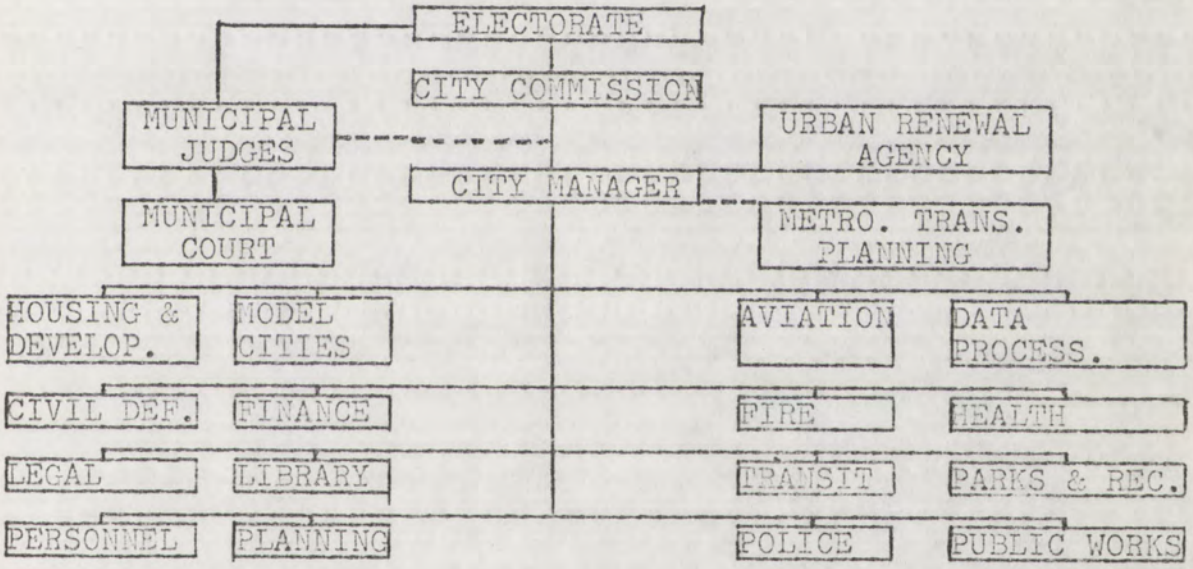
rise to these surface problems. Special emphasis will be placed on the third area mentioned above, i.e., the identification of potential personnel problem areas. The rationale behind this lies in the assumption that the process of identifying potential problem areas encompasses recruitment and retention of competent personnel.

B. PURPOSE

To facilitate discussion of this study's purpose, it is first necessary to indicate the City of Albuquerque's structure. The following is an organizational chart of the City of Albuquerque:

EXHIBIT 1

CITY OF ALBUQUERQUE ORGANIZATIONAL CHART



This thesis will be concerned with the high level employees of 17 of the 18 departments plus the City Manager's Office and partially with the Municipal Court. The Civil Defense Department is not included because of its void in high level personnel. The City describes these high level employees as being administrative, professional, or technical. They are also known as APT employees.

Given the problem previously stated, the primary

purpose of this study is to identify and isolate any potential problem area or areas concerning high level personnel of the City and any departments that are potentially or currently headed toward personnel problems. An attempt will also be made to determine whether there are relationships between selected motivational and interpersonal factors contributing to these problem areas.

This thesis will also characterize the organizational climate of the City. A by-product of this thesis will be to determine whether employees of a municipal government have the same sources of job satisfaction and dissatisfaction as in industry. In addition it would be extremely useful to identify the direction the City has been moving in the past five or six years in relation to many variables which will be discussed later.

In summary, the enveloping purpose of this thesis is to provide meaningful data and insights concerning organizational behavior and motivation in the City of Albuquerque. It is further hoped that this analysis will be useful to City officials in developing programs atone to the needs and motivation of City employees.

C. ORGANIZATION OF THE THESIS

The first chapter is a brief introduction to the problem and the author's purpose for undertaking this study. The second chapter will attempt to establish a conceptual foundation for investigation. It will be broken into two parts: related research and a survey of the literature and secondly, specific objective and hypotheses. The third chapter will establish a more detailed research design and methodology. In particular, an attempt will be made to apply what was found in Chapter II to the City of Albuquerque. Chapter IV will contain a presentation of the research findings, their implications and a conclusion.

CHAPTER II

THEORETICAL FRAMEWORK FOR INVESTIGATION

A. RELATED RESEARCH AND LITERATURE REVIEW

Introduction

Organizations by definition are made up of and are dependent upon people. These people can be regarded as the most important asset of an organization. Management is becoming more and more concerned with personnel problems with even the "die-hard" accountants slowly recognizing the human resource.[1] The main question is how to relate psychological and organizational variables in a manner which contributes to the satisfying of human motives and at the same time promotes behaviors which help to insure the viability and growth in the organization.[2] In other words, what needs and motives of individuals should be tapped so as to contribute to their own satisfaction and, thereby, to the goals of the organization?

There is no attempt in this chapter to present an exhaustive coverage of the principles involved in human relations and behavior. However, motives, motivation, and

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[1]R. Lee Brummet, William C. Pyle, and Eric G. Flamholtz "Development and Implementation of Human Resource Accounting in the Business Enterprise," (unpublished paper, source, E. Caplan, University of New Mexico).

[2]John W. Lawrie, "Motivation and Organization," Personnel Journal, XLVI, No. 1 (January, 1967), p. 42.

the satisfying of needs must be examined to some degree. Job motivation can be defined as the complex of forces starting and keeping a person at work within an organization.[3] Motivation is a driving force, a drive to satisfy needs. Individuals spend most of their lives attempting to satisfy their various needs.[4] However, before getting too deep into defining and exploring the satisfying drive, it is first important to note that motivational problems within an organization are not new. The problem has been approached in a number of ways which can be broken down into three general theories or approaches of motivation. Each of these theories has made various assumptions concerning human motivation.

1. Those emphasizing organizational motivation by formal external control.
2. Those emphasizing "group dynamics" as motivators.
3. And most recently, those emphasizing internal sources of motivation in organizations.[5]

External Control As Motivators

Basically speaking, there are two schools of thought which emphasize the formal external control aspect of

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[3]Robert Dubin, Human Relations in Administration (3rd ed.; Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1968), p. 53.

[4]Mason Haire, Psychology in Management (New York: McGraw-Hill Book Company, 1964), p. 28.

[5]Lawrie, op. cit., p. 42.

motivation: Scientific Management and Classical Bureaucracy.

Scientific Management was launched primarily by F. W. Taylor.[6] Taylor made two fundamental assumptions concerning human nature: man wants and man expects.[7] Man wants to have a "full belly", he wants to be able to expect a "full belly" and a place to live in the future, and he wants the means to attain these goals, namely, money. Money then is a means to an end. This can be considered as classical economic theory. Assuming this type of motivational theory, what an organization must do is to maximize the "carrot value" of the money income. Taylor also wanted to provide the most efficient use of energy. Of course, the "one best way" to the problem of motivation was the piecework incentive system of compensation.[8] This concept of man is a logically unbeatable combination: efficient motions, efficient tools, optimum working systems and strong monetary incentives. It is an engineering concept, yet Scientific Management does not always work, for the same reasons that the classical theories of such men

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[6]F. W. Taylor, Scientific Management (New York: Harper, 1911).

[7]Lawrie, op.cit., p. 43.

[8]Arnold S. Tannenbaum, Social Psychology of the Work Organization (Belmont, California: Wadsworth Publishing Company Inc., 1966), p. 14.

as Fayol,[9] Urwick,[10] and Mooney[11] do not work. The problem is the human aspect: that emotional, complex, often nonrational being whose behavior comprises the substance of the organization.

The other major theory, which relies on "external" sources of control, is Classical Bureaucracy, first developed by Max Weber and later expanded by Reinhart Bendix.[12] While Scientific Management is economically based in its motivational assumptions, Classical Bureaucracy is rationally orientated in its approach.

Weber observed that man is an irrational being, liable to do anything, anytime. He cannot be counted on to do a job the same way twice. In short, man is an emotion-driven nonrational organism whose chief characteristic is unreliable and irregular behavior. The obvious thing to do, then, is to apply external controls. These restraints take two fundamental forms: the "doctrine of formal discipline" and "the doctrine of impersonal power."[13]

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[9]H. Fayol, General and Industrial Administration (London: Sir Issac Pitman and Sons, Ltd., 1949).

[10]L. Urwick, The Elements of Administration (New York: Harper and Bros., 1943).

[11]J.D. Mooney, The Principles of Organization (rev.; New York: Harper and Row Publishers, Inc., 1947).

[12]Reinhart Bendix, Work and Authority in Industry (New York: John Wiley and Sons, Inc., 1956).

[13]Lawrie, op. cit., p. 44.

"Going by the book" thus becomes the name of the game. Everything is accomplished by a logical planning of the tasks. The organization must complete tasks in order to achieve its goals. Thus, formal handbooks, manuals, standard operating procedures, etc. came forth from the bureaucratic hierarchy.

But since man is a power seeker, and likes to bask in the personal loyalty of people around him, this too must be externally controlled. Bureaucracy attempts to control this power drive by applying the "doctrine of impersonal power." The office a man holds legitimatizes his authority. Factors such as expertise, charisma, and friendship have no real bearing.

Yet, man has found ways of accommodating to the controls of Classical Bureaucracy such that it would be impossible to claim that typical bureaucratic organizations are "rational." Scholars like R. K. Merton, Warren Bennis, and Robert Presthus have shown the illogic that flows from a bureaucratic set of assumptions concerning the way to deal with human nature.[14] As with Scientific Management, the promise of Classical Bureaucracy has not been completely fulfilled.

"Group Dynamics" as Motivators

The concept of "group dynamics" actually emerged by accident. The now famous Hawthorne experiments, undertaken by Mayo and Roethlisberger of the Harvard Business School,

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[14] Ibid.

from 1927-1932, were initially meant to improve productivity at Western Electric through the use of the tools of Scientific Management.[15] It was found that both Scientific Management and Classical Bureaucracy were motivational models that were too simple to provide practical industrial application. Management's attitude toward the worker and the workers' attitudes toward each other in their informal groups appeared to be more important in predicting changes in motivation and productivity than either the application of bureaucratic techniques or the manipulation of such factors as lighting or monetary incentives.

The end result reflected the potency of employee interaction with management and informal group norms on the motivation of man at work. Yet, it should be noted that even this is an external motivator. The emphasis here is upon controls of individual motivation found primarily in the actions and sentiments of members of the individual's group and the group itself.

From the area of "group dynamics" focus has changed somewhat, to internal motivation, and internal controls. This is not to say that the other motivational theories are obsolete. On the contrary, Scientific Management, Classical Bureaucracy, and especially "group dynamics" are very much evident today.

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[15] F.J. Roethlisberger and W.J. Dickson, Management and the Worker (Cambridge: Harvard University Press, 1939).

Internal Sources of Motivation

The first question that arises when considering the internal man, is man's individual motivational make-up.

At first, in an attempt to describe human behavior, theorists made lists of the various "drives", wants, and needs which apparently motivated man. But these attempts were often criticized because the lists were long and unmanageable, because they failed sufficiently to take into account the nonphysiological needs, and the needs often appeared contradictory.[16] Granted, there are a wide variety of needs and most of the behavior that we see around us is directed by a striving for the satisfaction of needs. In fact, all of a normal individual's life is spent in trying to satisfy his various needs, and the direction of this behavior is determined by the multiple pressures of the several needs that are active on him at any one time.[17] On the other hand, any sweeping generality of the process of individual need motivation is also invalid in that the process of transformation becomes so complex that the various theories lose their reality and usefulness. Some of the single motive

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[16]Paul R. Lawrence and John A. Seiler, Organizational Behavior and Administration: Cases, Concepts, and Research Findings (Homewood, Illinois: Richard D. Irwin, Inc. and the Dorsey Press, 1965), p. 446.

[17]Haire, op. cit., p. 28.

theories are of this type. Freud relates everything to a libidinal drive, Jung to a drive to assert and clarify one's ego, and Marx to an economic determinism.[18]

A somewhat different and more widely accepted way of thinking about man's needs has been suggested by A. H. Maslow.[19] Maslow views man's needs in terms of a hierarchy. Certain needs become operative when other basic needs have been relatively satisfied. Douglas McGregor provides an excellent summary of Maslow's scheme in his book, The Human Side of Enterprise.[20]

The first level, or lowest level, is that of physiological needs. "Man lives by bread alone, when there is no bread." In this situation, all capacities are put into the service of hunger satisfaction. Everything is pointed towards the satisfaction of that hunger. But when there is plenty of bread and hunger ceases, what then? At once other (and "higher") needs emerge and these rather than physiological needs dominate the individual.[21] A satisfied need no longer

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[18] Ibid.

[19] A. H. Maslow, Motivation and Personality (New York: Harper and Bros., 1954).

[20] Douglas McGregor, The Human Side of Enterprise (New York: McGraw-Hill Book Co., Inc., 1960), pp. 36-39.

[21] Harold J. Leavitt and Louis R. Pondy, Readings in Managerial Psychology (Chicago: The University of Chicago, 1964), p. 9.

is a motivator of behavior, except as you are deprived of the satisfaction of that need again.

After the physiological needs are satisfied, the next emergent set is that of safety. This should not be confused with security per se, but rather this is the need for protection against danger, threat, and deprivation.

If both the physiological and the safety needs become relatively satisfied, the love and social needs will emerge. Love, in this context, is not synonymous with sex. Love is meant to be more than just sex. Sex, in itself, may be looked at partly as a physiological need.

Above the social needs are the more psychological needs of man. These are the ego or esteem needs. They basically take two forms. First, the desire for strength, for achievement, for competence, for knowledge, for adequacy, for self-confidence, and for respect. Second, the desire for reputation, prestige, and status. These needs are rarely completely satisfied.

The final and ultimate level of need is that of self-fulfillment or self-actualization. These are the needs to reach one's potential. The specific form that these actualization needs take will vary greatly from individual to individual. In one person it may be expressed maternally, in another athletically, in still another aesthetically.[22] The

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[22] Ibid., p. 16.

clear emergence of these needs ordinarily rests upon prior satisfaction of the physiological, safety, social, and esteem needs. Chris Argyris suggests that self-actualization is present when organizational members believe their occupational role demands permit relatively full expression of their individual potential.[23]

It must be noted that although we speak of these needs in convenient, clear-cut steps, these levels are somewhat interdependent and overlapping. In our society, most people tend to be partially satisfied in each area and partially unsatisfied. Although not based on research, Maslow explains this by picturing the average citizen as 85 per cent satisfied in his physiological needs, 70 per cent satisfied in his safety needs, 50 per cent in his belonging needs, 40 per cent in his egoistic needs, and 10 per cent in his self-fulfillment needs.[24]

The upper levels of this hierarchy are important today because the lower needs are being more and more satisfied. Because of this the traditional management by control is inadequate. It fails because control is a useless method of motivating people whose physiological and safety needs

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[23]C. Argyris, Integrating the Individual and the Organization (New York; John Wiley and Sons, Inc., 1964), p. 32.

[24]Leavitt, op. cit., p. 449.

are reasonably satisfied and whose social, egotistic and self-actualization needs are predominate. The result is a gulf between the organization and the individual.[25] (More will be said concerning this later in this chapter.)

McGregor suggested that management take a new look at the individual worker. He feels their old, or rather their still predominate, view-point is not accurate.[26] McGregor calls their traditional view, Theory X, and the newer theory, Theory Y.

Theory X, the more traditional theory, may be summarized as follows:

> Assumptions of Theory X:
>
> (Traditional management, often attributed to Scientific Management)
>
> 1. The average human being has an inherent dislike of work and will avoid it if he can.
> 2. Because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, and threatened with punishment to get them to put forth an adequate effort toward the achievement of organizational objectives.
> 3. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.[27]

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[25] See Exhibit 2

[26] McGregor, op. cit.

[27] William G. Scott, Organizational Theory (Homewood, Illinois: Richard D. Irwin, Inc., 1967), p. 412.

This approach leads management to pyramidal organizational structure, and strict control. Managerial theorists have pointed out many failures in this approach to human motivation and management. Harold J. Leavitt in his book, Managerial Psychology, states:

> The problem can be looked at this way: organizational factors like authority and pyramidal shapes force management people toward paternalistic, subjective and more or less concrete, short-term, and often defensive behavior; but the changing business environment demands the opposite behavior. It demands that the businessman make multiple decisions and more objective, long-term, planful decisions. The problem is how to modify the organization so that it makes the second kind of behavior more likely.[28]

Hence this modification of the organization has been the implementation of another view or approach of human behavior, Theory Y, the essence of which may be expressed as follows:

Assumptions of Theory Y:

(Enlightened management, at first associated with the human relations movement, later with industrial humanism)

1. The expenditure of physical and mental effort in work is as natural as play or rest.

2. External control and the threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-objectives to which he is committed.

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[28]Harold J. Leavitt, Managerial Psychology (Chicago: University of Chicago, 1958), p. 275.

3. Commitment to objectives is a function of the rewards associated with their achievement.

4. The average human being learns, under proper conditions, not only to accept but to seek responsibility.

5. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.

6. Under the conditions of modern industrial life, the intellectual potentials of the average human are only partially utilized.[29]

Fundamental to this picture of the structure of human needs and the concept of man looking for various opportunities in his work is the thought that satisfaction comes not in one but in several kinds of packages. Furthermore, dissatisfactions are not simply the negative of satisfactions but are qualitatively different experiences with separate laws of their own.[30] Herzberg made use of this idea in discriminating between satisfaction and dissatisfaction.[31] Herzberg, in a study in The Motivation to Work, interviewed 203 engineers and accountants to determine what their sources of satisfaction and dissatisfaction were. His hypothesis was that the factors

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[29]Scott, op. cit., p. 412.

[30]R. K. Ready, The Administrator's Job: Issues and Dilemmas (New York: McGraw-Hill Book Company, 1967), pp. 4-5.

[31]Frederick Herzberg, Bernard Mausner, and Barbara B. Snyderman, The Motivation to Work (New York: John Wiley and Sons, Inc., 1962).

involved in producing job satisfaction would be separate and distinct from the factors that lead to job dissatisfaction.

The conventional explanation of job satisfaction considers "satisfaction" and "dissatisfaction" to be the extreme of a continum having a neutral condition in which the individual is "neither satisfied or dissatisfied."[32] Herzberg, in interviewing the 203 individuals, did not measure overall job satisfaction by the conventional scalar approach, but rather chose a "semi-structured" interview approach. He used the "critical incident" approach, or more specifically each respondent was asked:

> Start with any kind of story you like - either a time when you felt exceptionally good or a time when you felt exceptionally bad about your job, either a long-range sequence of events or a short-range incident.[33]

Of course, if the incident was a satisfying one then the respondent was asked to relate a dissatisfying one, and visa versa. All of the incidents were then discussed, and the respondents were asked to rate how strongly their feelings toward their jobs had been affected by each one.

The most significant aspect of the study, in relation to this thesis, is the findings that achievement, recognition,

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[32]Orlando Behling, George Labovitz, and Richard Kosmo, "The Herzberg Controversy: A Critical Reappraisal, "Academy of Management Journal, II, No. 1 (March, 1968), p. 99.

[33]Herzberg, op. cit., p. 35.

work itself, responsibility, opportunity for growth, and advancement, all things intrinsic to the job itself, were mentioned in a large proportion of the satisfying incidents. However, these content factors were rarely mentioned in the dissatisfying incidents. On the other hand, the hygiene factors of company policy and administration, quality of supervision, salary, interpersonal relations with the supervisor, and working conditions, all things extrinsic to the work itself or context factors, appeared mostly in dissatisfying incidents. The differences obtained were so striking that later, in 1964, Herzberg concluded.

> ... The factors involved in producing job satisfaction were separate and distinct from the factors that led to job dissatisfaction. Since separate factors needed to be considered depending on whether job satisfaction or dissatisfaction was involved, it followed that the two feelings were not obverse of each other. The opposite of job satisfaction would not be job dissatisfaction but rather no job satisfaction; and similarly the opposite of job dissatisfaction is no job dissatisfaction - not job satisfaction.[34]

Herzberg's thesis gained considerable acceptance, in part, perhaps, because it lent support to the emerging "Theory Y" idea that factors intrinsic to the job were somehow different and more important than those surrounding the work, in terms of effects on motivation.[35] It also seems

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[34] F. Herzberg, "The Motivation-Hygiene Concept and Problems of Manpower," Personnel Administration XXVII (1964), p. 3.

[35] Behling, op. cit., p. 102.

evident that the satisfiers parallel the higher levels of Maslow's hierarchy of needs mentioned previously, and the dissatisfiers the lower levels. Equally as important in the acceptance of the approach was the fact that in the early 1960's Herzberg, as well as a number of other researchers, performed empirical studies which supported the existence of the motivator - hygiene duality. These studies are summarized by Herzberg in Work and the Nature of Man.[36]

For example, M. Scott Myers did a six year study at Texas Instruments Incorporated using Herzberg's exact methodology on 282 middle and lower level employees.[37] The same results were obtained as Herzberg found.

Milton Schwartz using low level supervisors in utility firms, found that five of Herzberg's six motivators appeared significantly more frequently as satisfiers.[38] The motivator not ranked as high was work itself. The author suggests that the reason for this is that Herzberg's subjects were primarily non-supervisory professionals who would tend to

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[36]Frederick Herzberg, Work and the Nature of Man (Cleveland: World Publishing Company, 1966).

[37]M. Scott Myers, "Who Are Your Motivated Workers?" Harvard Business Review, XLII, No. 1 (January-February, 1964).

[38]Milton M. Schwartz, Edmund Jenusaitis, and Harry Stark, "Motivational Factors Among Supervisors in the Utility Industry," Personnel Psychology, XVI (1963), pp. 45-53.

identify with job more than the non-professional personnel in this study. Schwartz's methodology was basically the same as Herzberg's except the respondents wrote their answers rather than saying them.

Clifford Hahn analyzed nearly 1,000 incidents obtained from a sample of about 800 Air Force officers.[39] Although the classification of responses varied from that used in Herzberg's study, Hahn's analysis of incidents provided additional support for the Herzberg conclusions. Once again job context factors appeared predominately in the dissatisfiers and job content in the motivators.

Despite the large volume of empirical evidence in support of the duality theory there has always been those in opposition.

P. F. Wernimont, for example, studied 50 accountants and 82 engineers from various Midwestern companies.[40] The study indicated that intrinsic factors can cause high dissatisfaction too. The methodology was to have the respondents check various items dealing with his feelings.

This is by no means the only study which conflicts with Herberg's findings. In an article in the Academy of

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[39]Herzberg, Work and the Nature of Man, pp. 134-136.

[40]F. F. Wernimont, "Intrinsic and Extrinsic Factors in Job Satisfaction," Journal of Applied Psychology, L, No. 1 (February, 1966), pp. 41-50.

Management Journal, Orlando Behling lists approximately 15 separate studies.[41] One point should be noted, however, in all these studies a variety of populations and methods of gathering data were used, yet not one of the studies in support of the uniscalar explanation used Herzberg's critical-incident technique. They used some form of structured, scalar devise. Unfortunately the argument has deteriorated to a series of accusations and counter-accusations revolving around the merits of the two methods of obtaining data.[42]

Regardless, Herzberg's method does appear to be a valid procedure for determining just what does provide satisfaction or dissatisfaction on the job.

This completes a basic review of motivation and the state in which it exists today. However, two additional questions should still be answered to further develop a theoretical foundation:

1. Do these theories of self-actualization and need satisfaction lead to any useful insights regarding such aspects as performance and turnover?

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[41] Behling, op. cit., 104-105.

[42] Carl A. Lindsay, Edmond Marks, and Leon Gorlow, "The Herzberg Theory: A Critique and Reformation," Journal of Applied Psychology, LI, No. 4 (1967), pp. 330-339.

2. If so, what organizational climate or managerial pattern would be most conducive to the attainment of both the individual's and the organization's goals?

In a study conducted at the Research Center for Group Dynamics at the University of Michigan, Ross and Zander obtained questionnaire data on over 2600 workers living in various large cities and employed in 48 sections of a large company.[43] The study was designed to discover whether or not there was a demonstratable relation between the satisfaction of certain needs in an employment situation and labor turnover. They did a follow-up on employees who resigned and found that where certain needs were not met, there was a greater likelihood of turnover.

James V. Clark combines the concepts of Maslow, McGregor, and productivity into a very readable chart, (See exhibit 2),[44] which he describes as follows:

> ... it takes McGregor's generalization of Maslow's theory, attempts to relate it to some existing studies, and concludes that workers under this or that combination of environmental conditions behave as if they were motivated in such-and-such a fashion.[45]

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[43] Timothy W. Costello, and Sheldon S. Zalkind, Psychology in Administration: A Research Orientation (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1963), pp. 118-119.

[44] Ibid., pp. 106-118.

[45] Ibid., p. 106.

Of course, there are studies that indicate that job satisfaction, per se, may not be correlated directly with job performance. For example, Morse, in a study on 742 employees, found that "those groups who were more satisfied with their jobs, the company, and with their pay and job status were not necessarily those which were most productive."[46]

It would be comforting, but not accurate, to say that when an employee's needs are largely satisfied he always expresses this feeling of satisfaction in high level performance on the job. However, the fact that satisfaction measures have not always related directly to performance does not remove the fact that they often do. The manager is in a position in which he usually can influence the degree to which people feel satisfied on the job and feel that they are being allowed to reach their potential. He must realize the fact that the extent to which the people are satisfied with their jobs may show directly in production, absenteeism, turnover, quality of work, and other performance indicators.[47]

In attempting to identify a "best" organizational climate, it is first necessary to explore why this is so important. First, it is assumed that top management, in large measure,

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[46]Nancy C. Morse, Satisfactions in the White Collar Job (Ann Arbor: University of Michigan Press, 1953), p. 115.

[47]Costello, op. cit., pp. 121-122.

dicates the organizational climate. Just as the nonmanager is dependent on his boss for motivational opportunities, so is the manager dependent on his boss for conditions of motivation which have meaning at his level. Since the motivation of an employee, at any level, is strongly related to the supervisory style of his immediate boss, sound motivation patterns must begin at the top.[48] It follows then that the superior controls most of the paths to need satisfaction.[49] Because of management's "Theory X" belief, i.e., employees want to work as little as possible, to be unconcerned over errors and waste, to ask always for more wages and benefits, to resist change, and to show decreasing loyalty toward the company, there is a conflict between the individual and the organization. However, relatively few managers see the organization or themselves as the cause of these "negative characteristics."[50] Argyris feels that the results of this conflict will cause the healthy individual to experience frustration because his self-actualization will be blocked.[51]

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[48]M. Scott Myers, "Conditions for Manager Motivation," Harvard Business Review, XLIV, No. 1 (Jan.-Feb., 1966), p. 70.

[49]Haire, op. cit., pp. 50-51.

[50]C. Argyris, Personality and Organization (New York: Harper and Brothers, 1957), p. 124.

[51]Ibid., p. 233.

And this low self-actualization is likely to bring about forms of adaptive behavior including:

1. Leaving the organization.
2. Climbing the organizational ladder.
3. Manifesting defensive reactions such as day dreaming, aggression, ambivalence, regression, projection, and so on.
4. Becoming apathetic and disinterested toward the organization, its makeup and goals. This leads to the following phenomena:
   (a) Employees reduce the number and potency of the needs they expect to fulfill while at work.
   (b) Employees goldbrick, set rates, restrict quotas, make errors, cheat, slow down, and so on.
5. Creating informal groups to sanction the defense reactions and apathy, disinterest, and the lack of self-involvement.
6. Formalizing informal groups.
7. Involving group norms that perpetuate the behavior outlined in 3, 4, 5, and 6 above.
8. Involving a psychological set that human or non-material factors are becoming increasingly unimportant while material factors become increasingly important.
9. Acculturating the youth to accept the norms discussed in 7 and 8.[52]

What organizational climate or environment is, then, most conducive to goal congruence between the organization and the

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[52] C. Argyris, Understanding Organizational Behavior (Homewood, Illinois: Dorsey Press, 1960), pp. 16-17.

individual? It is this researcher's opinion that Rensis Likert does the best job of answering this question in two of his books: New Patterns of Management [53] and The Human Organization.[54] Dr. Likert defines four management systems in relation to leadership, motivation, communication, interaction, decision making, goal selling, control, performance, and training. He defines his System 1 as exploitive-authoritative; System 2 as benevolent authoritative; System 3 as consultative; and System 4 as participative.[55]

New Patterns of Management is largely devoted to research findings that support the idea that System 4 is the most desired and productive and that System 1 is the least.

More recently many different groups of managers, totaling several hundred persons, completed a form, using Systems 1-4, describing both the highest and lowest producing departments, which they knew well. The result was that the high-producing departments fell largely under System 4. The striking fact, however, was that the low-producing departments always fell more toward System 1 than did the high-producing departments.[56]

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[53]Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, Inc., 1961), pp. 16-17.

[54]Rensis Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, Inc., 1967).

[55]Ibid., p. 31.

[56]Ibid., p. 3.

Dr. Likert also describes a study which began in January, 1962, involving the Harwood Manufacturing Company and its new acquisition, the Weldon Company.[57] The Harwood Company was the leading firm in the pajama industry, with the Weldon Company second in volume in this industry. However, the Weldon Company had been unprofitable and the Harwood Company profitable for the same period of the time in the past several years.

After its purchase the corporate management of the Weldon Company was taken over by Harwood, but the plant manager and the managerial and supervisory staffs were retained. A number of changes were introduced in the management system of the Weldon plant. These changes are described in detail in a book edited by Marrow, Bowers, and Seashore.[58]

Briefly, the major changes involved extensive engineering modifications in the organization of the work, improved maintenance of machinery, an "earnings development" training program for employees, training of managers and supervisors in the principles and skills required by a system of management well toward System 4, the use of this system by the plant

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[57] Ibid., pp. 29-38.

[58] A. J. Marrow, D. G. Bowers, and S. E. Seashore (eds.), Strategies of Organizational Change (New York: Harper and Row, 1967).

manager, and his encouragement of all his subordinate managers and supervisors to do the same. Of course, these changes were initiated and supported by the new top management.

Managers and supervisors of the Weldon plant, in describing the management system used prior to 1962, indicated that the system used was between Likert's System 1 and System 2. Using the same measure in April, 1964, the results were that the system then being used was Likert's System 3, and approaching System 4. Productivity, in that same two year, four month period, rose 26 per cent. (Productivity has continued to increase since that time.)

The chairman of the board of directors of Harwood has summarized the results as follows:

> The improvements in cooperative relationships were noted by the technical consultants and production workers as well as by the Michigan researchers. The change in motivation and morale was reflected in the following ways:
>
> Average earnings of piece-rate workers increased by nearly 30 per cent. At the same time total manufacturing costs decreased by about 20 per cent. Turnover dropped to half of its former level. Length of employee training was substantially reduced. Interviews by the Michigan researchers reflected vastly more friendly attitudes towards the company. The image of the company in the community changed and the organization began to show a profit.[59]

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[59] Profit as a percentage of investment changed from -17 per cent to +15 per cent and is still improving.

> This was attained without a single replacement in managerial or supervisory personnel at the plant. All the original members of the staff continue in their same jobs.
>
> The basic wage structure has not been changed. The increased earnings were a result of heightened motivation and improved managerial skills. Increases due to technological changes were adjusted within the existing rate setting structure.[60]

It would appear that System 4 is superior to System 1, 2, or 3, and that it can be implemented. Likert admits that a System 1 or 2 style management might be highly productive initially, but that it would be short-lived. Exhibit 3 shows why this is probably so. While this exhibit oversimplifies the relationships, it does help to clarify the pattern among the variables. In System 4, as the exhibit shows, there are supportive relationships and group methods of decision making. There, two key variables lead (arrow 1) to favorable attitudes toward superiors, high confidence and trust, high reciprocal influence, excellent communication, and high peer-group loyalty. These variables, in turn, lead to the end-result variables of low absence and turnover (arrow 6).

To achieve high productivity, low costs, and high earnings, superiors must also have high performance goals. When a manager combines the principles of supportive relationships with high performance goals, and when he uses the group

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[60] A. J. Marrow, "Risks and Uncertainties in Action Research," Journal of Social Issues, XX, No. 3 (1964), pp. 19-20.

as the decision making unit, the group will display the intervening variables shown, namely, favorable attitudes toward superiors, etc., and high peer performance goals for themselves and the organization (arrows 2 and 3). Once again the result will be low turnover and costs and high productivity and earnings as is shown by arrows (6) and (7).

Absence and turnover can be thought of as intervening behavioral variables which influence productivity, costs, and earnings (arrow 10). For this reason, they slightly precede productivity and other end result items.

In System 1 or 2, as Exhibit 3 indicates, high performance goals by superiors, coupled with high pressure supervision using tight budgets and control, yield high productivity initially because of fear (arrow 5). But, there variables also yield unfavorable attitudes, distrust, poor communications, low levels of both influence and cooperative motivation, low peer performance goals, and restriction of output (arrow 4). In the long run, these variables result in high absence and turnover and low productivity (arrow 8 and 9). High absence and turnover, in turn, contribute to high costs and low earnings (arrow 11).[61]

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[61] Likert, op. cit., pp. 137-138.

Conclusion

In summary, it should be remembered that changes toward System 4 cannot be made over night.[62] In fact, there seems to be considerable evidence that a relatively stable situation can exist in which workers perform relatively routine jobs under hygienic and System 1 or 2 supervision. Although these workers may not be satisfied (in the Herzberg sense), may not be self-actualizing on the job (in the Maslow sense), and may be immature, apathetic, and dependent (in the Argyris sense), they are still not actively dissatisfied, they may not feel a need for additional responsibility, and they probably seek meaning in life from their home rather than from their jobs. To be sure, these individuals are maximizing neither their productive efforts nor their possible job satisfaction. But both management and employees find the situation satisfying (in the Simon sense). Barring sudden change it is stable. It may well be the best we are likely to get in some situations without costly changes in technology, child upbringing, and so forth.[63]

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[62] A. H. Maslow, Eupsychian Management (Homewood, Illinois: Irwin-Dorsey Press, 1965).

[63] Dubin, op. cit., p. 101.

B. OBJECTIVES AND HYPOTHESES

Having established a theoretical foundation that is sound, it is now possible to state the specific objectives and hypotheses of this thesis. The objectives are as follows:

1. To describe the organizational pattern of the City of Albuquerque, and to determine any significant departmental deviations.
2. To find the degree to which the higher level employees of the City are self-actualizing and by doing this, determine which departments are low in self-actualization in relation to the City collectively.
3. To determine what the sources of job satisfaction and dissatisfaction are to the higher level employees of the City.
4. To compare average age, education, image of municipal government, and reasons for entering local government of the higher level employees of the City of Albuquerque with a study done on this same level of employees in 1963.[64] Also to determine whether these higher level City employees are

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[64] James W. Carroll, "A Study of Factors Conducive or Non-Conducive to the Recruitment and Retention of Public Professional Personnel in the City of Albuquerque" (unpublished Masters thesis, University of New Mexico, 1963).

satisfied, dissatisfied, or neutral toward similar job factors examined in the 1963 study.

Through the use of objectives one and two, the City should be able to identify departments or areas that are heading for personnel problems. In other words, an assessment should enable the City to better predict turnover, absenteeism, slow downs, and to help identify "trouble spots" before they erupt completely. It is hypothesized that self-actualization will have a positive correlation with the factors included in the organizational climate. Specifically, with regard to Likert's Systems 1-4, those departments with the higher self-actualization scores, will also be more towards the System 4 pattern.

It is anticipated that the information derived from objective three will provide the City with insights concerning factors to stress, in order to facilitate satisfaction, and factors to be kept at a minimum. Hopefully, the City will cut down on the sources of dissatisfaction and build on the positive sources. It is hypothesized that the factors leading to satisfaction will be different than those leading to dissatisfaction. This is in line with what Herzberg found in industry, as previously mentioned.

The purpose of comparing the findings of the 1963 study with 1969 is to provide the City with feedback as to the direction it has been heading.

Restated, the two specific hypotheses of this thesis are as follows:

1. The factors leading to satisfaction will be different than those leading to dissatisfaction.
2. Self-actualization scores will have a significant positive correlation with the variables which make up the organizational climate.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

A. INTRODUCTION

As stated in Chapter I, this thesis is concerned with the Albuquerque Municipal Government, Albuquerque, New Mexico. It deals directly with the City's APT personnel, which are referred to as high level employees. As noted earlier, APT stands for administrative, professional, and technical. Some 200 people are in this classification, depending on vacancies and new positions. This high level personnel group can be further broken into three categories; upper-upper, middle-upper, and lower-upper. These three categories correlate directly with the City's salary scale.[1]

Because of the relatively small number of upper-upper and middle-upper personnel, no sample was taken of this group. However, a systematic random sample of lower-upper employees was selected from a list of such personnel, due to their large number. The combined total of upper level management or personnel used in this thesis numbered 98. It should be noted that the City's Municipal Judges were eliminated in view of the fact that they fill elected positions.

Because of the request for confidentiality by the City

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[1] Interview with John Martinez, Wage and Salary Administrator, City of Albuquerque, December 4, 1968.

Administration, each department will be referred to by a letter. The following is the distribution of the 98 high level employees, by department.

A-1	D-12	G-3	J-7	M-8	P-11	S-2
B-6	E-4	H-3	K-6	N-5	Q-2	
C-6	F-5	I-3	L-8	O-3	R-3	

The number in each department is a function of the total number of upper level employees in that department.

B. DETERMINING THE SOURCES OF SATISFACTION AND DISSATISFACTION

Sources of satisfaction and dissatisfaction were determined by interviewing all 98 of the personnel used. Each interviewee was first asked: "Please describe a time when you felt exceptionally good about your job, during the last few months." He was then asked why he felt good. After this he was asked to describe a time when he felt exceptionally bad. (See Part I of the questionnaire in Appendix A.) This semi-structured interview approach parallels the design used by Frederick Herzberg in his study of 203 engineers and accountants.[2]

Each response was analyzed and categorized into first level factors and second level factors. A first level factor is defined as being an objective element of the situation in which the respondent finds a source for his good or bad feeling about his job. Included in first level factors are the following:

> Recognition, achievement, possibility of growth, advancement, salary, interpersonal relations, supervision, responsibility, company policy, working conditions, work itself, factors in personal life, status, and job security.

The material analyzed for second level factors came from the respondent's answer to the question why? In essence he was looking at himself, trying to describe his own value system which led to his attitude toward his job

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[2]Herzberg, The Motivation to Work, pp. 35, 36.

at the time of the events being described. Specifically, the first level factor is a specific incident, whereas the second level factor or factors is the feeling that led to this incident. To keep this section parallel with Herzberg's study, the same criteria were used to classify each response into the above mentioned factors.[3]

One major limitation was the fact that it was impossible to know what the interviewee was unable to tell or refused to tell. Only what was actually said could be analyzed.

Testing of one of the hypotheses requires that a comparison be made of Herzberg's findings and the findings of this thesis. In other words, how do the factors cited as satisfiers or high attitudes compare with those classified as dissatisfiers or low attitudes? A test of proportions was used to determine if any differences were statistically significant. As in Herzberg's research, .01 was established as the level of significance. This means that if a difference were to occur, one could be reasonably sure that it did not occur by chance.

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[3] Ibid., pp. 44-49.

C. SELF-ACTUALIZATION AND THE ORGANIZATIONAL CLIMATE

Self-actualization and the organizational climate are discussed together here because of the feeling that a person's self-actualization is strongly dependent upon the organizational climate of which he is a part. This relationship was discussed in Chapter II.

The first step was to obtain a measure of self-actualization. Chris Argyris has suggested the use of the semi-structured research interview to measure self-actualization.[4] Although this method has validity and reliability, it does have one major limitation with respect to this thesis.[5] This limitation is that it is very time consuming. The total time for interviewing and scoring the responses on the Argyris instrument averaged approximately one and one half hours per interview.[6] Because of this time limitation a short form for measuring self-actualization, developed by Charles Bonjean and Gary Vance, was used.[7] The form used can be seen in Part II of the questionnaire,

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[4]Chris Argyris, Understanding Organizational Behavior (Homewood, Illinois: Dorsey Press, 1960).

[5]Charles M. Bonjean and Gary G. Vance, " A Short-Form Measure of Self-Actualization, " The Journal of Applied Behavioral Science, Vol. 4, No. 3 (1968), pp. 302-303,308-310.

[6]Ibid., p. 302.

[7]Ibid., pp. 299-312.

located in Appendix A. The following is the way Bonjean and Vance describe it:

> The respondent is given a card listing all of those predispositions Argyris found among the employees studied by these investigators. The respondent is then asked which of the predispositions (called "aspects of an ideal job") are most important to him and to write in anything not on the list just as important to him. All responses to these questions are assumed to be predispositions of extremely high importance and are given a score of 4 in the DE (desired expression) column. The respondent is then asked which items he would rank next in importance and whether any items not on the list are of equal importance. These are assumed to be of high importance and are weighted 2. He is then asked whether there are any other items that make any difference to him at all. These are assumed to be of average importance and are given a weight of 1. One major difference between Argyris' technique and this one is that here the respondent, not the interviewer, selects the predispositions and their potency. Actual expression is also determined in a more straightforward manner.
>
> Figure 2 (section 2 of the form) shows a second set of questions designed to measure this phenomenon. Respondents are asked only those questions related to those predispositions for which they desire expression. The interviewer must construct questions on his own for any predispositions not listed on the card handed the respondent, but experience indicated that this is not a difficult task. The responses are precoded in regard to actual expression: 0=no expression, 1=little, 2=some, but not enough, and 3=maximum. They are entered in the AE (actual expression) column shown in Figure 1 section 1 of the form.) The desired expression and the actual expression score are multiplied for each predisposition, and this product is placed in the third column, which is then totaled. As is the case with the semi-structured form, maximum expression is 3. This is indicated in column 5 for each relevant predisposition. Maximum expression (ME) is then multiplied by desired expression, and these products are placed in column 5, which is also totaled. The self-

actualization score is simply the column 3 total divided by the column 5 total.[8]

This test was administered to all 98 personnel. A self-actualization score was thus derived for each interviewee, each department, and the organization in total. Each department was then compared with the total organization. An analysis of variance was used to determine whether any differences were statistically significant. The level of signifiance was establised at the .05 level. Once again this means that if a difference were to occur, one could be reasonably sure that it did not occur by chance. This is true whether the differences were a result of higher self-actualization, or lower.

The organizational climate was determined with the use of fifty scales of Likert's fifty-one variable semantic differential.[9] This semantic differential had 20 points on each scale. (See Part III of the questionnaire in Appendix A.) It measures an organizational climate with regard to leadership, motivation, communication, interaction, decision making, goal setting, control, and training. Each of the 98 interviewees was given this part of the questionnaire to take with him. Each was ins-

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[8] Ibid., pp. 304-307.

[9] Likert, op. cit., pp. 197-211.

tructed to indicate the kind of organizational climate he believed existed (1) within his own area of responsibility, and (2) within the City of Albuquerque as a whole. Each was given an explanation of how the scales worked, and a few sample scales were completed. A total of 70 of the 98 personnel in the sample responded to this part of the questionnaire. However, most respondents did not indicate their feelings with respect to the climate of the City as a whole. Many respondents indicated that they lacked the knowledge to make a meaningful analysis of the City's climate in total. Due to this lack of response, no attempt was made to analyze the few responses that did appear in regard to the City of Albuquerque government as a total system.

Each department was then compared to the departments in total. A graphic method was first used for presenting this comparison. The weighted ratings for each variable were summed and the arithmetic mean calculated for each department and the departments in total. The means were then plotted across the scales presenting a "profile" of the ratings for that department.

Making use of this graphic profile, a subjective interpretation of the comparisons may be made. Such an interpretation can be useful in pointing out where differences occur. However, the significance of these diff-

erences may not be determined from such a subjective interpretation. Therefore, an analysis of variance was used to determine whether any of the differences were statistically significant. The criterion for significance was again placed at the .05 level. It should be noted that various scales within the semantic differentials which were supplied to the interviewees were reversed to limit bias.

In order to test one of the stated hypotheses, the respondent's variable scores were compared to their self-actualization score. Each variable score was compared individually. A correlation coefficient was thereby found for each variable, with the self-actualization score being the dependent variable. The Student-Fisher t Test was then applied to each correlation to determine if any were statistically significant at the .05 level.

D. 1963 vs 1969

To give City administrators an indication of any significant changes in characteristics and attitudes of high level personnel within the City, a thesis written in 1963, by James Carroll, was used.[10] Mr. Carroll's thesis dealt with such factors as age, education, the image of municipal government, and reasons employees entered local government. It also gave indications of whether high level personnel were satisfied, dissatisfied, or neutral toward certain job factors. The same high level of personnel was used in both theses. Exact questions used by Mr. Carroll were employed in this thesis. (See Part IV of the questionnaire in Appendix A.) Only a subjective comparison can be made because there were no comparable statistical measures employed by Mr. Carroll. Yet, it seems worth while to consider any trends that may appear. These and the findings stemming from previous portions of this chapter will be discussed next.

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[10]Carroll, op. cit.

CHAPTER IV

RESEARCH FINDINGS AND CONCLUSIONS

A. INTRODUCTION

This chapter will present the findings of this thesis and explore implications, with the last portion being devoted to a conclusion.

The sections dealing with satisfaction, dissatisfaction, and the comparisons between 1963 and 1969 will be concerned with the City of Albuquerque's high level personnel as one entity. In contrast, the sections dealing with self-actualization and the organizational climates will deal with both the City as the total organization and the nineteen departments as separate entities within the total organization. Because of this, a general framework for analysis will be established for the sections in self-actualization and organization. A detailed analysis will be made on one department to illustrate the procedure used to determine various characteristics. Each department can then follow through on its own using the same technique.

All of the findings are objective and based upon the research design presented in Chapter III. It should be noted that the implications will tend to be subjective, in themselves, and that various readers may draw different conclusions from the same data. A number of exhibits will

be presented in this chapter, but the bulk of the data will be contained in the appendicies.

B. SATISFACTION AND DISSATISFACTION

As was pointed out in Chapter III, the Herzberg method was used to determine sources of satisfaction and dissatisfaction. The purpose is to determine what factors provide satisfaction to high level personnel in the City of Albuquerque and which factors tend to be sources of dissatisfaction.

Exhibit 4 shows that such first and second level factors as achievement, recognition, possibility of growth, and pride are the primary sources of satisfaction to the high level person in the City.

EXHIBIT 4

SOURCES OF SATISFACTION IN THE CITY OF ALBUQUERQUE

n = 98

1st LEVEL FACTORS*		2nd LEVEL FACTORS*	
Achievement	74%	Achievement	72%
Recognition	31	Recognition	40
Possible Growth	10	Pride	14
Advancement	7	Possible Growth	11
Interpersonal Relations - Peers	7	Work Itself	8
Responsibility	6	Fairness	8
Work Itself	6	Advancement	7
Status	5	Group Feeling	6
Interpersonal Relations - Superiors	4	Responsibility	6
Interpersonal Relations - Subordinates	3	Status	5
Company Policy and Administion	2	Salary	1
Salary	1		

* The percentages total more than 100% since more than one factor can appear in any single sequence of events.

Exhibit 5 indicates that the primary sources of dissatisfaction are unfairness, lack of achievement, company policy and administration, and lack of recognition.

It would seem advisable for the City to ponder these factors and others in the exhibits and attempt to rectify deficiencies. They have control over the major factors

EXHIBIT 5

SOURCES OF DISSATISFACTION IN THE CITY OF ALBUQUERQUE

n = 98

1st LEVEL FACTORS*		2nd LEVEL FACTORS*	
Lack of Achievement	26%	Unfairness	56%
Company Policy and Administration	23	Lack of Achievement	29
Lack of Recognition	15	Lack of Recognition	18
Working Conditions	13	Lack of Growth Potential	13
Interpersonal Relations - Peers	12	Guilt or Inadequacy	10
Interpersonal Relations - Subordinates	11	Lack of Security	9
Supervision - Technical	8	Lack of Salary	7
Interpersonal Relations - Superiors	7	Responsibility	5
Lack of Salary	7	Group Feeling	3
Lack of Growth Potential	5	Lack of Advancement	1
Lack of Job Security	5	Work Itself	1
Work Itself	3		
Lack of Advancement	2		
Responsibility	1		

*The percentages total more than 100% since more than one factor can appear in any single sequence of events.

with the possible exception of the red tape involved in "company" policy. The City should strive to increase the frequency of factors that satisfy and subvert those factors that tend to cause dissatisfaction. If this is done an improvement should be made in any turnover problem.

Different companies have used different means for increasing the satisfiers and decreasing the dissatisfiers. For example, Sears, Roebuck, and Company uses the concepts of decentralization and delegation. I.B.M. and Detroit Edison pioneered the idea of job enlargement.[1] The famous Coch and French pajama study illustrates another approach, i.e., participative management.[2] Herzberg points out that money may even be a reinforcement of the motivators of recognition and achievement. He points out that Lincoln Electric Company of Cleveland, Ohio, perceives money as being valued less for what it will buy than as evidence of successful skill in achievement.[3]

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[1]Harold J. Leavitt and Louis R. Pondy, Readings in Managerial Psychology (Chicago: The University of Chicago, 1964), p. 277.

[2]Paul R. Lawrence and John A Seiler, Organizational Behavior and Administration: Cases, Concepts, and Research Findings (Homewood, Illinois: Richard D. Irwin, Inc. and the Dorsey Press, 1965), pp. 931-932.

[3]Frederick Herzberg, Bernard Mausner, and Barbar B. Synderman, The Motivation to Work (New York: John Wiley and Sons, Inc., 1962), p. 117.

This thesis' results were not as conclusive as Herzberg's with regard to statistical differences among first level factors. Only five statistically significant differences occurred in this study, with eleven occurring in the Herzberg study. (see Exhibit 6). The same general trends seemed to exist in both studies, but the differences are not as significant in this thesis. The same holds true of the second level factors. (see Exhibit 7). Actual values may be seen in Appendix B. The hypothesis that the factors leading to satisfaction will be different than those leading to dissatisfaction is somewhat supported by the evidence presented by this thesis, but not to the degree that Herzberg's was. This is especially true with regard to achievement. Lack of achievement was high on the list of both satisfiers and dissatisfiers in this study, but only high on the list of satisfiers in Herzberg's study. Although Herzberg's study and this study were compared, it should be noted that Herzberg used 203 engineers and accountants, whereas this study used 98 upper level managers. The fact that achievement was high in the City of Albuquerque's sources of dissatisfaction may indicate this. It is debatable whether "rank and file" engineers and accountants would be as concerned with achieving or finishing some project as would the head of a department. The project itself

EXHIBIT 6

COMPARISONS BETWEEN HERZBERG'S STUDY AND THE CITY OF ALBUQUERQUE WITH REGARD TO THE PERCENTAGES OF EACH FIRST LEVEL FACTOR APPEARING IN THE HIGH AND LOW JOB ATTITUDE SEQUENCES

		Albuqu.	Herzberg	Albuqu.	Herzberg
1.	Achievement	74*	41*	26	7
2.	Recognition	31*	33*	15	18
3.	Work Itself	6	26*	3	14
4.	Responsibility	6	23*	1	6
5.	Advancement	7	20*	2	11
6.	Salary	1	15	7	17
7.	Possibility of Growth	10	6	5	8
8.	IR - Subordinates	3	6	11	3
9.	Status	5	4	0	4
10.	IR - Superiors	4	4	7	15*
11.	IR - Peers	7	3	12	8*
12.	Supervision - Tech.	0	3	8*	20*
13.	Company Policy and Administration	2	3	23*	31*
14.	Working Conditions	0	1	13*	11*
15.	Personal Life	0	1	0	6*
16.	Job Security	0	1	5	1

*Differences between high and low are statistically significant at .01 level.

EXHIBIT 7

COMPARISONS BETWEEN HERZBERG'S STUDY AND THE CITY OF ALBUQUERQUE WITH REGARD TO THE PERCENTAGES OF EACH SECOND LEVEL FACTOR APPEARING IN THE HIGH AND LOW JOB ATTITUDE SEQUENCES

		HIGH		LOW	
		Albuqu.	Herzberg	Albuqu.	Herzberg
1.	Recognition	40*	59*	18	26
2.	Achievement	72*	57*	29	19
3.	Possible Growth	11	38	13	33
4.	Advancement	7	3	1	2
5.	Responsibility	6	30*	5	8
6.	Group Feelings	6	10*	3	3
7.	Work Itself	8	29*	1	13
8.	Status	5	18	0	10
9.	Security	0	7	9*	9
10.	Fairness - Unfairness	8	3	56*	38
11.	Pride, Guilt, Inadequacy	14	9	10	14
12.	Salary	1	19	7	13

*Differences between high and low are statistically significant at .01 level.

would be much larger or of more importance at the upper level and failure to achieve would hold more consequences.

Based on the results of this study and the nature of the subjects, it would be difficult to generalize whether or not employees of a municipal government have the same sources of dissatisfaction and satisfaction as employees in industry.

C. SELF-ACTUALIZATION

Self-actualization scores were obtained through the use of Bonjean and Vance's "short form", explained in Chapter III. As yet there is no universal normative score of self-actualization, but rather each organization establishes its own normative level. Of course, higher scores indicate a higher degree of actualization, but exactly what degree is not known. The normative score for the City of Albuquerque is 86.5. Exhibit 8 shows the range of each department and how it ranks in relation to the City in total. Department M is the only department that is lower than the overall organization by a statistically significant degree.[4] However, it should be noted that the make-up of this department is not as homogeneous as most departments. Certain external factors played a heavy role which made the situation less comparable. It is even debatable whether or not certain persons should be considered to be in this department. It is also these same persons who have the lower scores. The department head is well aware of this.

Although no other department is statistically significant from the mean, the mean itself could be low in relation

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[4] Sample sizes, standard deviations, standard errors, and the F values may be seen in Appendix C.

EXHIBIT 8

DEPARTMENT SELF-ACTUALIZATION SCORES

Department	n	Score	Range
R	3	94.8%	88.9-100.0%
I	3	92.2	85.0-97.8
Q	2	90.8	90.5-91.1
L	8	90.7	77.8-100.0
E	4	90.3	84.4-93.3
F	5	90.1	85.2-93.8
S	2	89.8	74.3-96.4
H	3	88.5	85.2-90.9
O	3	87.9	82.3-97.2
D	12	87.8	75.0-100.0
K	6	86.8	78.4-97.5
$\bar{X}$ mean	98	86.5	55.5-100.0
G	3	86.4	80.9-97.2
C	6	86.3	66.7-93.8
J	7	85.8	74.6-100.0
A	1	85.7	85.7-85.7
B	6	82.8	76.7-96.5
P	11	81.1	70.2-91.7
N	5	80.9	55.5-88.2
M	8	80.0*	70.2-91.7

*Indicates a statistically significant difference at the .05 level between that department and the overall City.

to other organizations. Therefore, it is advisable that each department consider its position and ask why are we where we are and how can we improve the situation. It should be noted that Department R is a highly civic oriented department dealing with problems of the minority groups. It is really not under the City to the degree that the other departments are, and this may be a source of less frustration.

Departments below the mean should be aware of this fact. Their low actualization scores are likely to bring about forms of adaptive behavior. Although they were discussed in Chapter II, it seems appropriate to briefly mention them here. First of all, low actualizors will tend to leave the organization.[5] Or worse yet, they will stay and manifest defense reactions such as daydreaming, aggression, amibivalence, regression, and projection. They will become more apathetic and disinterested toward the organization, its make-up and goals. This leads to the employees reducing the number and potency of the needs they expect to fulfill at work. They will then create informal groups to sanction the defense reactions, apathy, disinterest, and

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[5]The person who had the second lowest self-actualization score has since resigned.

the lack of self-development.[6] Also, because these people are top people their action and values may be viewed and incorporated by those below them, thereby, undermining the total organization.

The question of how to increase self-actualization will be answered in the later part of the next section on the organizational climate.

Ideally each person and department should be measured again to determine any trends. Also, a follow-up should be made as to whether or not the low actualizors are still with the organization and if they are, whether or not they have incorporated any of the stated adaptive behaviors. Measuring such items as daydreaming and apathy would be difficult, but would be the ideal follow-up of this section of the findings.

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[6] C. Argyris, Understanding Organizational Behavior (Homewood, Illinois: Dorsey Press, 1960), pp. 16-17.

D. THE ORGANIZATIONAL CLIMATES

This section will characterize the organizational climates of the City and the individual departments. Departments that have statistically significant differences between themselves and the City in total, with respect to the specific variables of the climate, will be exposed. In addition, the effects of each organizational variable on self-actualization will be noted.

The City of Albuquerque, representing the total organization, falls almost entirely within the System 3 form of management. This is the consultative form. As shown in Exhibit 9, items 33 and 46 are the only variables which are outside System 3. Item 33 refers to the extent to which the review and control functions are concentrated in top management. Item 46 is concerned with what level in the organization decisions are formally made. (It should be remembered that the descriptions of each variable can be examined in Part III of the questionnaire, located in Appendix A. Also, the following items are reversed to minimize bias: 4, 5, 8, 10, 11, 12, 15, 17, 20, 22, 24, 25, 27, 28, 32, 35, 37, 38, 41, 42, 45, and 49.) In general, the review and control functions are concentrated relatively high in the organization with some delegation to the middle and lower levels. This is in contrast to Likert's desired state of having the review and control done at all levels with lower units at

EXHIBIT 9

PROFILE OF THE CITY'S ORGANIZATIONAL CLIMATE

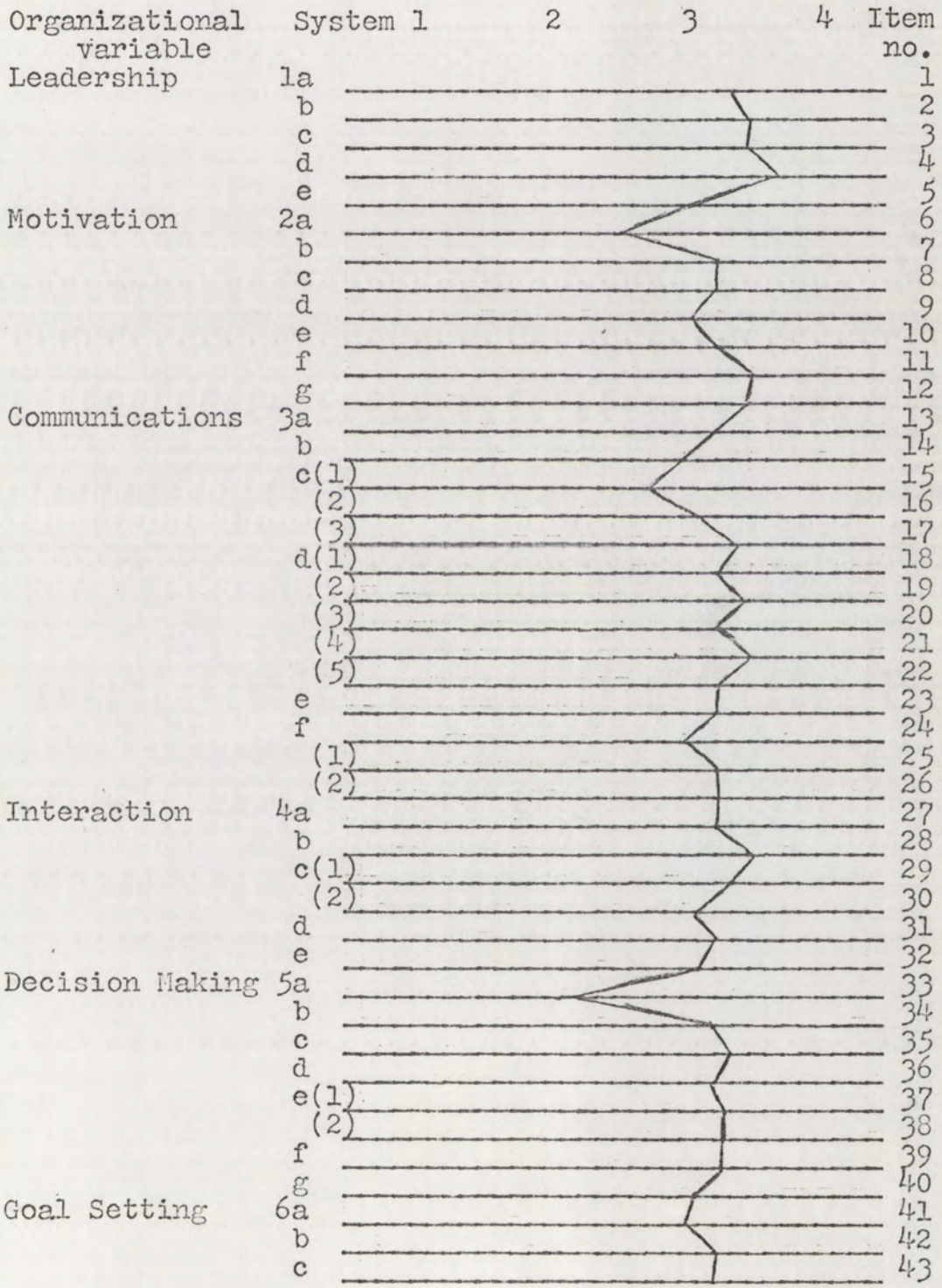
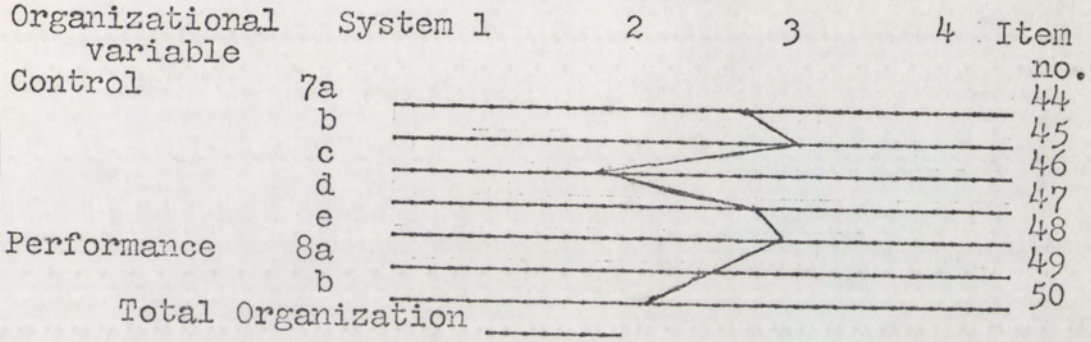


EXHIBIT 9 (cont.)

PROFILE OF THE CITY'S ORGANIZATIONAL CLIMATE



times imposing more vigorous reviews and tighter controls than top management. Also, most policy decisions are made at the top, with many decisions within a prescribed framework made at lower levels, but checked with the top before action. The best condition, assuming competent personnel, would be for the decision making to be done throughout the organization with a well integrated linking process provided by overlapping groups.

Each department's strong and weak points will be noted in the context of the eight major variables: leadership, motivation, communications, interaction, decision making, goal setting, control, and performance. The matrix on the next two pages is intended to do this in the most feasible manner. The department can obtain more specific information by taking any item that is significantly different and reading the more detailed information in Part III of the questionnaire. It should be remembered that the departments are coded, therefore, this section is purposely brief. The small portion dealing directly with one department is the only information of real value to that particular department. However, a graphic profile comparing each department and the total organization can be seen in Appendix D.[7]

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[7]Sample size, mean, standard deviation, and the F value for each variable, under each department, may be seen in Appendix E.

EXHIBIT 10

VARIABLES WITH STATISTICAL SIGNIFICANT DIFFERENCES
BETWEEN EACH DEPARTMENT AND THE CITY IN TOTAL

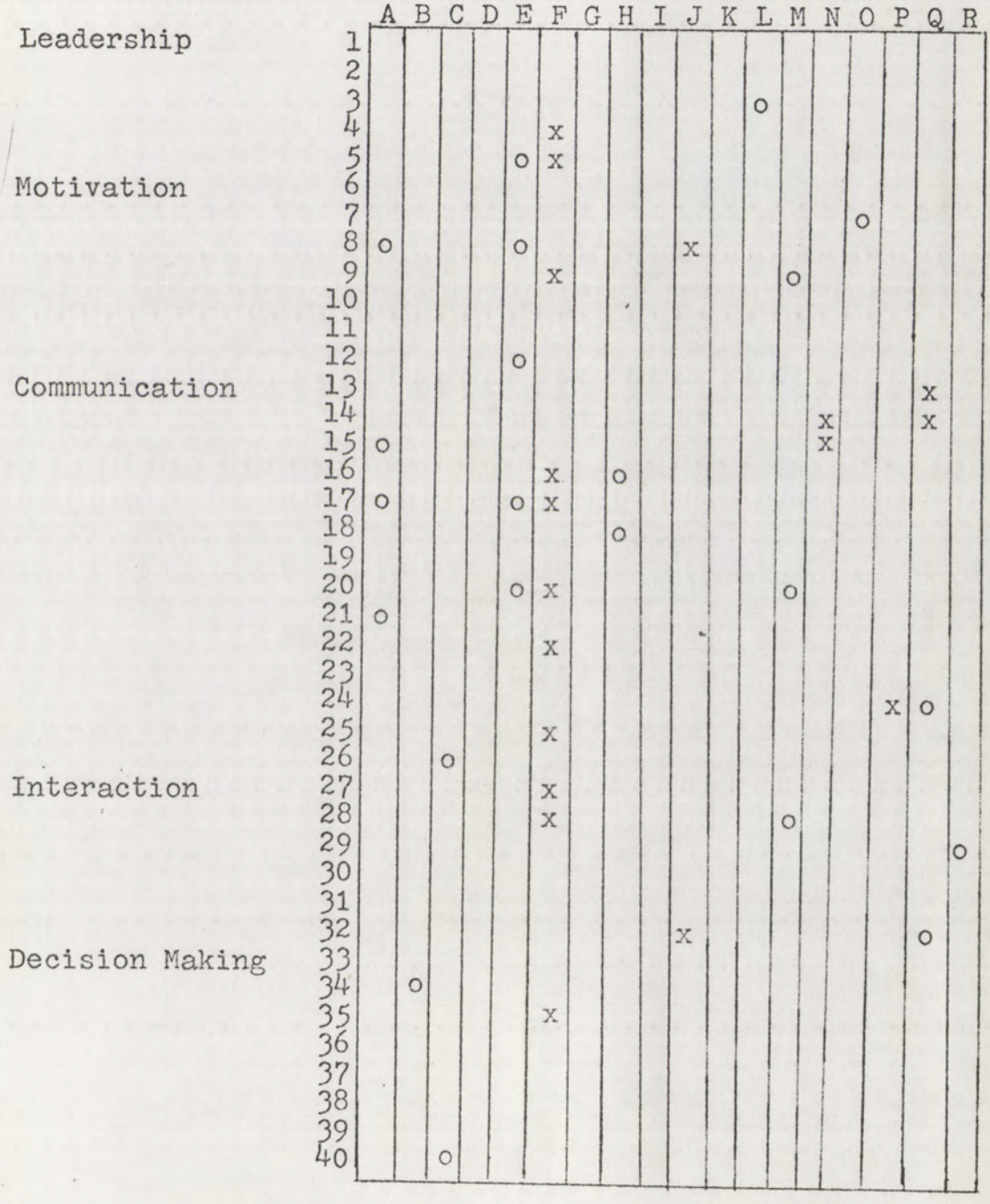

EXHIBIT 10 (cont.)

VARIABLES WITH STATISTICAL SIGNIFICANT DIFFERENCES
BETWEEN EACH DEPARTMENT AND THE CITY IN TOTAL

Goal Setting	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
41															o			
42	o					x												
43			o					o										
44															o			
45						x												
46															o			
47							o										x	
48			o				o											
49										x								
50			o				o	·										
TOTAL	5	1	5	0	5	13	3	3	0	3	0	1	3	2	4	1	5	1

xSignificantly higher than City
oSignificantly lower than City

The way to a higher level of self-actualization is an organizational climate that is in Likert's System 4. Exhibit 11 shows specifically which variables have a statistically significant correlation with self-actualization. It is interesting to note that of the 36 that are significant, one is a negative correlation. In other words, as the climate moves toward System 4, self-actualization gets lower. This variable deals with the initiation of downward communication. It would appear that the point to begin downward communication is at the top rather than at all levels. It may be that the downward flow should be initiated from the top. This is where the information is located and a subjective interpretation may suggest that an attempt to initiate this flow, on the part of the lower levels, might give the feeling of trying to "sneak" information from superiors. This should not be taken as an all inclusive statement, but rather one pertaining only to the City of Albuquerque. Department Q will now be used to illustrate how a department may review its position in the City of Albuquerque.

Noting Exhibit 8, Department Q can observe that it is relatively high in self-actualization and above the mean, but not to a statistically significant extent. It would appear that the department does not have a pressing problem in over-all self-actualization. The department may then view its total organization profile, with respect to

EXHIBIT 11

T VALUES FOR EACH VARIABLE'S CORRELATION COEFFICIENT

Data Var. No.	Correlation Coefficient	T Value	Data Var. No.	Correlation Coefficient	T Value
1	0.44531	4.10120*	26	0.39510	3.54664*
2	0.42000	3.81633*	27	0.36287	3.21118*
3	0.40145	3.61499*	28	0.39816	3.57926*
4	0.31194	2.70742	29	0.09770	0.80953
5	0.31862	2.77187	30	0.16328	1.36476
6	-0.05340	-0.44098	31	0.30636	2.65392*
7	0.28364	2.43913	32	0.29079	2.50622*
8	0.25184	2.14589	33	0.17237	1.44300
9	0.55159	5.45311*	34	0.10248	0.84954
10	0.40483	3.62931*	35	0.26437	2.26047*
11	0.39649	3.56144*	36	0.25131	2.14107*
12	0.45341	4.19489*	37	0.26507	2.26691*
13	0.40676	3.67170*	38	0.43468	3.98015*
14	0.17708	1.48369	39	0.46281	4.30526*
15	-0.24210	-2.05762**	40	0.36094	3.19153*
16	0.39852	3.58311*	41	0.31565	2.74316*
17	0.38652	3.45591*	42	-0.04950	-0.40869
18	0.34425	3.02356*	43	0.22880	1.93814*
19	0.31440	2.73110*	44	0.19632	1.65102
20	0.13784	1.14761	45	0.15738	1.31416
21	0.05144	0.42475	46	-0.01910	-0.15753
22	0.08850	0.73266	47	0.27750	2.38187*
23	0.40516	3.65442*	48	0.20356	1.71450*
24	0.22367	1.89237*	49	0.16720	1.39845
25	0.37904	3.37768*	50	0.30104	2.60320*

*Positive statistically significant correlation at the .05 level.

*Negative statistically significant correlation at the .05 level.

the City, in Appendix D. From this, Department Q can turn to exhibit 10 and see that it has five variables in its climate that are significantly different from the City in total. Items 13 and 14 under Communication and item 47 under Control are significantly higher than the City. Item 24 under Communication and 32 under Interaction are significantly lower.

Using Exhibit 11, Department Q will note that only items 13, 24, 32, and 47 of its concern, have a significant correlation between themselves and self-actualization. Therefore, they are the items that are currently of special interest.

We are now able to describe the two variables that represent problem areas in Department Q. Using the position of Q's item 24 on the profile, and the corresponding variable in Part III of the questionnaire, we may conclude that the psychological closeness of superiors to subordinates (i.e., friendliness between subordinates) is only moderate, and then only if proper roles are kept. (Note that this is one of the variables that is reversed.) Item 32 indicates that Q is also weak with regard to the extent to which an effective structure exists enabling one part of their organization to exert an influence upon the other parts. In Department Q only a limited capacity exists, with influence exerted largely via vertical lines and primarily downward. What the department should strive for is a structure which enables an exercise

of influence in all directions.

The organization's specific strong points may be viewed in the same way. For example, item 47 indicates that there is an informal organization present which supports efforts to achieve the formal organization's goals. Of course, this is beneficial in as much as the goals are sound.

In summary, the departments should strive to identify the factors that lead to better management practices with special attention given to those variables in which they are weak.

E. 1963 vs 1969

The purpose of this chapter is to provide the City with some inclination of the trends within the City. The trends will be with regard to age, education, images of municipal government, reasons for entering local government, and satisfactions toward various job factors.

It would appear that the City is now attracting younger personnel. The average age in 1963 was 44, with the average age being 42.35 in 1969. Educationally, the City in 1969 has more college graduates and fewer people who have terminated their education with high school. Exhibit 12 presents a more detailed breakdown of this. The percentages are based on the total number in the sample.

EXHIBIT 12

COMPARISON OF EDUCATION - 1963 AND 1969 HIGH LEVEL PERSONNEL IN THE CITY OF ALBUQUERQUE

	Albuquerque 1963	Albuquerque 1969
High School or Less	12 or 22%	8 or 11.4%
Some College	10 or 18%	11 or 15.7%
College Graduate	21 or 38%	36 or 51.4%
Graduate Degree	12 or 22%	15 or 21.5%

Unfortunately, the prestige of local government, in the eyes of its employees, is lessening. (see Exhibit 13). This is especially true in comparison with the Federal government. Over 40 percent consider the Federal government as being more prestigious. Increasingly, City employees attribute greater prestige to organizations other than their own.

EXHIBIT 13

HOW ALBUQUERQUE'S HIGH LEVEL PERSONNEL VIEW THE PRESTIGE OF OTHER FORMS OF EMPLOYMENT IN RELATION TO LOCAL GOVERNMENT

1963

	Higher	Same	Lower
Federal	29%	51%	20%
State	18	39	43
Private (National)	51	31	18
Private (Local)	34	38	28

1969

	Higher	Same	Lower	NR
Federal	42.8%	40.0%	15.8%	1.4%
State	11.4	60.0	25.8	2.8
Private (National)	51.4	34.4	11.4	2.8
Private (Local)	18.5	57.2	22.8	1.5

Nine out of ten 1969 high level employees, as Exhibit 14 shows, believe that their salaries would be higher if they were working in similar positions in a national private business firm. This is approximately the same as in 1963.

EXHIBIT 14

HOW ALBUQUERQUE'S HIGH LEVEL PERSONNEL VIEW THE SALARIES FOR THEIR POSITIONS IN OTHER FORMS OF EMPLOYMENT

1963

				No. of Respondents
Private (National)	92	4	4	49
Private (Local)	61	29	10	49
Federal	75	21	4	48
State	41	39	20	46
Trade or Non-profit Association	48	31	21	42

1969

Private (National)	90.8	6.1	3.1	65
Private (Local)	44.6	36.9	18.5	65
Federal	83.9	16.1	0.0	68
State	22.2	49.2	28.6	63
Trade or Non-profit Association	30.1	47.6	22.3	63

The feeling that the Federal government would offer a higher salary is noteworthy in that it is the only major employer that shows a trend of becoming less equitable with respect to the City. The important thing is that the feeling is there. Whether this trend is an accurate indication or not is immaterial.

The big resource for obtaining personnel is still private industry. However, more and more positions are being filled with "rookie" personnel and less with men coming from a particular profession or specialty. (see Exhibit 15). This is reflected in the average age which was mentioned earlier.

EXHIBIT 15

TYPES OF EMPLOYMENT IN WHICH HIGH LEVEL PERSONNEL BEGAN THEIR CAREER

	1963	1969
Private	23 or 42%	31 or 44.3%
Local	9 or 16%	21 or 30.0%
Federal	6 or 11%	10 or 14.3%
State	5 or 9%	5 or 7.2%
Professional	7 or 13%	1 or 1.4%
Other	5 or 9%	2 or 2.8%

Why high level personnel enter local government should be of primary importance to the City of Albuquerque. With this information the City can indicate, to potential employees, what they will find in working for a local government. This should be of considerable help in both recruitment and retention of high level employees. Exhibit 16 indicates that the main reasons for entering local government are changing. The four main reasons in 1963 were: general nature of the work, opportunity to help solve public problems, opportunity for advancement, and salary, in that order. However, in 1969, the reasons were: general nature of work, important responsibility, opportunity for advancement, and opportunity to help solve public problems.

This would indicate that today's high level personnel are interested in and anticipating important responsibility. Because of this, it is important that the City provide their personnel with this opportunity. If they do not provide these opportunities, an increased turnover rate can be ex-

EXHIBIT 16

REASONS WHY HIGH LEVEL PERSONNEL ENTER ALBUQUERQUE LOCAL GOVERNMENT

	Mentioned as 1 of 5 main reasons				Rank Mentioned most Frequent	
	1963		1969		1963	1969
General nature of work	46	84%	64	91.1%	1	1
Opportunity to help solve public problems	30	55%	38	54.3%	2	1
Only position available	12	22%	12	17.1%	1	2
Opportunity for advancement	28	51%	43	61.4%	2,4	3
Job security	19	35%	24	34.3%	3	5
Salary	22	40%	34	48.5%	4,5	4,5
Important responsibility	17	31%	46	65.7%	5	4
Good experience for entering private industry	8	15%	7	10.0%	1	3,4,5
Prestige	6	11%	9	12.8%	4,5	5
Political opportunity	1	2%	0	0.0%	3	0
Retirement benefits	9	16%	18	25.7%	5	5
Other fringes	8	15%	9	12.8%	3,5	5
Low pressure	3	6%	1	1.4%	4,5	4
Congenial co-workers	6	11%	8	11.4%	4,5	4
Other:	18	33%	20	28.5%	1	1
Geo. area			11	15.7%		1
Various			9	12.8%		2

pected. High level employees are also becoming more satisfied with the general nature of work, the opportunity to help solve public problems, and the opportunity for advancement once they are on the job. This is a fine selling point to potential employees. In fact, Exhibit 17 shows that 1969 high level employees are more satisfied with conditions in every area except fringe benefits and the amount of pressure they are under. Yet even under fringe benefits fewer are dissatisfied, with the change being towards neutrality. It should be noted that salary is still the factor that most of the high level employees are disgruntled with. This does not necessarily mean that this is a source of dissatisfaction, but rather, when forced to give an expression, he indicates dissatisfaction with salary as often as he indicates satisfaction.

As was mentioned earlier, this section can only be interpreted subjectively due to the lack of access to the raw data involved in the 1963 study. Yet, it should be of interest and use to the City of Albuquerque.

EXHIBIT 17

DEGREE OF SATISFACTION WITH CONDITIONS OF WORK

	Satisfac.		Neutral		Dissat.		No. Resp.	
	1963	1969	1963	1969	1963	1969	1963	1969
General nature of work	94%	98.5%	4%	1.5%	2%	0.0%	54	70
Opportunity to help solve public problems	77	85.7	19	12.8	4	1.5	53	70
Opportunity for advancement	48	55.0	35	27.5	17	17.5	54	69
Job security	70	80.0	23	14.3	8	5.7	53	70
Opportunity for training	37	52.2	33	30.3	30	17.5	54	69
Relations with co-workers	87	94.3	9	4.3	4	1.4	53	70
Status and recognition	70	75.7	17	18.5	13	5.8	53	70
Salary	25	34.3	33	27.1	42	38.6	52	70
Responsibility	83	84.3	9	7.1	8	8.6	53	70
Retirement benefits	70	68.6	17	15.7	13	15.7	54	70
Other fringes	69	68.2	19	15.9	12	15.9	52	69
Office working conditions	55	74.3	15	14.3	30	11.4	53	70
Amount of pressure	70	64.3	17	24.3	13	11.4	53	70

F. CONCLUSIONS

It would seem that the first hypothesis which states that the factors leading to satisfaction will be different than those leading to dissatisfaction, is not fully supported. As mentioned earlier, Herzberg's study supported this hypothesis, but satisfaction and dissatisfaction in this thesis tended more towards the bipolar concept. For example, the opposite of achievement was often non-achievement.

Also, in Albuquerque's public administration, the high level personnel are more concerned with achievement and fairness than were the industrial personnel studied by Herzberg.

Top City officials should note the sources of satisfaction and dissatisfaction. Employing these sources, they should be able to increase the satisfiers and decrease the dissatisfiers, thereby increasing morale, motivation, and self-actualization and decreasing such factors as turnover and absenteeism.

Based on a combination of low self-actualization and a low organizational climate, in relation to the City in total, it can be suggested that Departments A, C, and M are potential problem areas. While speaking of self-actualization and organizational climates, it can be said that the second hypothesis which states that the self-actualiza-

tion scores will have a significant positive correlation with the variables which make up the organizational climate, is partially supported. There was a statistically significant positive correlation between self-actualization and thirty-five of the fifty organizational climate variables. Those policies or organizational variables presented earlier, that have been positively correlated with self-actualization should be adopted and implemented by the City.

Since 1963, the average high level City employee has become younger and better educated. More and more high level employees are going directly into local government. High level personnel employed by the City in 1969 are still primarily attracted by the general nature of the work but also by the promise of increased responsibility. Once they are in the organization, these high level personnel are generally more satisfied with their work than were their counterparts in 1963. This is especially true with respect to the working conditions, the opportunity for training, and the opportunity to help solve public problems. Top personnel should note this and use it on any recruiting efforts.

It seems appropriate to conclude by saying what should be obvious. The City should promote those factors that lead to higher satisfaction and self-actualization and strive to eliminate those conditions that breed problems.

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APPENDIX A

QUESTIONNAIRE, PARTS I, II, III, IV

APPENDIX B

VALUES FOR THE TESTS OF PROPORTIONS BETWEEN HIGH AND LOW JOB ATTITUDE SEQUENCES

	Weighted Mean Proportion	Standard Error of Difference	t
FIRST LEVEL			
Achievement	.5051	.0707	6.7835*
Recognition	.2295	.0591	2.5888*
Possible Growth	.0765	.0360	1.4166
Advancement	.0459	.0282	1.8085
I.R. Peers	.0969	.0400	1.2750
Responsibility	.0357	.0244	2.0901
Work Itself	.0459	.0282	1.0851
Status	.0255	.0200	2.5500
I.R. Superiors	.0561	.0300	1.0200
I.R. Subordinates	.0714	.0360	2.2666
Company Policy	.1224	.0458	4.9017*
Salary	.0408	.0282	2.1702
Supervision-Tech.	.0408	.0282	2.8936*
Job Security	.0255	.0200	2.5500
Working Condition	.0663	.0331	4.0090*
SECOND LEVEL			
Achievement	.5153	.0707	6.2065*
Recognition	.2908	.0640	3.3468*
Pride	.1224	.0458	.8908
Possible Growth	.1224	.0458	.4475
Work Itself	.0459	.0282	2.5319
Fairness	.3214	.0655	7.3221
Advancement	.0408	.0282	2.1702
Responsibility	.0561	.0300	.3400
Group Feeling	.0459	.0282	1.0851
Status	.0255	.0200	2.5500
Salary	.0408	.0282	2.1702
Job Security	.0510	.0300	3.0600*

*Statistically significant at .01 level.

APPENDIX C

VALUES FOR THE SELF-ACTUALIZATION SCORES FOR EACH DEPARTMENT

	n	$\bar{X}$	S.D.	f
Total City	70	86.53	7.54	---
A**	1	85.70	---	0.01
B	3	85.80	9.28	0.03
C	5	85.58	11.03	0.07
D	8	87.94	9.35	0.24
E	3	89.63	4.65	0.50
F	5	89.78	3.06	0.91
G	3	86.53	7.54	0.02
H	2	88.05	4.03	0.18
I	3	91.10	6.42	1.06
J	7	86.03	9.20	0.03
K**	1	92.60	--	0.64
L	7	90.29	7.14	1.59
M	7	80.51	8.41	3.97*
N	3	85.50	2.34	0.05
O	2	83.35	1.49	0.35
P	7	81.40	6.55	3.00
Q	2	90.80	4.24	0.63
R**	1	88.90	--	0.10

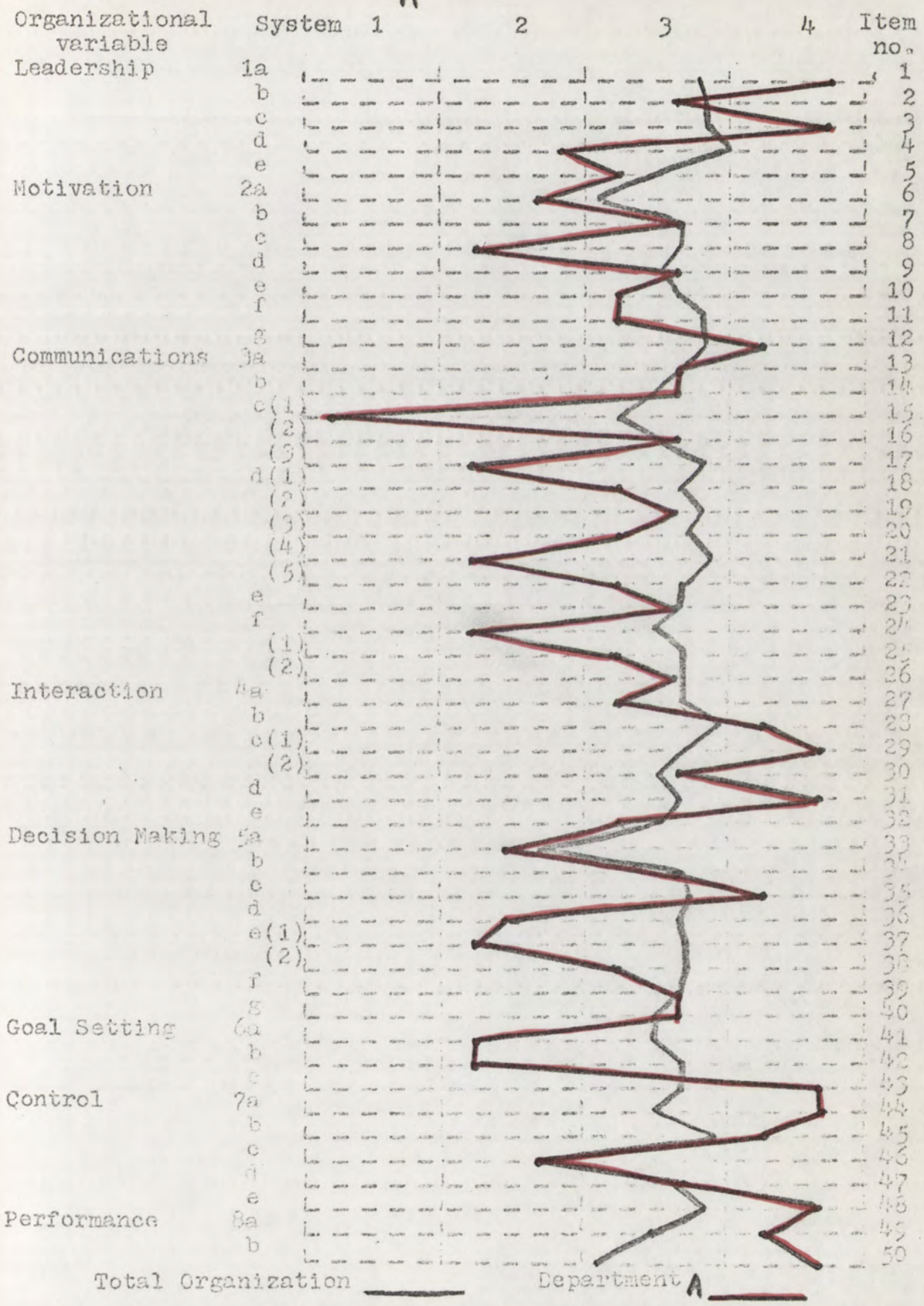
*Statistically significant at .05 level.

**Because of only one sample, there is no standard deviation.

APPENDIX D

GRAPHIC PROFILES COMPARING EACH DEPARTMENT AND THE TOTAL CITY

A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Total Organization
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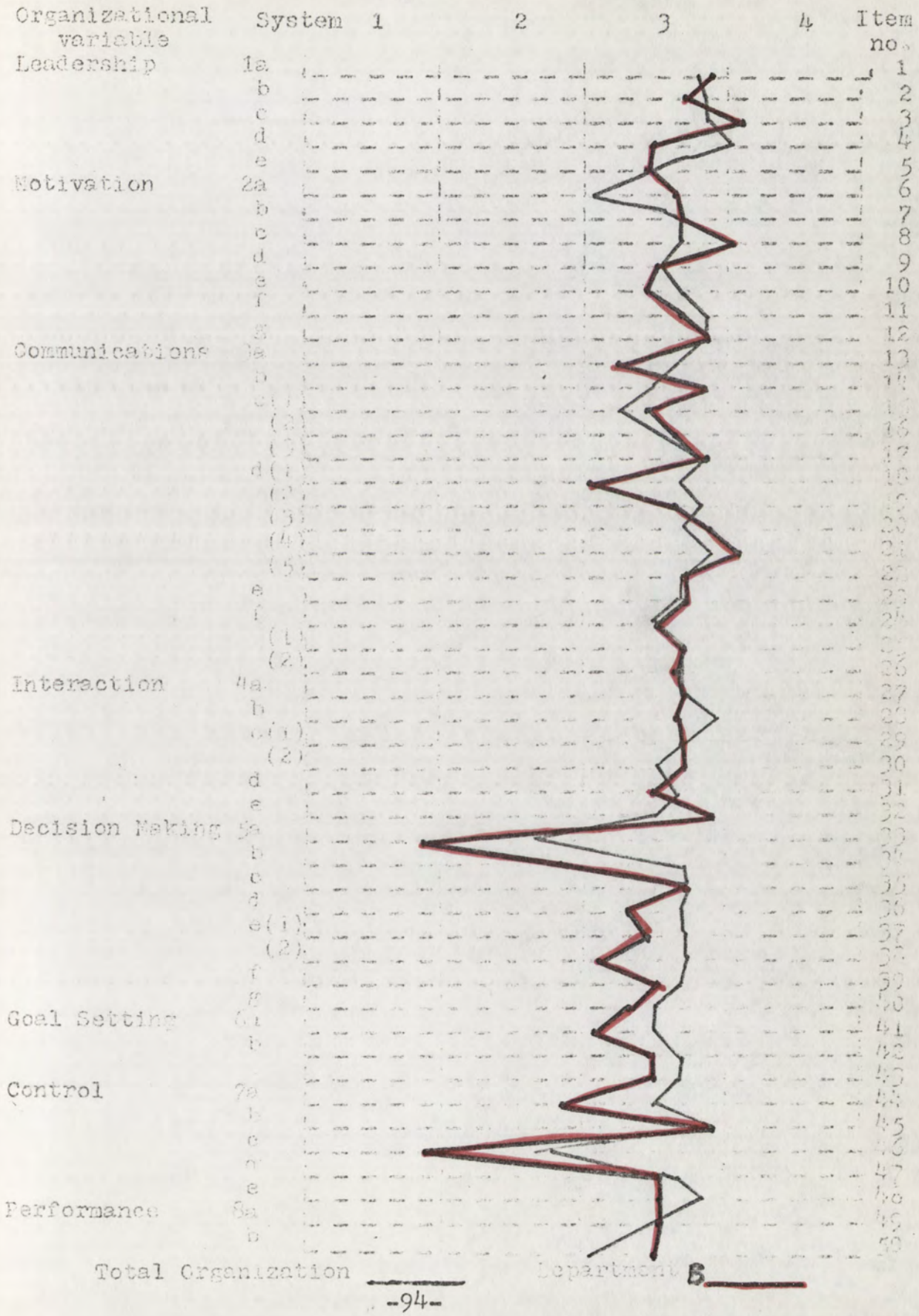
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Total Organization
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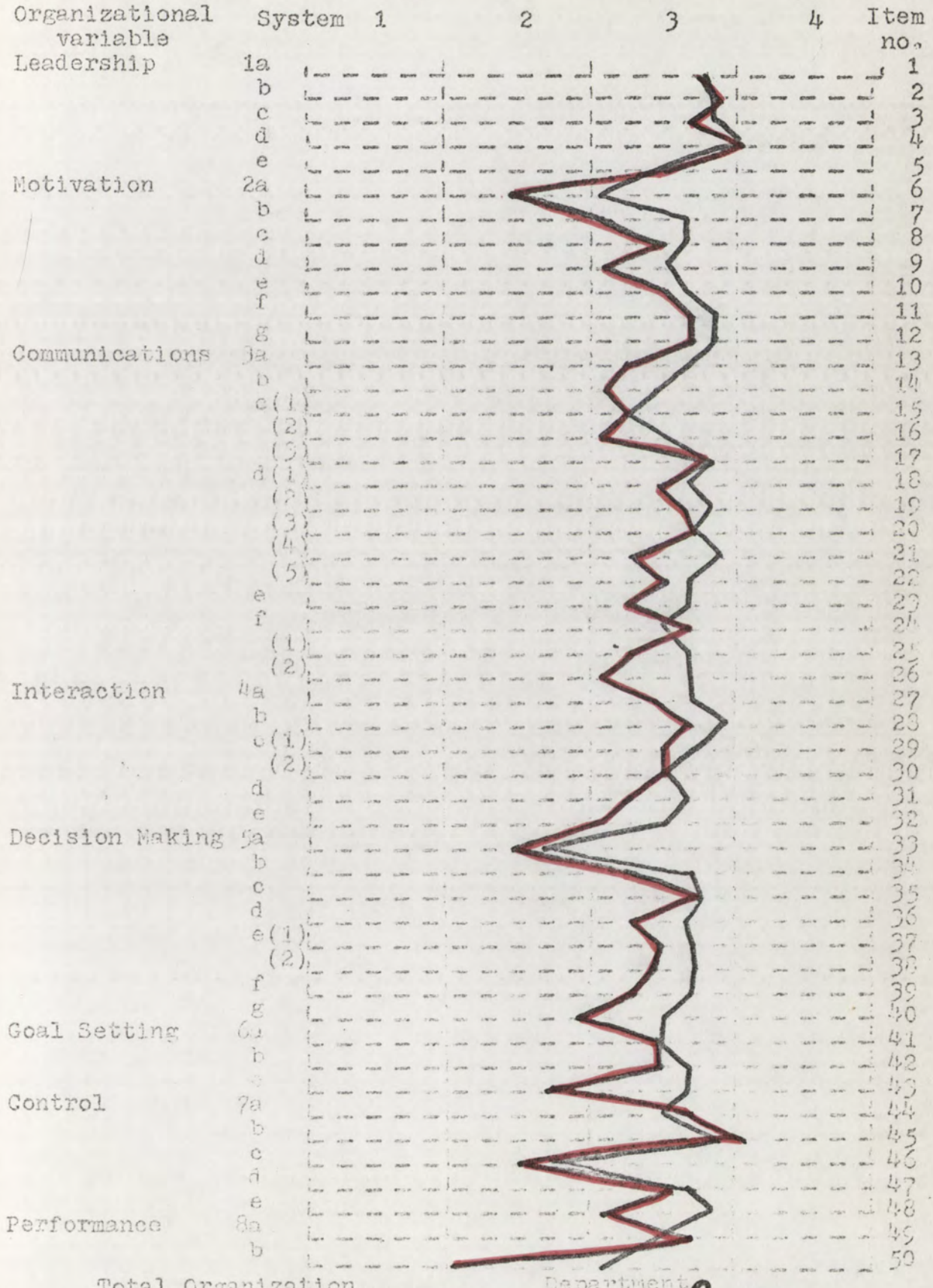
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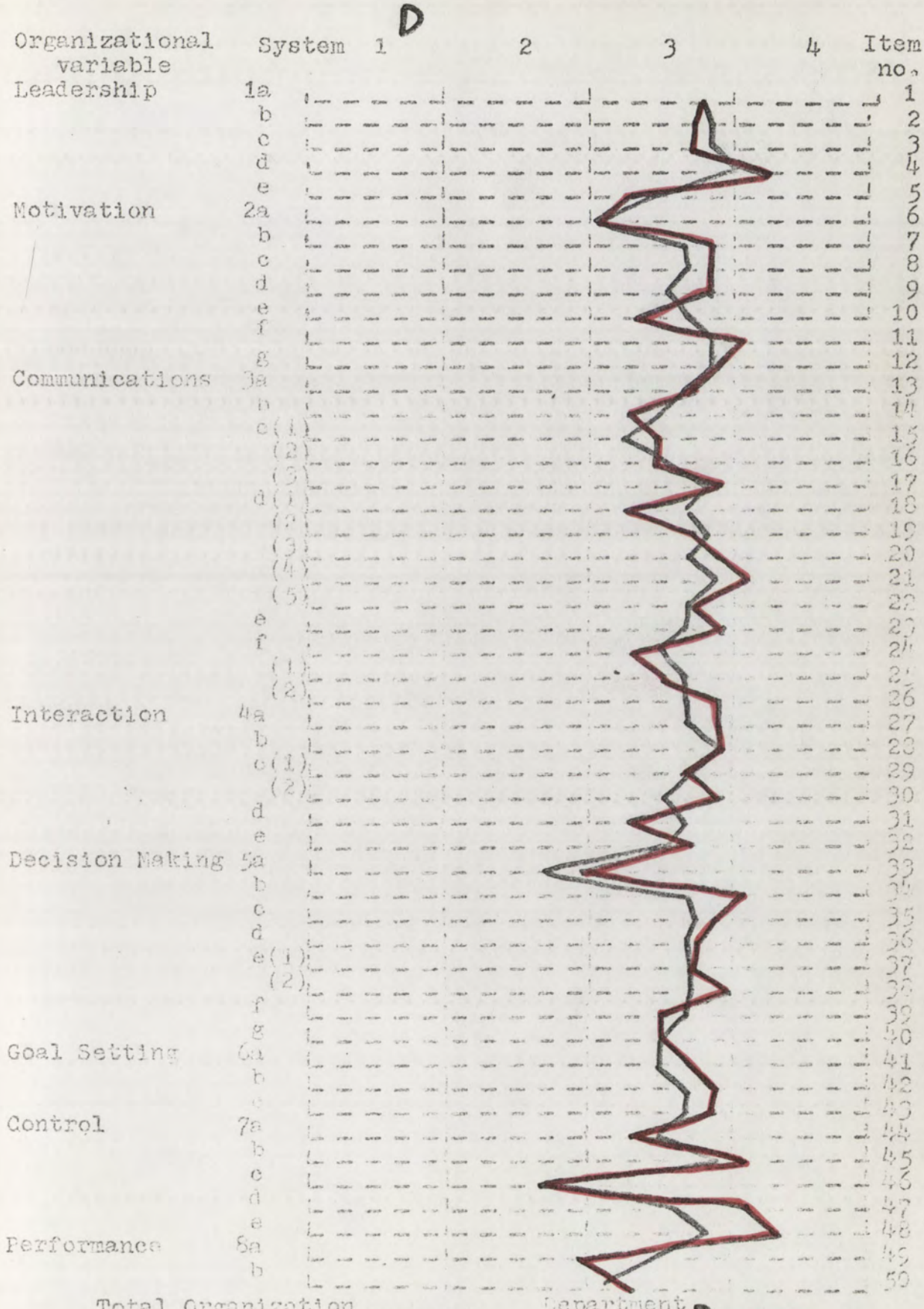
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Total Organization
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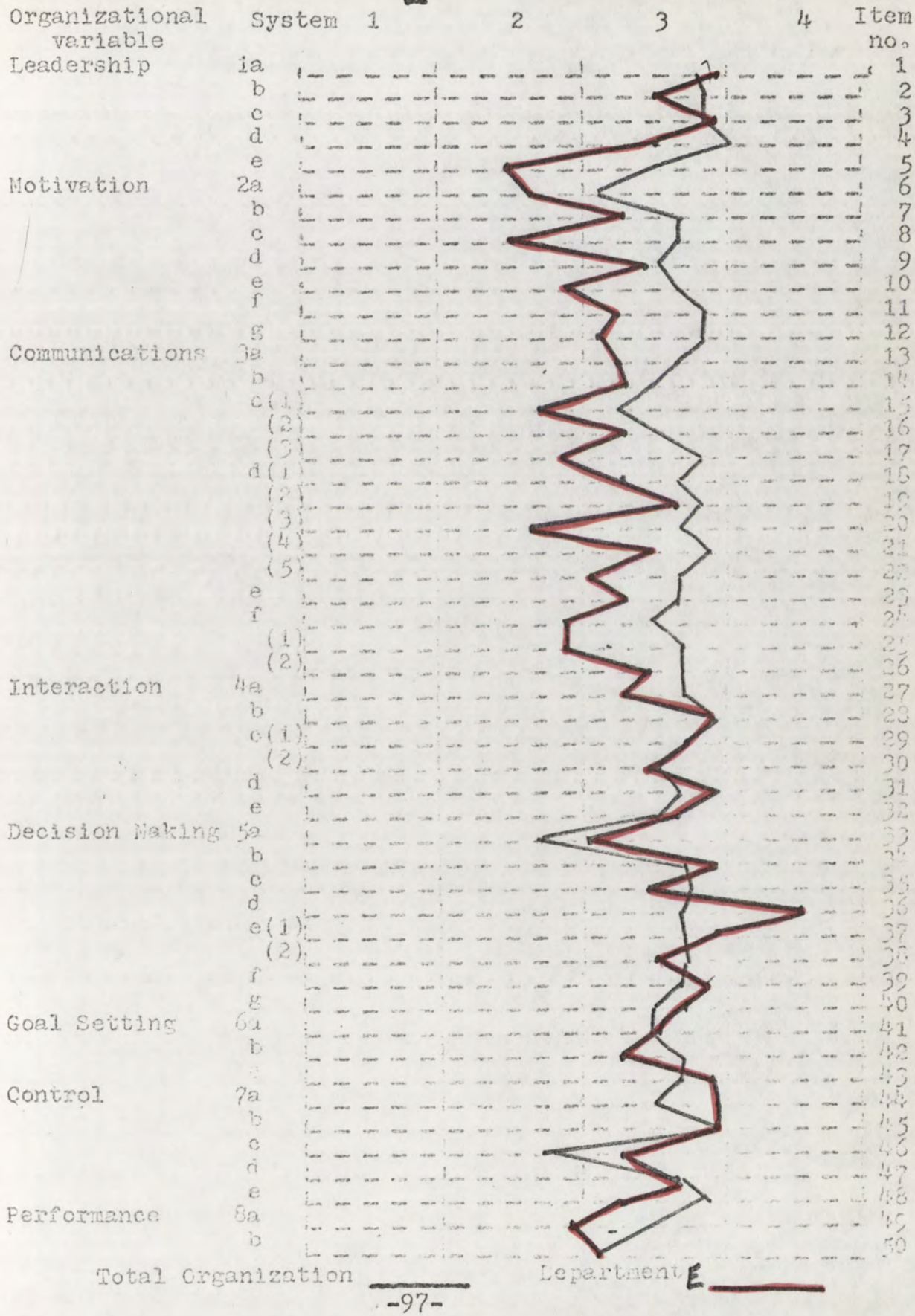
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Item no.
Leadership
Motivation
Communications
Interaction
Decision Making
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Total Organization
Department E

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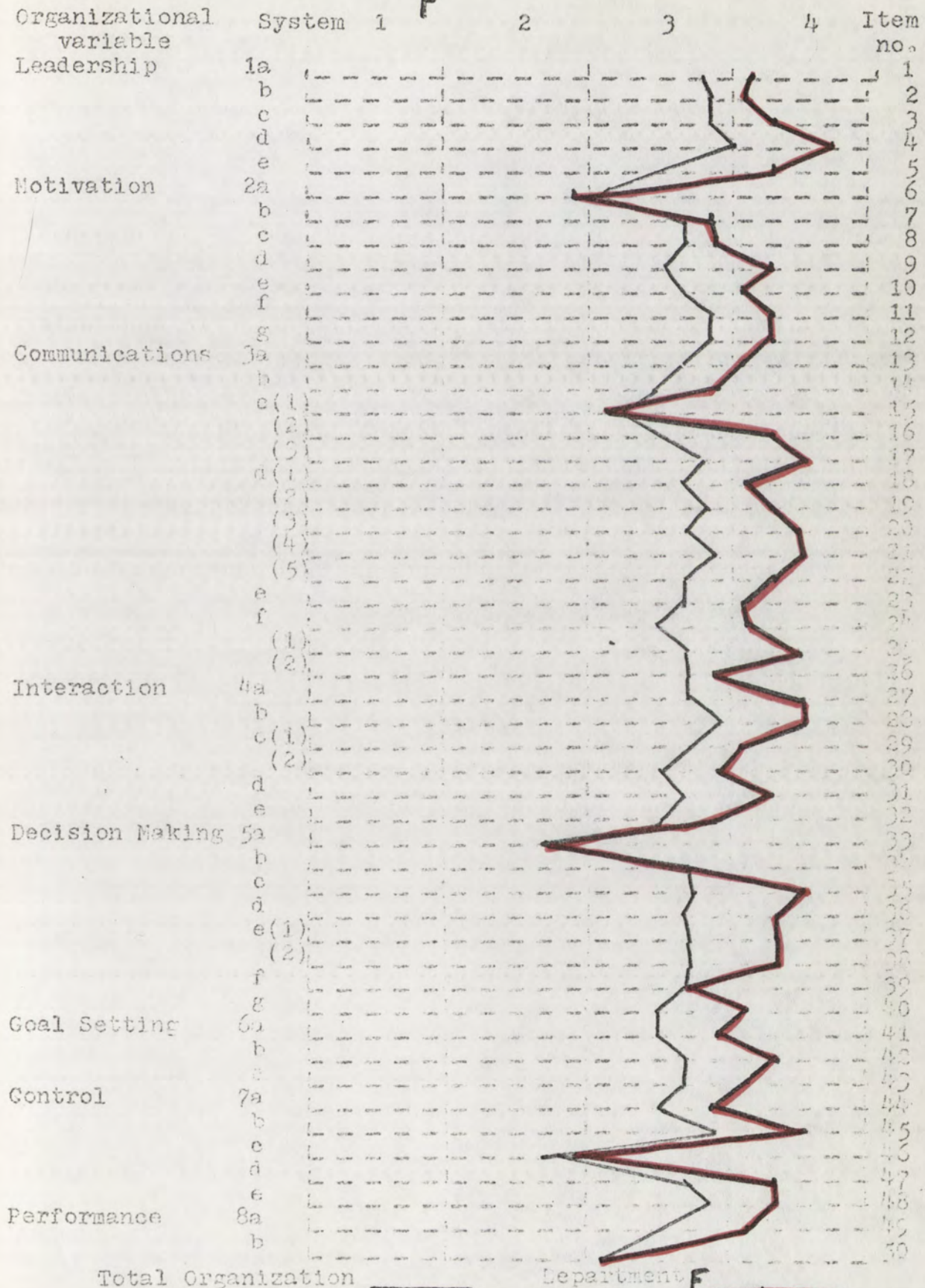
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Total Organization
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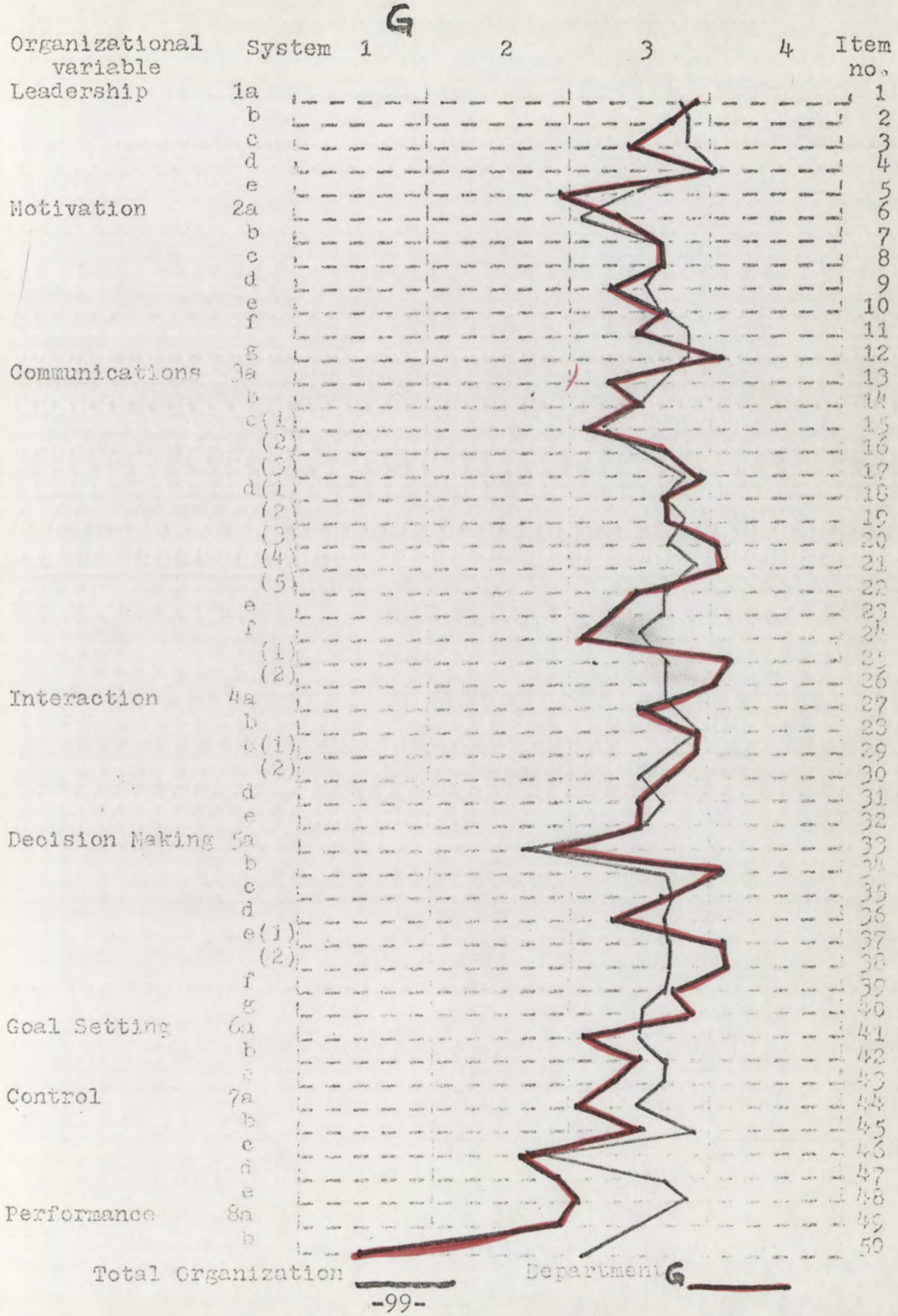
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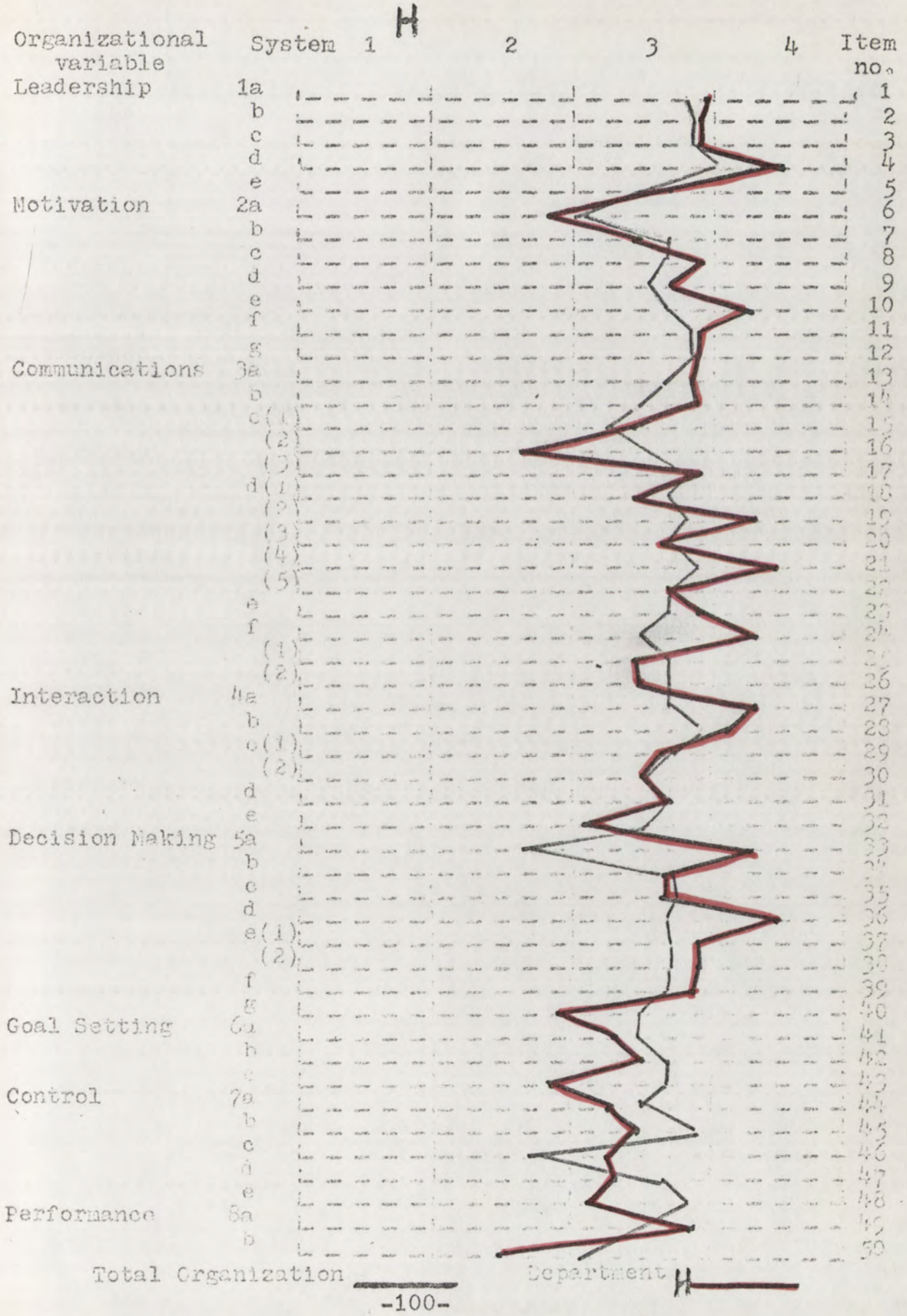
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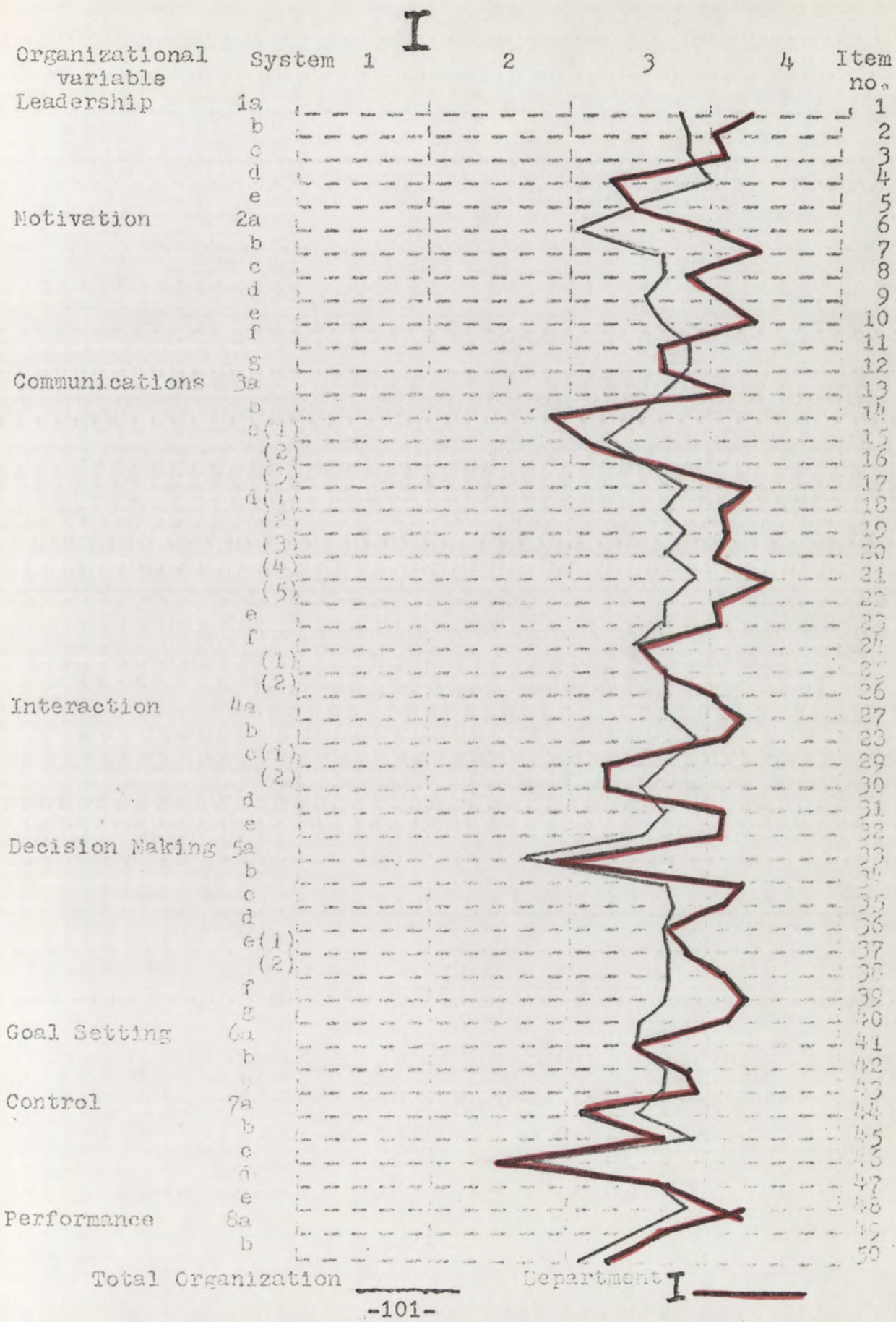
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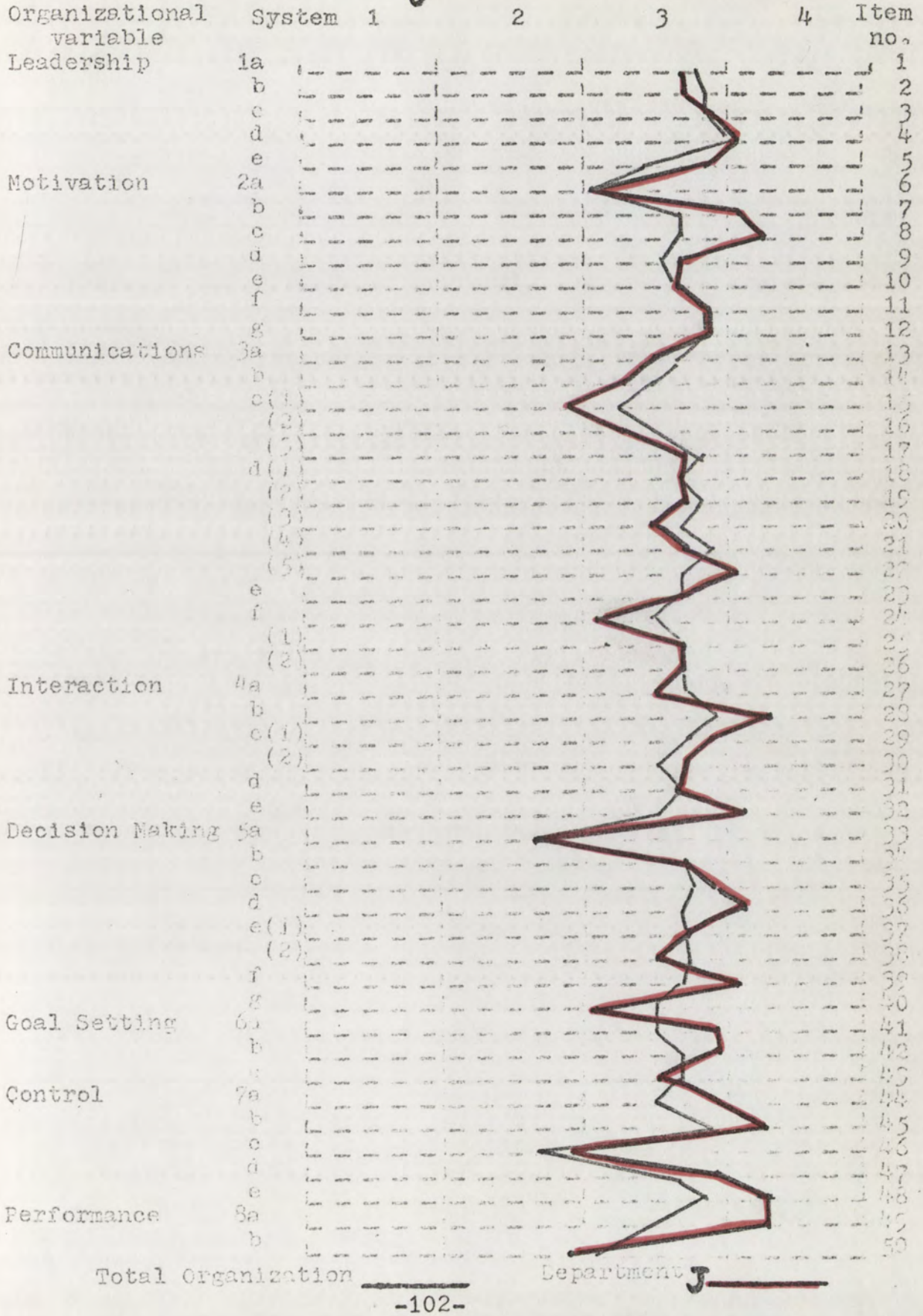
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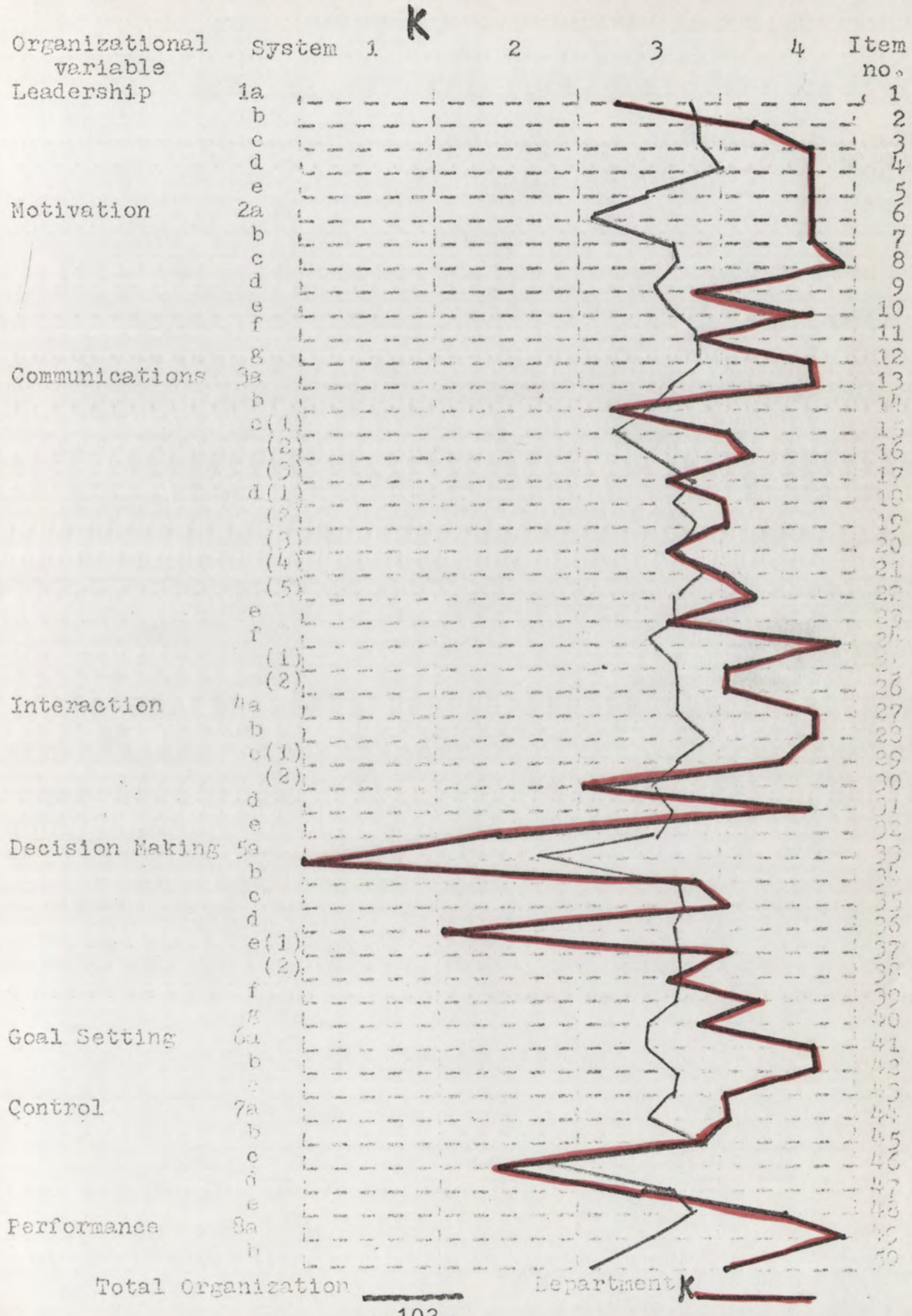
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Decision Making
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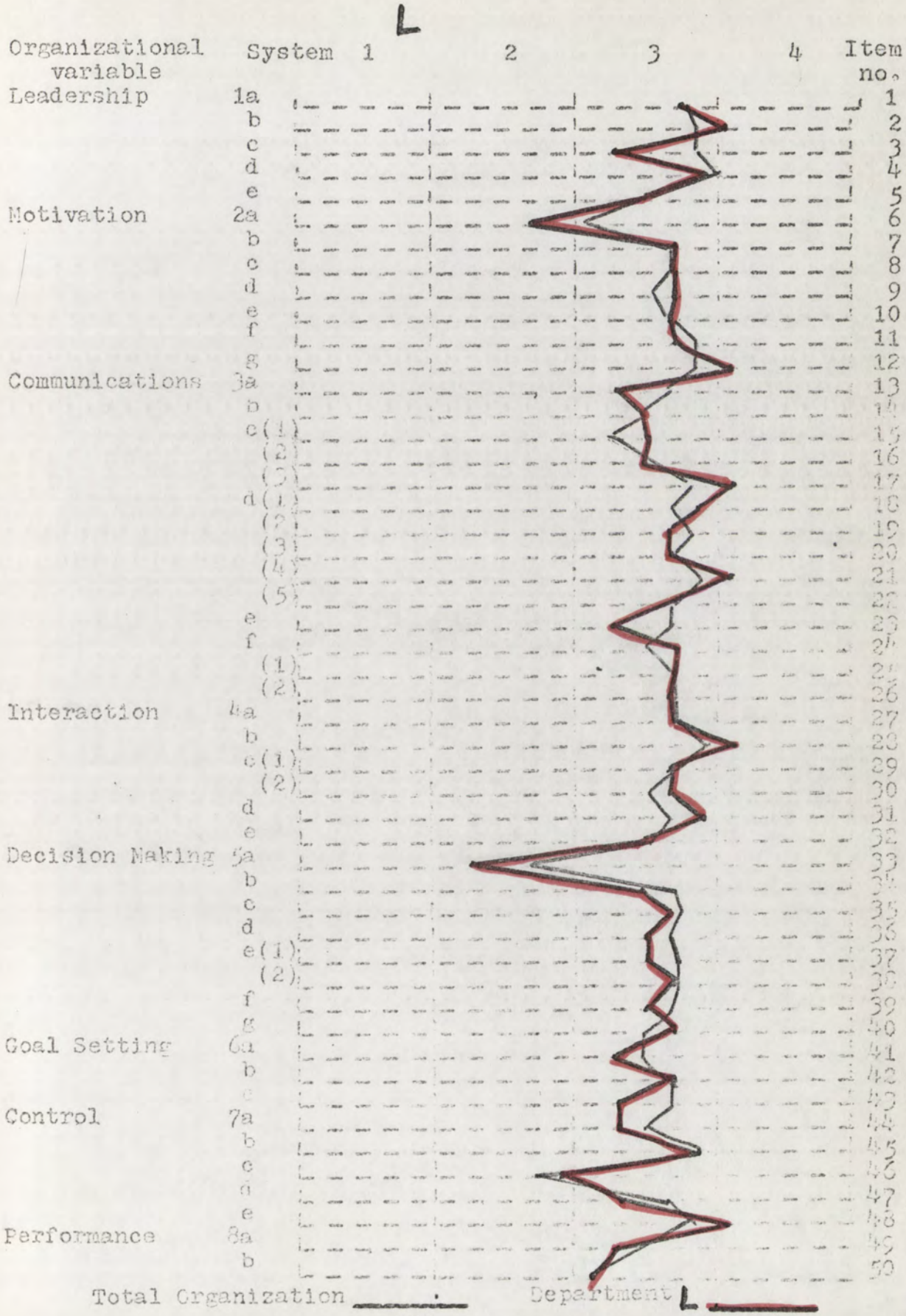
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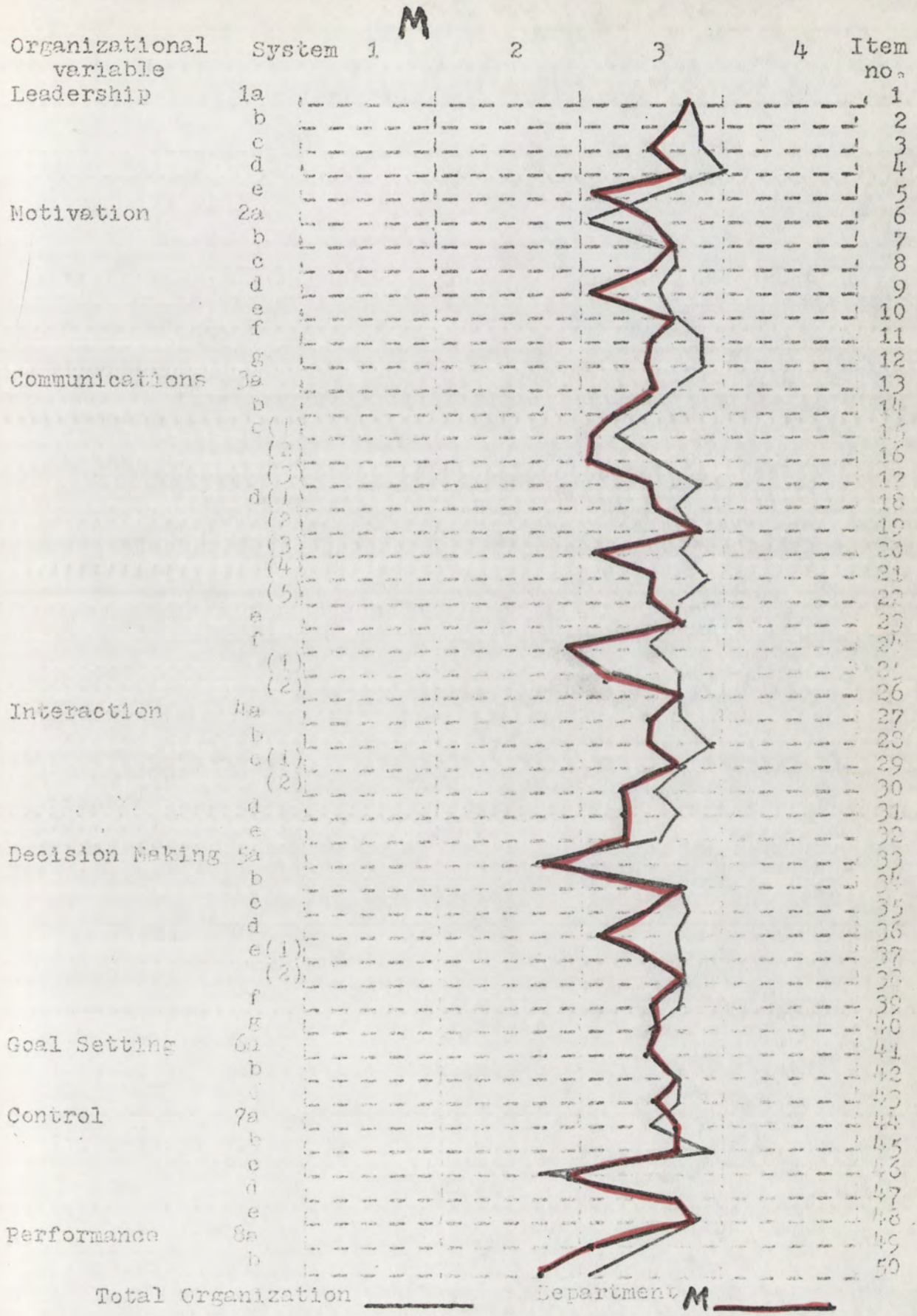
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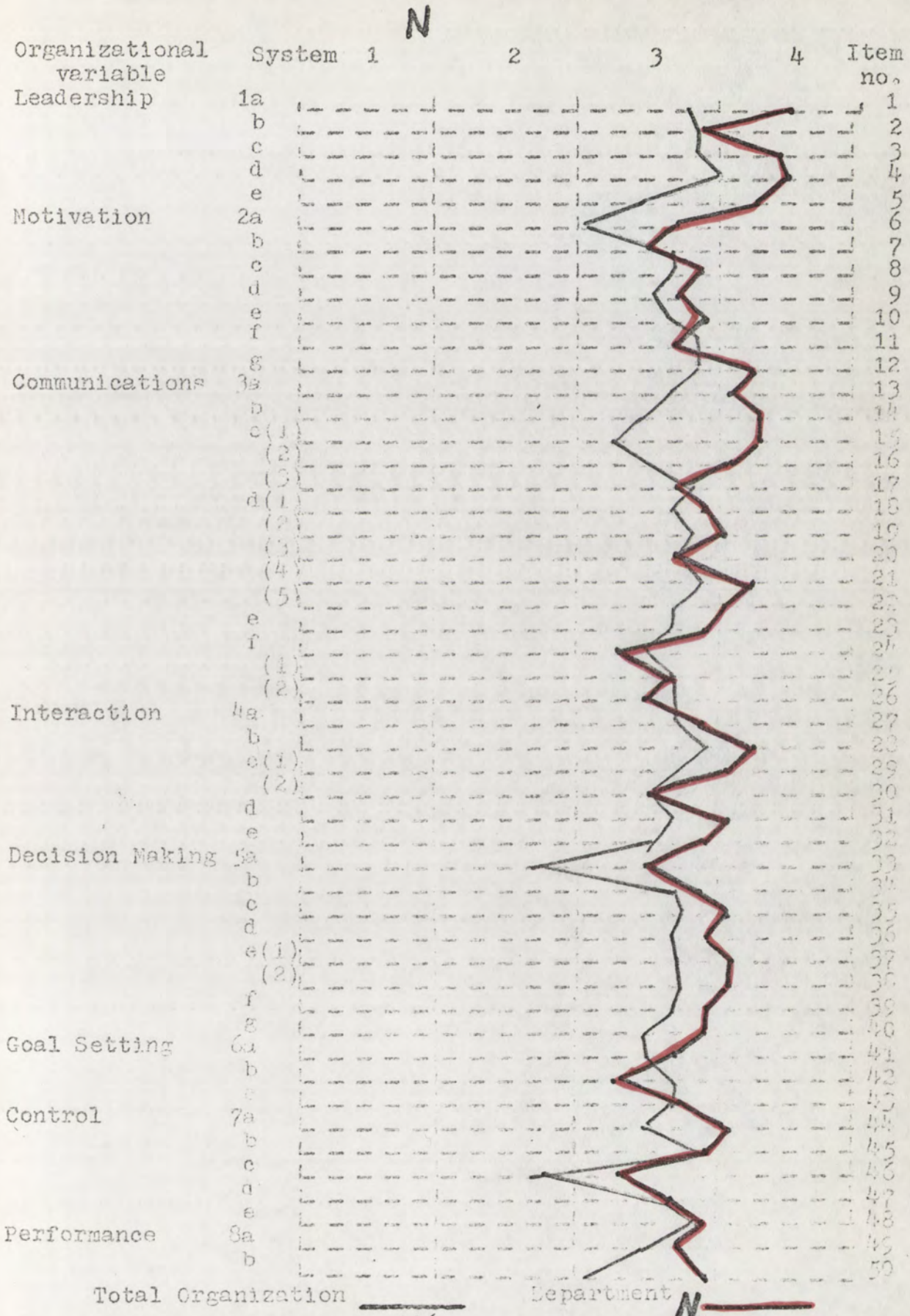
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Total Organization
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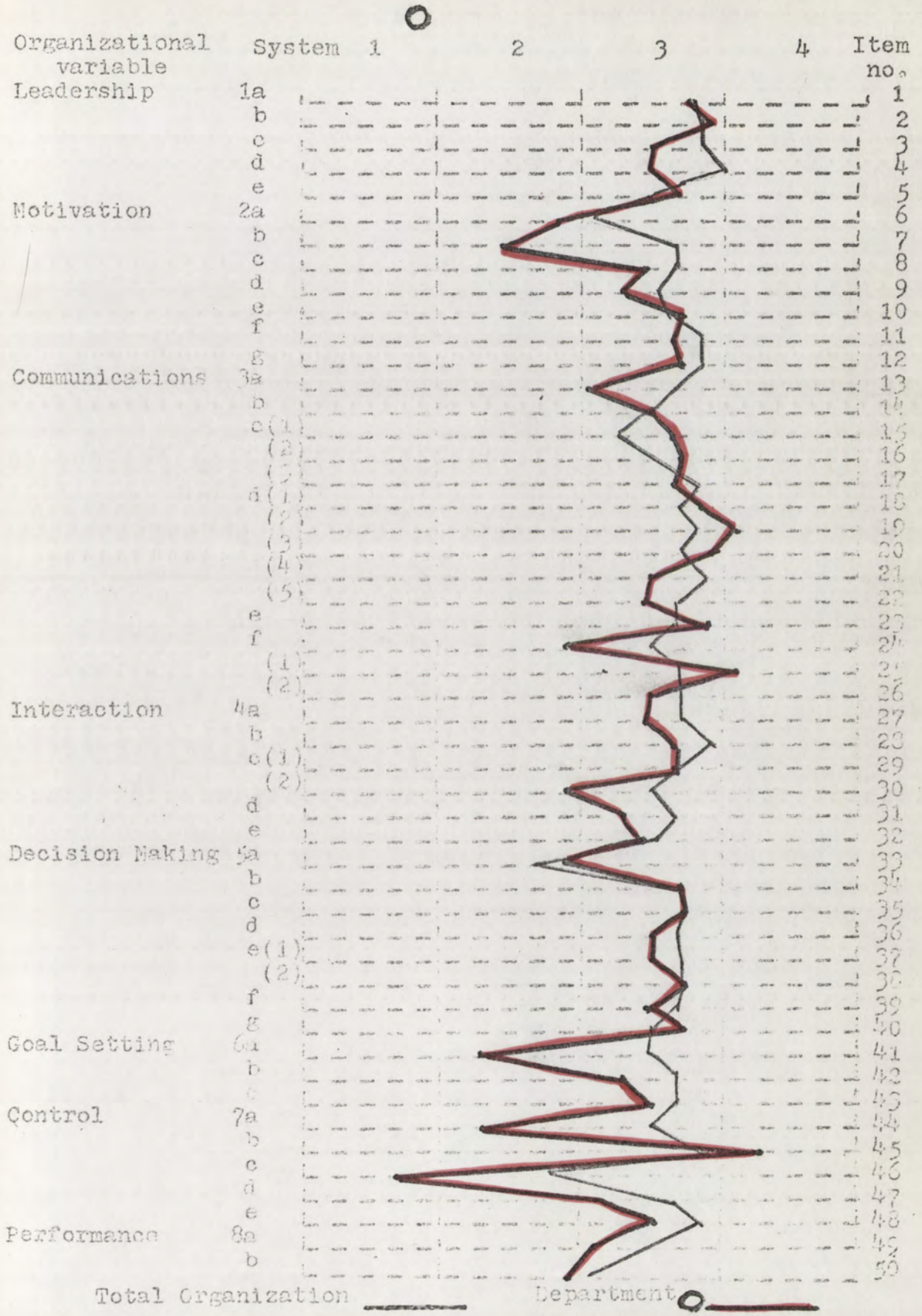
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Total Organization
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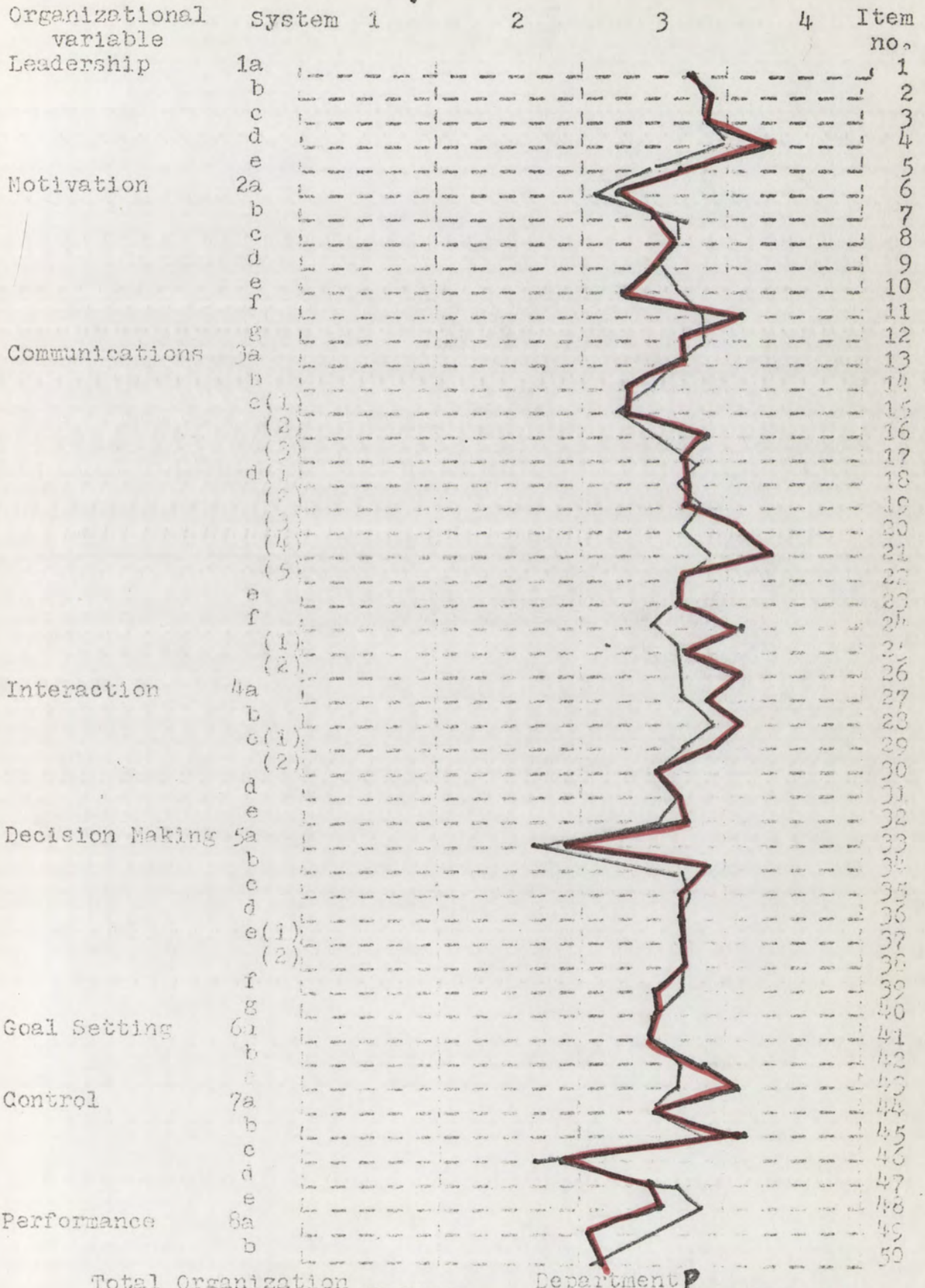
Organizational variable
System 1
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Item no.
Leadership
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Motivation
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Communications
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c(1)
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d(1)
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(2)
Interaction
4a
b
c(1)
(2)
d
e
Decision Making
5a
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d
e(1)
(2)
f
g
Goal Setting
6a
b
c
Control
7a
b
c
d
e
Performance
8a
b
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Total Organization
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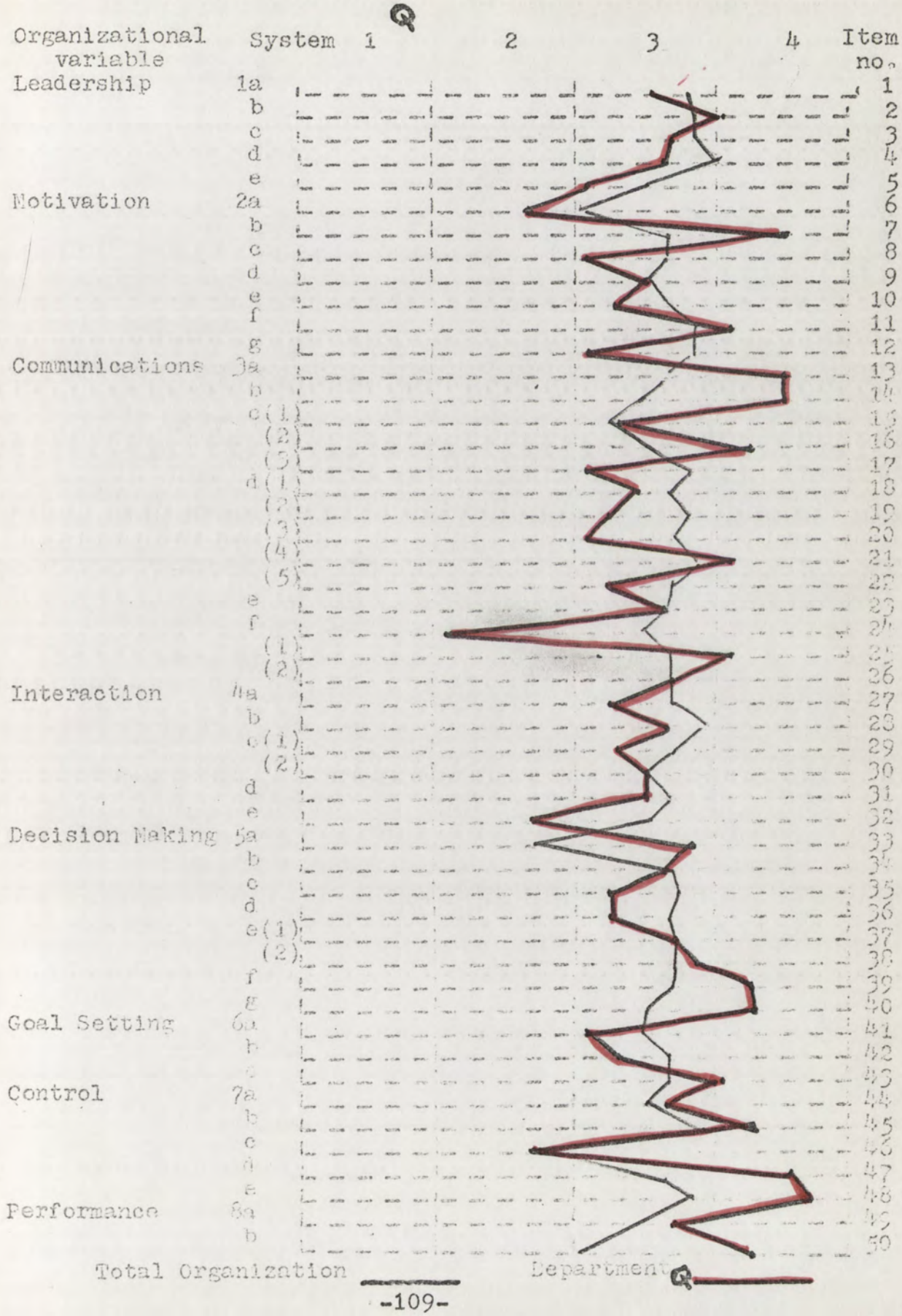
Organizational variable
System 1
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Item no.
Leadership
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Motivation
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Goal Setting
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Performance
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Total Organization
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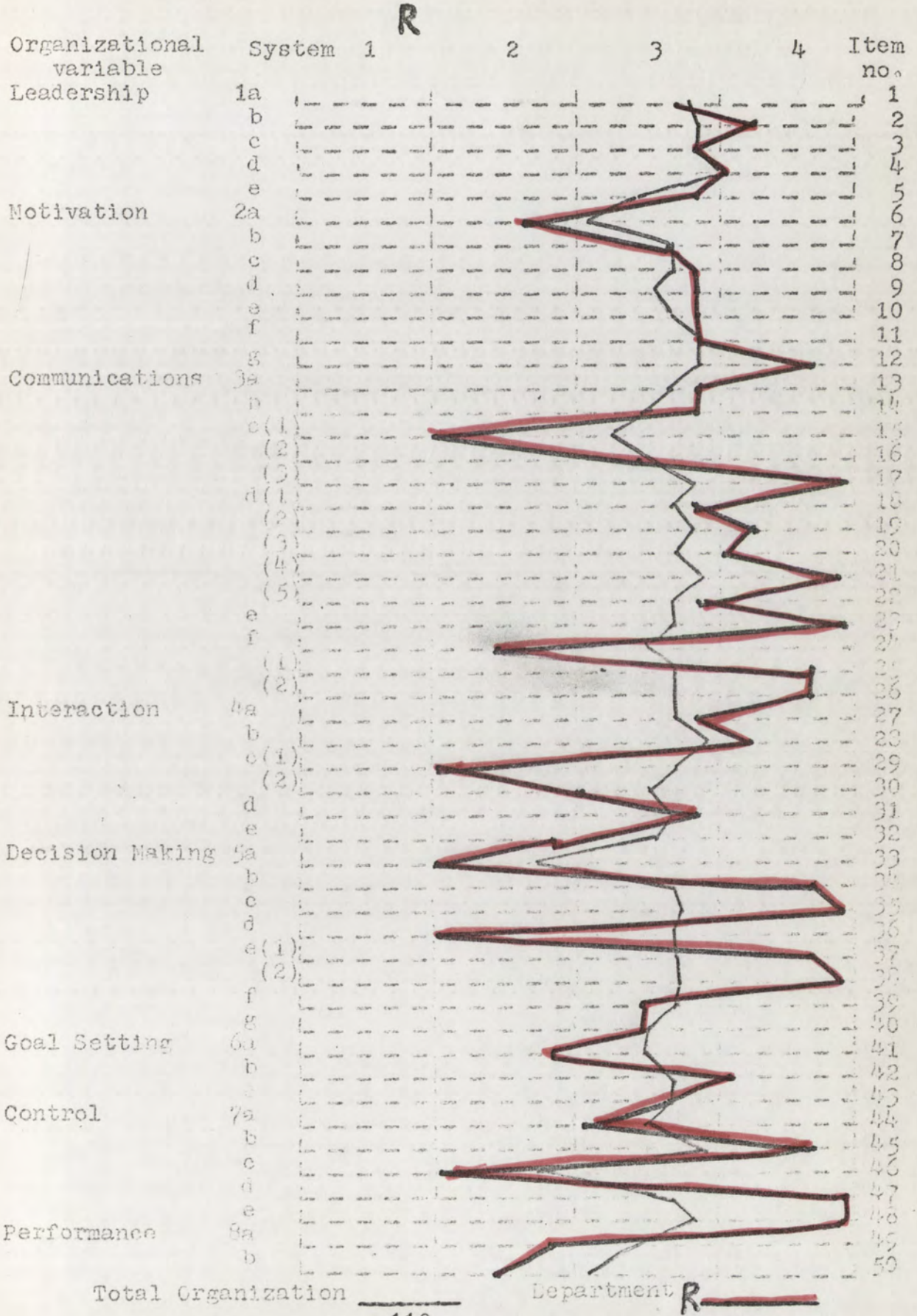
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Organizational variable
System 1
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Item no.
Leadership
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Motivation
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Communications
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Total Organization
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APPENDIX E

SAMPLE SIZE, MEAN, STANDARD DEVIATION AND F VALUE FOR EACH DEPARTMENT AND THE TOTAL CITY

TOTAL ORGANIZATION

n = 70

	$\bar{x}$	SD	F
1.	14.94	2.64	
2.	15.09	2.86	
3.	15.03	3.19	
4.	16.10	3.82	
5.	13.61	4.10	
6.	11.53	4.18	
7.	14.33	3.71	
8.	14.39	3.06	
9.	13.93	2.91	
10.	14.01	3.43	
11.	15.03	2.72	
12.	15.14	2.80	
13.	14.06	3.13	
14.	13.57	3.24	
15.	12.19	3.86	
16.	13.61	3.91	
17.	15.01	3.06	
18.	14.21	3.13	
19.	15.00	2.64	
20.	14.43	3.49	
21.	15.77	2.53	
22.	14.56	3.48	
23.	14.36	2.81	
24.	13.21	4.26	
25.	14.24	3.78	
26.	14.51	2.94	
27.	14.70	2.60	
28.	15.90	2.68	
29.	14.54	2.78	
30.	13.83	2.82	
31.	14.29	3.43	
32.	13.90	3.06	
33.	9.81	4.82	
34.	14.64	3.65	
35.	14.93	3.51	
36.	14.16	4.52	
37.	14.61	3.88	
38.	14.83	3.49	
39.	14.37	2.86	
40.	13.77	3.93	
41.	13.21	3.34	
42.	14.43	2.74	
43.	14.10	3.16	
44.	13.53	4.19	
45.	15.99	2.55	

	$\bar{x}$	SD	F
46.	9.79	3.92	
47.	14.39	3.11	
48.	15.34	3.62	
49.	13.11	4.34	
50.	11.17	5.26	

	A** n = 1			B n = 3			C n = 5		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
1.			2.33	15.00	1.73	0.00	14.60	2.07	0.08
2.			0.14	14.67	1.15	0.06	15.20	2.28	0.01
3.			1.52	16.67	1.53	0.77	14.40	2.61	0.18
4.			2.51	13.33	5.03	1.48	16.00	3.94	0.00
5.			0.15	13.00	2.65	0.07	13.20	1.92	0.05
6.			0.36	14.00	1.73	1.03	8.00	2.74	3.43
7.			0.01	14.33	3.21	0.00	11.40	3.91	2.89
8.			5.76*	16.00	1.73	0.82	13.60	4.04	0.30
9.			0.00	13.67	0.58	0.02	11.80	2.28	2.56
10.			0.34	13.00	2.65	0.25	13.60	4.51	0.07
11.			1.22	14.33	2.31	0.19	14.40	5.86	0.21
12.			0.43	15.33	1.15	0.01	14.60	4.39	0.16
13.			0.00	12.00	1.00	1.27	12.80	3.56	0.74
14.			0.02	15.00	2.65	0.56	11.80	3.27	1.39
15.			6.85*	13.00	5.00	0.13	12.00	2.00	0.01
16.			0.01	14.00	2.65	0.03	11.40	3.78	1.50
17.			6.75*	15.33	1.15	0.03	15.20	3.84	0.02
18.			0.49	11.00	2.65	3.06	13.60	2.61	0.18
19.			0.14	14.00	1.73	0.42	14.20	2.77	0.43
20.			0.48	15.33	2.89	0.20	14.60	3.71	0.01
21.			6.08*	16.33	2.89	0.07	12.80	3.27	3.33
22.			0.53	14.33	3.21	0.01	13.60	1.34	0.37
23.			0.02	14.67	1.15	0.04	12.00	2.55	3.31
24.			2.10	13.67	4.04	0.03	14.80	4.15	0.65
25.			0.35	14.67	2.89	0.04	12.40	3.85	1.11
26.			0.03	14.00	4.00	0.09	11.20	3.27	5.84*
27.			1.06	14.67	0.58	0.00	13.00	3.46	1.91
28.			1.17	14.00	2.65	1.45	14.00	3.67	2.24
29.			2.53	14.33	3.21	0.02	13.80	1.92	0.34
30.			0.00	14.67	2.89	0.25	13.60	2.30	0.03
31.			1.86	13.33	5.69	0.21	12.80	2.86	0.89
32.			0.38	15.33	0.58	0.65	11.40	4.51	2.93
33.			0.14	5.33	4.16	2.50	8.80	4.76	0.21
34.			0.03	10.00	6.00	4.44*	12.80	1.48	1.25
35.			0.34	14.33	5.03	0.08	14.60	4.67	0.04
36.			1.83	12.33	6.66	0.45	12.40	3.97	0.71

	A** n = 1			B n = 3			C n = 5		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
37.			3.80	13.00	4.36	0.50	13.40	6.27	0.42
38.			0.65	11.67	3.51	2.36	13.00	5.15	1.20
39.			0.02	13.67	1.15	0.18	12.80	4.02	1.34
40.			0.00	12.67	1.53	0.31	10.60	2.19	4.21
41.			3.41	11.33	1.53	0.93	13.20	5.45	0.00
42.			7.26*	13.00	2.65	0.78	13.40	9.04	0.62
43.			2.37	13.33	3.51	0.17	9.80	3.03	8.69*
44.			1.68	10.00	3.00	2.07	14.00	2.55	0.06
45.			0.16	15.33	3.51	0.18	16.40	4.82	0.11
46.			0.04	5.33	2.52	3.78	8.80	2.59	0.30
47.			0.02	13.67	0.58	0.16	13.60	1.52	0.31
48.			1.01	13.67	2.08	0.63	11.40	5.03	5.28*
49.			0.79	13.67	0.58	0.05	14.40	3.91	0.41
50.			2.18	13.33	3.51	0.49	6.00	3.61	4.64*

*Statistically significant at .05 level.
**Because of only 1 in the sample, there is no SD.

	D n = 8			E n = 3			F n = 5		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
1.	14.75	2.55	0.04	15.33	1.15	0.06	16.40	1.14	1.49
2.	14.63	2.92	0.19	13.67	1.53	0.72	16.60	1.95	1.35
3.	14.25	3.54	0.42	15.67	2.08	0.12	17.60	1.14	3.18
4.	17.13	3.98	0.51	13.67	4.16	1.16	19.60	0.89	4.13*
5.	12.75	4.40	0.31	8.33	2.52	4.85*	17.60	1.67	4.61*
6.	11.00	3.74	0.12	9.00	4.00	1.06	10.60	5.94	0.22
7.	15.13	2.90	0.34	12.33	4.51	0.82	15.00	3.87	0.15
8.	15.13	2.53	0.43	8.67	3.06	10.07*	15.40	2.41	0.52
9.	15.25	4.13	1.36	13.00	1.73	0.30	17.20	1.92	6.10*
10.	12.50	4.44	1.32	10.67	2.52	2.78	16.20	2.77	1.93
11.	16.13	2.62	1.19	12.00	1.73	3.63	17.40	2.07	3.63
12.	15.00	3.42	0.02	11.67	1.15	4.53*	17.40	1.52	3.15
13.	14.00	2.98	0.00	12.00	2.65	1.25	16.20	1.48	2.28
14.	12.75	3.11	0.46	12.67	1.53	0.23	15.80	2.28	2.27
15.	13.00	4.14	0.31	9.67	4.73	1.21	11.60	3.85	0.11
16.	13.00	3.85	0.18	12.33	1.53	0.32	17.20	0.84	4.13*
17.	15.50	2.88	0.18	10.33	2.08	6.83*	18.40	1.52	5.95*
18.	12.88	4.36	1.21	12.33	2.52	1.05	16.60	1.34	2.84
19.	14.63	1.77	0.15	14.00	1.00	0.42	17.20	2.28	3.28
20.	15.00	2.51	0.20	9.00	1.73	7.12*	18.20	1.79	5.69*
21.	16.13	4.82	0.07	13.33	2.52	1.39	18.60	1.34	3.14
22.	14.63	3.20	0.00	11.00	4.36	2.95	17.80	2.05	4.19*

	D n = 8			E n = 3			F n = 5		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
23.	15.38	2.13	0.98	12.33	2.08	1.51	16.60	2.19	3.03
24.	12.63	5.32	0.13	10.33	3.79	1.33	16.80	4.15	3.32
25.	13.50	4.81	0.26	10.33	3.79	3.08	18.00	2.45	4.77*
26.	15.00	2.93	0.20	13.00	2.00	0.77	15.40	1.95	0.44
27.	15.38	2.45	0.49	12.33	1.15	2.44	18.40	1.82	9.72*
28.	15.50	3.16	0.15	15.33	1.15	0.13	18.80	1.64	5.67*
29.	14.00	2.20	0.28	14.67	1.52	0.01	16.20	1.92	1.71
30.	15.00	2.88	1.24	13.00	4.36	0.24	15.80	2.39	2.32
31.	12.13	4.55	2.66	15.67	3.79	0.46	17.20	1.64	3.52
32.	14.38	3.20	0.17	14.00	2.65	0.00	15.40	2.30	1.15
33.	10.88	4.79	0.35	11.00	2.00	0.18	9.80	7.19	0.00
34.	16.38	2.67	1.69	15.33	2.52	0.10	14.40	6.03	0.02
35.	15.13	4.05	0.02	13.00	6.25	0.82	18.20	1.30	4.25*
36.	14.88	5.03	0.18	18.33	0.58	2.53	17.80	2.49	3.15
37.	14.50	4.17	0.01	15.67	2.52	0.22	17.80	1.64	3.30
38.	15.88	3.91	0.63	13.67	2.52	0.32	17.60	1.82	3.07
39.	13.75	4.62	0.30	15.00	1.00	0.14	14.80	1.10	0.11
40.	13.38	4.14	0.09	14.67	0.58	0.21	16.40	2.19	2.89
41.	14.25	3.49	0.68	13.67	2.52	0.05	15.40	2.71	2.04
42.	15.50	2.51	1.12	12.00	1.73	2.30	17.40	2.07	5.63*
43.	15.00	2.14	0.61	15.33	0.58	0.45	16.80	2.77	3.45
44.	12.88	4.26	0.17	15.67	2.08	0.77	15.00	4.85	0.57
45.	16.75	1.67	0.68	15.67	2.08	0.05	18.40	1.82	4.31
46.	9.13	3.44	0.21	12.00	1.73	0.94	10.80	1.92	0.33
47.	16.00	2.67	1.98	14.00	1.00	0.05	17.20	1.92	3.96
48.	17.00	2.98	1.55	12.00	6.56	2.31	17.40	1.82	1.58
49.	10.38	4.34	2.86	10.67	3.79	0.92	16.80	2.17	3.51
50.	12.13	5.06	0.24	11.33	3.79	0.00	11.40	5.32	0.01

*Statistically significant at .05 level.

	G n = 3			H n = 2			I n = 3		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
1.	14.94	2.64	0.00	15.50	0.71	0.08	17.00	2.65	1.75
2.	15.09	2.86	0.06	15.50	0.71	0.05	16.00	3.61	0.29
3.	15.03	3.19	1.18	15.50	0.71	0.05	16.67	2.08	0.77
4.	16.10	3.82	0.01	18.50	2.12	0.54	12.67	8.50	2.09
5.	13.61	4.10	1.87	14.50	4.95	0.77	13.33	6.66	0.01
6.	11.53	4.18	0.22	10.00	5.66	1.05	16.00	3.00	3.34
7.	14.33	3.71	0.02	13.50	2.12	0.21	17.67	3.21	2.35
8.	14.39	3.06	0.00	15.50	0.71	0.16	15.00	1.00	0.12
9.	13.93	2.91	0.89	14.50	0.71	0.07	16.00	3.00	1.46
10.	14.01	3.43	0.03	17.00	4.24	1.50	17.67	3.21	3.28

	G n = 3			H n = 2			I n = 3		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
11.	15.03	2.72	1.15	15.50	0.71	0.06	14.00	2.65	0.41
12.	15.14	2.80	0.53	15.50	3.54	0.81	14.33	4.04	0.23
13.	14.06	3.13	0.58	15.00	1.41	0.19	16.67	3.21	1.99
14.	13.57	3.24	0.02	15.50	0.71	0.37	10.33	6.66	2.63
15.	12.19	3.86	0.05	13.00	4.24	0.65	11.67	4.16	0.05
16.	13.61	3.91	0.21	9.00	9.90	4.55*	14.00	5.29	0.03
17.	15.01	3.06	0.13	15.50	0.71	0.05	17.33	3.06	1.65
18.	14.21	3.13	0.06	13.00	9.90	5.15*	16.33	2.89	1.32
19.	15.00	2.64	0.18	17.50	3.54	1.76	16.67	4.93	1.07
20.	14.43	3.49	0.60	14.00	2.83	0.34	16.00	3.61	0.58
21.	15.77	3.53	0.07	18.00	2.83	0.71	18.00	2.00	1.17
22.	14.56	3.48	0.19	14.50	6.36	1.67	16.00	3.61	0.49
23.	14.36	2.81	1.47	15.50	3.54	0.95	16.33	4.73	1.35
24.	13.21	4.26	0.38	17.50	2.12	1.11	13.67	5.13	0.03
25.	14.24	3.78	1.22	13.00	4.24	0.74	14.33	1.53	0.00
26.	14.51	2.94	0.72	13.50	3.54	0.84	16.00	2.65	0.74
27.	14.70	2.61	0.81	17.50	2.12	1.46	17.00	1.00	2.31
28.	15.90	2.68	0.13	16.50	2.12	0.36	16.67	3.21	0.23
29.	14.54	2.78	0.24	14.00	4.24	1.20	12.33	5.69	1.67
30.	13.83	2.82	0.09	13.50	6.36	2.56	12.33	6.36	0.73
31.	14.29	3.43	0.23	14.50	2.12	0.19	16.33	2.52	1.04
32.	13.90	3.06	0.10	11.50	2.12	0.84	16.33	3.51	1.81
33.	9.81	4.82	0.09	17.00	1.41	2.20	10.00	3.61	0.00
34.	14.64	3.65	0.89	14.00	1.41	0.11	17.00	2.65	1.21
35.	14.93	3.51	0.20	14.00	2.83	0.39	16.67	1.53	0.72
36.	14.16	4.52	0.32	18.00	2.83	0.90	14.67	1.53	0.04
37.	14.61	3.88	0.83	15.50	0.71	0.07	15.00	1.73	0.03
38.	14.82	3.50	0.82	15.50	3.54	0.55	16.67	0.58	0.82
39.	14.37	2.86	0.03	15.00	1.41	0.17	17.00	1.73	2.47
40.	13.77	3.39	0.37	10.50	0.71	0.93	16.67	1.15	2.15
41.	13.21	3.34	0.94	12.50	2.12	0.25	13.33	3.06	0.00
42.	14.43	2.74	0.23	13.50	0.71	0.15	15.33	2.08	0.32
43.	14.10	3.16	0.58	10.00	5.66	3.24*	15.67	4.16	0.69
44.	13.53	4.19	1.04	12.00	8.49	2.18	11.33	6.11	0.77
45.	15.99	2.55	3.20	13.00	1.41	1.49	14.33	3.79	1.17
46.	9.79	3.92	0.11	12.00	5.66	1.35	8.67	2.52	0.24
47.	14.39	3.11	4.97*	12.50	0.71	0.38	14.67	0.58	0.02
48.	15.34	3.62	4.21*	11.50	0.71	1.12	17.00	2.65	0.61
49.	13.11	4.34	1.86	15.00	2.83	0.40	14.67	1.53	0.38
50.	11.17	5.26	5.89*	8.50	3.54	0.48	12.33	3.06	0.14

*Statistically significant at .05 level.
**Because of only 1 in the sample, there is no SD.

	J n = 7			K** n = 1			L n = 7		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
1.	14.00	1.29	0.87			2.20	14.43	4.04	0.22
2.	14.57	1.81	0.22			0.44	16.00	2.94	0.65
3.	15.71	2.56	0.30			1.52	12.29	5.38	4.09*
4.	16.43	1.90	0.05			0.57	15.57	4.12	0.12
5.	15.14	4.49	0.87			1.70	13.71	4.72	0.00
6.	11.29	5.85	0.02			3.15	9.86	4.67	1.00
7.	16.29	1.70	1.89			2.30	14.71	4.03	0.07
8.	17.00	2.83	4.71*			3.33	14.14	3.98	0.04
9.	14.14	3.53	0.03			0.13	14.57	4.04	0.29
10.	14.29	2.93	0.04			2.09	14.14	3.72	0.01
11.	15.71	2.69	0.41			0.00	14.71	2.50	0.09
12.	15.29	1.70	0.02			1.87	16.43	2.23	1.38
13.	13.71	1.70	0.08			2.45	12.57	4.35	1.33
14.	12.71	5.09	0.40			0.23	13.29	4.61	0.05
15.	10.71	3.90	0.92			0.96	13.43	2.99	0.68
16.	12.43	4.89	0.56			0.74	13.57	4.86	0.00
17.	14.71	3.15	0.06			0.11	16.86	1.86	2.43
18.	14.29	1.38	0.00			0.32	15.14	3.29	0.56
19.	14.71	2.87	0.07			0.14	14.14	3.43	0.63
20.	13.29	5.22	0.62			0.01	14.29	3.99	0.01
21.	14.71	4.86	0.53			0.00	16.29	3.73	0.13
22.	16.14	5.31	1.19			0.48	14.43	2.57	0.01
23.	14.29	2.36	0.00			0.02	12.29	3.99	3.19
24.	11.43	2.99	1.17			2.51	14.86	2.27	1.01
25.	14.29	2.81	0.00			0.21	14.57	4.50	0.05
26.	14.14	2.91	0.10			0.25	14.00	3.46	0.19
27.	13.86	2.12	0.69			2.70	14.71	2.93	0.00
28.	17.29	1.61	1.80			1.32	16.71	2.43	0.60
29.	15.29	2.29	0.47			1.52	14.14	3.34	0.13
30.	14.71	1.98	0.66			0.99	14.14	3.34	0.08
31.	14.00	2.16	0.05			1.86	15.57	3.31	0.90
32.	16.43	1.27	4.67*			3.68	13.29	2.43	0.26
33.	9.00	2.94	0.19			3.30	7.43	5.35	1.53
34.	14.71	5.74	0.00			0.01	13.00	4.65	1.23
35.	15.43	2.44	0.13			0.09	14.86	3.53	0.00
36.	16.57	2.15	1.94			3.21	13.57	3.99	0.11
37.	14.71	3.04	0.00			0.13	13.71	4.54	0.33
38.	13.71	3.09	0.66			0.06	14.14	5.43	0.22
39.	16.00	1.53	2.19			0.83	13.57	4.89	0.43
40.	11.29	4.68	3.19			0.13	14.57	3.91	0.34
41.	15.57	1.72	3.37			2.96	12.14	4.45	0.62
42.	15.71	1.11	1.50			2.75	14.43	2.57	0.00
43.	13.86	1.95	0.04			0.36	12.29	2.93	2.12
44.	15.86	2.79	2.06			0.34	12.57	5.51	0.31
45.	17.00	1.91	1.05			0.15	15.00	2.94	0.93

	J n = 7			K** n = 1			L n = 7		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
46.	10.86	5.73	0.44			0.20	10.86	4.67	0.46
47.	15.43	3.26	0.71			0.20	12.86	4.63	1.40
48.	17.14	2.19	1.66			0.53	16.00	3.11	0.21
49.	17.00	2.83	5.34*			2.48	12.29	5.38	0.22
50.	10.29	7.59	0.17			0.83	11.57	3.26	0.04

*Statistically significant at .05 level.
**Because of only 1 in sample, there is no SD.

	M n = 7			N n = 3			O n = 2		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F		SD	F
1.	14.83	3.64	0.37	18.00	1.73	3.93	14.50	3.54	0.05
2.	14.29	3.99	0.46	15.67	1.53	0.12	15.50	0.71	0.04
3.	13.43	3.41	1.58	18.00	1.73	2.54	13.50	2.12	0.45
4.	14.71	4.57	0.81	18.33	1.53	1.01	13.50	0.71	0.91
5.	11.71	5.35	1.29	17.00	1.73	2.00	14.50	0.71	0.09
6.	13.57	1.90	1.62	14.67	1.15	1.66	10.00	5.66	0.26
7.	14.14	4.30	0.02	13.67	3.79	0.09	8.00	4.24	5.63*
8.	13.57	2.15	0.47	15.33	1.15	0.28	13.00	2.83	0.40
9.	11.14	1.68	6.18*	14.67	1.15	0.19	12.50	2.12	0.47
10.	14.00	1.63	0.00	15.67	2.89	0.67	14.50	2.12	0.04
11.	13.71	2.29	1.52	14.67	1.15	0.05	14.00	1.41	0.28
12.	13.29	2.75	2.80	17.00	2.00	1.28	14.50	0.71	0.10
13.	13.75	4.69	0.14	16.33	0.58	1.56	11.00	1.41	1.87
14.	12.00	3.06	1.51	17.33	0.58	3.98*	13.50	2.12	0.00
15.	11.43	2.44	0.26	17.33	1.15	5.24*	14.00	8.49	0.41
16.	11.14	3.93	2.54	16.67	2.08	1.79	14.50	3.54	0.10
17.	13.29	2.06	2.12	14.67	1.15	0.04	14.00	1.41	0.22
18.	13.71	3.73	0.16	15.67	1.53	0.63	15.00	1.41	0.12
19.	15.14	3.39	0.02	16.00	2.00	0.42	16.50	0.71	0.63
20.	11.57	2.94	4.37*	14.67	2.31	0.01	15.50	4.95	0.18
21.	13.71	2.93	2.22	17.00	1.73	0.36	13.50	2.12	0.81
22.	13.57	4.04	0.50	16.00	2.00	0.50	13.00	2.83	0.39
23.	14.57	2.64	0.04	15.67	0.58	0.64	15.50	0.71	0.33
24.	10.71	2.43	2.32	12.67	3.51	0.05	10.50	3.54	0.79
25.	12.00	3.96	2.23	14.33	3.79	0.00	16.50	2.12	0.70
26.	14.57	3.69	0.00	13.33	3.06	0.46	13.50	2.12	0.23
27.	13.14	2.12	2.34	15.33	1.15	0.17	13.00	1.41	0.84
28.	13.43	2.23	5.56*	17.00	1.73	0.49	14.00	4.24	0.96
29.	14.14	2.97	0.13	16.00	2.00	0.80	14.00	1.41	0.07
30.	12.57	2.23	1.31	13.67	2.08	0.01	10.50	0.71	2.75
31.	12.57	2.99	1.62	16.00	2.65	0.73	12.50	3.54	0.53
32.	12.86	3.48	0.72	15.67	1.15	0.99	13.00	2.83	0.17
33.	9.71	3.40	0.00	13.33	2.08	1.57	10.50	6.36	0.04

	M n = 7			N n = 3			O n = 2		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
34.	14.71	1.60	0.00	15.00	1.00	0.03	14.50	4.95	0.00
35.	13.14	3.44	1.65	16.33	1.53	0.47	14.50	6.36	0.03
36.	11.86	4.98	1.62	15.67	1.53	0.33	13.50	4.95	0.04
37.	13.00	4.69	1.06	16.33	1.53	0.58	13.50	3.54	0.16
38.	14.43	3.41	0.08	16.00	2.00	0.33	14.50	4.95	0.02
39.	13.29	1.70	0.97	15.67	0.58	0.61	13.00	2.83	0.45
40.	13.43	2.07	0.07	15.33	2.08	0.62	14.50	0.71	0.09
41.	13.00	2.52	0.03	14.33	1.53	0.33	7.50	3.54	5.68*
42.	14.14	1.46	0.07	12.00	4.36	2.17	12.50	3.54	0.96
43.	13.71	2.29	0.10	14.67	2.62	0.09	13.00	2.83	0.24
44.	14.00	3.21	0.08	16.00	3.00	1.01	7.50	3.54	4.04*
45.	14.57	1.81	2.05	15.33	1.15	0.19	17.00	2.83	0.31
46.	10.86	4.06	0.47	12.33	6.03	1.17	4.50	2.12	3.57*
47.	14.29	2.56	0.01	14.33	2.31	0.00	11.50	4.95	1.64
48.	15.00	2.83	0.06	15.33	1.53	0.00	13.50	3.54	0.51
49.	11.00	4.83	1.48	14.33	1.53	0.23	11.50	4.95	0.27
50.	9.86	6.52	0.38	15.67	1.15	2.16	10.50	0.71	0.03

*Statistically significant at .05 level.
**Because of only 1 in sample, ther is no SD.

	P n = 7			Q n = 2			R** n = 1		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
1.	14.43	3.26	0.23	13.50	0.71	0.59			0.13
2.	15.43	2.15	0.09	16.50	3.54	0.47			1.03
3.	15.43	2.94	0.10	14.50	0.71	0.05			0.00
4.	17.29	2.87	0.63	14.00	2.83	0.59			1.03
5.	14.29	2.81	0.18	11.50	6.36	0.51			0.11
6.	12.00	3.27	0.08	9.00	5.66	0.70			0.34
7.	13.57	3.95	0.26	18.50	2.12	2.48			2.03
8.	14.00	1.41	0.11	11.50	0.71	1.76			0.04
9.	13.57	1.90	0.10	13.50	0.71	0.04			0.13
10.	12.57	3.41	1.13	12.00	7.07	0.64			0.08
11.	16.57	2.44	2.08	16.50	0.71	0.58			0.00
12.	14.57	2.70	0.27	11.50	0.71	3.33			1.87
13.	14.57	2.57	0.18	18.50	0.71	3.96*			0.09
14.	12.86	2.54	0.32	18.50	0.71	4.56*			0.19
15.	12.71	3.40	0.12	12.50	2.12	0.01			2.53
16.	15.14	1.86	1.04	17.00	4.24	1.45			0.02
17.	14.57	2.94	0.13	11.50	0.71	2.60			2.61
18.	14.86	3.18	0.27	13.00	1.41	0.30			0.06
19.	14.86	2.41	0.02	12.00	1.41	2.53			0.56

	P n = 7			Q n = 2			R** n = 1		
	$\bar{x}$	SD	F	$\bar{x}$	SD	F	$\bar{x}$	SD	F
20.	16.43	1.62	2.23	11.50	2.12	1.38			0.20
21.	17.43	1.51	1.50	16.50	0.71	0.08			1.41
22.	14.29	4.42	0.04	12.00	1.41	1.06			0.02
23.	14.14	2.27	0.04	14.00	1.41	0.03			3.97
24.	16.71	2.81	4.51*	6.50	0.71	4.91*			1.48
25.	14.43	4.58	0.01	16.50	0.71	0.70			1.56
26.	16.43	1.72	2.84	14.50	0.71	0.00			2.29
27.	15.29	2.06	0.33	12.00	1.41	2.12			0.01
28.	16.57	1.90	0.42	14.00	4.24	0.96			0.17
29.	15.57	2.07	0.90	12.50	2.12	1.06			9.31*
30.	13.86	2.27	0.00	13.50	0.71	0.03			0.99
31.	14.29	4.57	0.00	13.50	0.71	0.10			0.04
32.	14.86	2.54	0.64	9.50	2.12	4.06*			1.61
33.	10.43	4.96	0.10	15.00	7.07	2.21			0.62
34.	15.14	2.79	0.12	14.00	1.41	0.06			1.40
35.	14.14	3.29	0.32	12.00	5.66	1.32			2.06
36.	14.14	5.34	0.00	12.00	9.90	0.42			3.21
37.	14.43	5.06	0.01	14.50	2.12	0.00			1.26
38.	14.57	2.88	0.04	15.00	1.41	0.00			2.17
39.	13.57	2.07	0.52	17.00	2.83	1.64			0.23
40.	13.86	3.93	0.00	17.00	4.24	1.75			0.05
41.	13.14	2.67	0.00	11.50	0.71	0.52			0.91
42.	15.00	2.24	0.28	12.50	2.12	0.97			0.32
43.	16.14	2.54	2.74	16.00	4.24	0.70			0.00
44.	13.86	4.85	0.04	14.00	1.41	0.02			0.36
45.	16.86	1.57	0.78	17.00	1.41	0.31			1.38
46.	10.00	3.83	0.02	9.00	1.41	0.08			0.92
47.	13.29	3.50	0.78	18.50	2.12	3.43*			3.22
48.	14.86	3.98	0.11	19.00	1.41	2.01			1.64
49.	11.14	5.64	1.24	14.50	2.12	0.20			0.51
50.	11.71	5.15	0.07	17.00	2.83	2.41			0.36

*Statistically significant at .05 level.
**Because of only 1 in the sample, there is no SD.