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EFFECTS OF VARYING ENVIRONMENTAL RESOURCES ON INTERORGANIZATIONAL LINKAGE FORMATION

By

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ABSTRACT

This study is based on major assumptions coming out of Levine and White's 1963 examination of an urban health and welfare system. Their data indicate that an inverse relationship exists between the level of resources that are available in the organizational environment, and the frequency of inter-organizational linkages entered into by the environment's member agencies. Data from the present study did not support Levine and White's results. Our analyses showed that when examining the 'linking' data of health and welfare agencies that were segregated into respective groups, resource availability affected linking frequency directly. Examination of the linking patterns in health and welfare networks showed that there was predictable interagency activity. Also, there were indications that this study had only examined a portion of a larger intercounty network in the rural areas, and described variables from an intracounty network in the urban areas. This led to assumptions about major sources of resource control in health and welfare systems.

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INTRODUCTION

This study calls attention to factors affecting various aspects of social phenomena occurring within a formal organization. Early studies focused attention on structure and management techniques (Weber, 1921; Fayol, 1918) considered to have control over production (Gurlick and Urwick, 1937). Contemporary theorists have renamed these techniques the "intraorganizational process."

Intraorganizational dynamics were considered the casual agents that resulted in the agencies interacting with other organizations. Beginning with Barnard (1938) and Simon (1957) management theorists drew away from the classical interpretation of factors that affected agency dynamics. They began to recognize the significance between social interaction and worker output. Unfortunately, their concept of society was similar to Litwack's (1972) idea of social norms being established by the family which was influenced by spillover from the workplace, i.e., the primary group. But they also regarded the worker vis-a-vis society to have some level of influence over the organization. This concept of social and organizational interaction was a significant step toward the recognition and identification of extraorganizational factors in organization operation. The early theorists' contributions were limited to an historical one however, due to the importance placed on the organization as the controller of the environment.

In 1961, Levine and White did one of the first analyses of environmental influence over organizational activity. Their study of an urban health and welfare system regarded the organizational environment as being in control over the distribution of necessary organizational resources. They concluded an organization had to enter into transactions with certain elements of its environment, and these transactions would maintain an input/output balance (Aldrich 1978).

Another focus of Levine and White's research was the kinds of behaviors agencies developed to cope with the fluctuating availability of resources in their particular environment. Although identified as the interorganizational link, or joint program, the correlation between the level of resources available and the frequency of linking activity was not recognized until later. Aiken and Hage's (1968) examination of their own, plus earlier data, showed an inverse relationship between available resources and linking frequencies. Levine and White's research identified an extraorganizational variable that initiated linking activity; Aiken and Hage specified a level of causality between extraorganizational resources and linking behavior (1968).

The open systems model of Katz and Kahn (1962) was developed two years after the initial study of Levine and White and made more clear the concept of causal relationships. Briefly, this model asserted that an organization's survival depends on its capability to remain flexible to environmental demands that change spontaneously and those that change predictably. This flexibility was demonstrated in the

organization's ability to keep the demands of the environment in balance with the agency's need for resources (Lawrence and Lorsch, 1967). It was assumed that equilibrium between these elements would assure continued resource input and subsequent organizational survival (Thompson, 1967).

A 1963 re-examination of Levine and White's original findings described the specific kinds of resources necessary for an agency's continued existence. This second study operated under their earlier assumption that organizations existed in a milieu that was composed of elements and resources necessary to the agency. Further, there was a dynamic operating in this milieu that controlled, selectively, the allocation of those resources. Combining the resource elements of clients, funds, and labor services, and the control of the resources, Levine and White began to develop the concept of the organizational environment. The conclusion of "other agencies" in this definition remains problematic, however, since organization theory cannot settle on one specific definition. Two schools of thought have developed where these "other agencies" can be identified either by physical proximity or similar goals with the focal agency.

We will use this portion of Levine and White's findings that show the relationship between the organization and the external environment to guide the present study. This study will investigate the effects of extraorganizational forces on individual agencies, and the agencies' subsequent network activities. It will examine the relationship between available resources and the frequency of interagency linkages.

Levine and White restricted their research to an urban setting, and this study will compare data from urban and rural settings. It will also differ from the Levine and White research in that it will look at the incentives for interagency linking of a single agency as opposed to that of a total network.

BACKGROUND

Research and theory describing organizations has been built upon the work of two men, Weber and Barnard. A review of the literature shows two main themes from which others naturally flow: (1) formal and informal aspects of organization structure (Weber, 1921; Fayol, 1918; and Litwack, 1972) and (2) the importance of extraorganizational variables and their impact on organization structure (Litwack, 1972; Perrow, 1974; Stinchcombe and Trist, 1968). This study will work under the assumption derived from this statement, that there is a correlation between environmental and organizational variables. Recent interorganizational literature has suggested such a correlation, but the proper identification and measurement of relevant variables has continued to prove problematic (Evan, 1971 and Hall, 1972).

The examination of these variables will be within the framework of the Resource Exchange Model (Levine and White, 1961) in the form of joint programs; that is, the creation of joint, cooperative projects between (health and welfare) organizations. Though the organization seeks to maximize autonomy and minimize interorganizational constraints (Gouldner, 1959) in these joint projects, it may have a surplus of resources that it can exchange for essential and non-substitutable resources from its environment (Jacobs, 1974). The resources that organizations use for exchange with other members of its environment fall into the

categories of (a) clients, (b) labor services, and (c) resources other than labor services (Levine and White, 1963; Yuchtman and Seashore, 1967).

Since the environment is normally rich in these potential resources (Wilson, 1966), and other organizations in the environment also face resource difficulties and dependencies (Thompson, 1967), strategies for gaining and guaranteeing necessary resources in the future through the joint program are feasible and practical. Among the possible strategies of bargaining, cooptation, merger or other methods, the joint program is especially favorable as it creates certainty and predictability of future resource input, exchange of resources and facilities, and programs and services through formalized agreements. Thus, organized planning for environmental cooperation is made predictable and specific.

The incremental loss of any of the three categories of resources changes the level of predictability of resource input. Subsequently, the potential for goal achievement of the organization decreases and the organization must change its behavior in order to secure appropriate amounts of the depleted resource. Following the resource exchange model, an increase in the frequency of joint programs is an appealing organizational recourse for the maintenance of the organization's external effectiveness.

External effectiveness involves organizational planning for and coping with uncertainties in the task and contextual environments in its pursuit of environmental adaptation for survival and growth in an unstable and changing organizational

milieu (Lawrence and Lorsch, 1967). The division of external effectiveness into task and conceptual environments is essential for an operational understanding of external influences on an organization.

The task environment can be seen in subsystems of organizations that have developed different attributes that fit the characteristics and demands of their (immediate) sub-environments. Organizational effectiveness hinges on the proper management of dependency transactions. Central to organizational effectiveness is the agency's bargaining position with other organizations that control needed resources. The maintenance of resource input through bargaining proves crucial to goal achievement (Thompson, 1962).

The contextual environment relates to the success of the bargaining organization, or its flexibility to changing demands (Duncan, 1973). Through successful organizational interaction, the agency guarantees future goal attainment (Terryberry, 1968). Organizations need to adapt to their environment to remain viable social systems (Parsons, 1960) so that organizational change is (increasingly) externally induced, and organizational adaptability is a function of its capability to learn and perform adequate behaviors according to changes in the environment (Yuchtman and Seashore, 1967). The adapting of the organization to decreased resource supply through increased joint programs could prove counter productive, however, in the face of diminished autonomy through resource dependency of the focal agency (Blau, 1964).

The organization's ideal goal in creating joint programs is to maximize resource input with minimal loss of control over its operation (Ried, 1967). At best, organizations, particularly ones initiating joint programs, achieve equilibrium between resources and the loss of control (Aiken and Hage, 1968; Yuchtman and Seashore, 1967; Jacobs, 1964). Ried has referred to this as a measure of the organization's (internal) success and suggests joint programs with agencies of homogeneous goals as a method of obtaining the ideal situation. Homogeneity of goals implies competition, and a minimal loss of operational control. The alternative is cooperation with agencies that have dissimilar goals than the initiating agency, thus minimizing competition and emerging power struggles through diverse outputs, and dissimilar resource demand.

Up until now the focus has been upon joint programs for the purpose of the replenishing of depleted resources in what has been described as an organizational dyad (Caplow, 1969). Dependency and control have been weighted either equally, or disproportionately between two organizations. But Hawley (1951) has suggested the creation of a large (symbiotic) network of organizations, as an alternative to the classical dependency of one organization on a few agencies with concomitant loss of control. Resource acquisition from a single agency could be reduced and spread across a larger network. Since the amount of control lost of one's agency is a function of the size of the resource debt to another agency, then smaller debts would proportionately reduce the

potential loss of organizational control (Hawley, 1951; Yuchtman and Seashore, 1967).

From the preceeding discussion, the following assumptions and hypotheses can be drawn:

Assumptions:

(1) Service organizations have an inherent need for resources in the form of clients and funding, their adequate supply as an internal measure of goal achievement.

(2) Organizational environments have changing sets of needs that must be satisfied by their member organizations.

(3) As an organization's requirement for resources increases, there is a higher probability of that organization entering into joint programs with agencies of similar function.

(4) There is an emergent network of agencies that manifests joint program activity.

Hypotheses:

(1) The number of interorganizational links varies inversely with the level of available resources.

(2) A high degree of similarity exists between linking agencies.

STUDY DESIGN AND METHODOLOGY

Data gathered for this study came from seventy-six health and welfare organizations in five counties of southern lower Michigan. This study was a pilot project supported by funds from the Agricultural Experiment Station, Michigan State University. Twenty-five organizations were private; thirty-seven were either public or branches of public agencies, and twelve were divisions of local governments. These organizations provided public health, public assistance and rehabilitation services, migrant services, and programs for the developmentally disabled. Interviews were conducted with eighty-six staff members of these seventy-six agencies. Respondents within each organization were primarily agency directors, but other lower level, professional staff members were interviewed upon their superior's recommendation. Non-supervisory personnel were not interviewed.

Agency directors, and the others they suggested we interview, were considered principal respondents since they were the operational link in the decision-making process (Pfeffer, 1976). Lower level non-professionals, on the other hand, were thought to hold minimal organizational power, and were not interviewed. The control over the organization's power was considered essential in the direction of organizational goals (Pfeffer, 1976).

The coordinated actions of two or more organizations pursuing certain goals have been referred to by Aiken and

Hage as either the joint program or the interorganizational link (1968). For clarity, we shall refer to these efforts simply as a "link". Its measurement is best accomplished by examining, quantitatively, the amounts of particular resources exchanged between organizations. Research by Aiken and Hage showed corresponding variations in the level of dependency and the amounts of exchanged resources (1968). Resources shown to be the most frequently exchanged have been typified as clients, service personnel, and financial support (Aiken and Hage, 1968; Levine and White, 1963; and Pfeffer, 1976).

This study does not seek to identify resource exchange variables but assumes they exist as a precondition to an organizational link. Links in this study were identified through questions like: 1) "with whom do you work most closely"; taken in the organizational context, and 2) "to whom do you refer clients?" Note that although question two refers to clients, its inclusion was only for the purpose of enhancing the internal validity of question one. After establishing the existence of interagency links, it would be necessary to identify the types of organizations that cooperate; i.e., whether they be similar or dissimilar in nature.

Agency Similarity:

We are assuming that organizations seek to maximize their gains and minimize their losses when entering into interdependent, joint programs. That is, they want to lose as little autonomy and control as possible in their exchange of resources with other organizations (Aiken and Hage, 1968). Reid (1967) suggests, that organizations are most likely to enter into

relationships with other agencies having complementary resources or partners with different goals as a mechanism to retain control, as Guetzkow (1966) has suggested. These two arrangements reduce the probability of decreased autonomy, because the probability of conflict is reduced through divergent interests, and cooperation is facilitated by resource need in such symbiotic relationships. There is a problem of quantifying organizational goals and defining complementary resources that facilitate these relationships, however; so our measure of agency "similarity" (Aiken and Hage, 1968; Katz and Kahn, 1962) relies heavily on matches in service characteristics between two organizations.

The variables used in defining organizational similarity were the same as those describing the service population, i.e., age, race, geographic location, with the addition of the source of financial support for each program. There was a possibility of matching thirty program (service) variables--a perfect match of all 30 being an identical service, zero describing two completely dissimilar agencies. A total of five matches out of thirty (relative to a mean of four) was said to be important, with a possible range of zero to thirty. Setting the level of importance was arbitrary but was related to the skewness of the data resulting from high levels of resources reported in the urban counties. Demographic variables used in identifying similar organizations were also assumed to be causal toward the formation of interorganizational links.

Necessary Resources:

The possession of certain "scarce and valuable" resources by an agency was considered a precondition for its operation by Yuchtman and Seashore (1967). These resources have been described as patients, funding, the availability of technology, and the size of the professional personnel pool. In this study only the first two of these variables will be examined with regards to the cause of organizational linking in human service networks.

Respondents were asked to identify the number of clients served by their agency in the 1979 fiscal year, regardless of whether or not the client was (eventually) referred to another agency. Their answers ranged from 30 clients in Eaton County to two hundred thousand clients in Macomb County, with a mean of 24,825 (sd=5431). It would appear, therefore, that client load significantly affects the size of the work force in a particular agency and, therefore, the funding necessary to support it. The absence of one of these two resources precludes the presence of the other, so that funding level is considered to be a function of client level (Yuchtman and Seashore, 1967; Levine and White, 1963).

Respondents were asked to list the amounts, and the sources, of program funding during the last fiscal year. The purpose of the identification of an agency's funding was secondary to the amount, so that we might determine if an agency's programs were function of funding guidelines in response to public need. Range of funding was from $16,025.00 to $9,000,000.00, with a mean of $1,228,419 (sd=$3,077,053).

In the cases of both funding and clients, responses were categorized high or low by level of resources reported, relative to the mean.

Finally, (linkage) data were collapsed to demonstrate network configurations, by path modeling, of each county. In this way we could show agency links graphically and determine the (hypothetical) functions of certain organizations, such as bridges, mediators, or focal organizations. The overall configuration could be typified as self-contained, diffuse, or segregated. Linkages between similar organizations, classified by service type, might also be demonstrated. For example, the linking of health agencies with other health agencies might give support to Reid's assumption of links between agencies with complementary resources.

FINDINGS

As hypothesized, the data showed a significant relationship ($p < .05$) between resources and interagency programs (Table 1). The implicit causal relation between variables could only be shown indirectly by the size of the test statistics. The large Q-values shown in Table 2 indicate a strong relationship between independent and dependent variables, but the inverse relationship that was hypothesized could not be shown because of the skewness of data coming in from each county.

Q-values for each category of the variables, i.e., resources, funds, clients and organizational type, were calculated, and showed the relationship between them was not constant but fluctuated with resource and organizational type. For example, when the category, "resources", is broken into its components of clients and funding (Table 2) and then run against links, Q-values are 5.1 and 11.6, respectively. Chi-square values show a similar trend with .32 and .78, respectively. This shows a significant relationship between dependent and independent variables as shown by the Chi-square test statistic. Their respective Q-values, however, shows there was a stronger relationship between funds and links, (.78) as opposed to clients and links (.32). Note that Chi-square only shows significance of a relationship, i.e., goodness of fit, and is not indicative of the strength or causality between variables.

TABLE 1

DISTRIBUTION OF ORGANIZATIONAL LINKS BY RESOURCE LEVEL

		RESOURCES	
		HIGH	LOW
ORGANIZATION LINKS	HIGH	18 75	19 37
	LOW	6 25	33 63
		100 N=24	100 N=52

$X^2 = 8.77$ $p < .05$ $df = 1$

TABLE 2

STATISTICAL TEST VALUES OF DEPENDENT AND INDEPENDENT VARIABLES

	FUNDS LINKS	CLIENTS LINKS	RESOURCES LINKS	HEALTH RESOURCES LINKS	WELFARE RESOURCES LINKS
n	49	58	76	24	52
X^2	11.6	5.1	8.77	1.05	12.2
p	.05	.05	.05	.05	.05
Q	.78	.32	.68	.56	.76

Combining the variables, clients and funds, into a collective category "resources", we see that there also exists a significant relationship when this category is run against the dependent variable links. Chi-square and Q-values were 8.77 and .68, respectively, when $p < .05$. Resources were then run against links and mediated by the type of organization, i.e., health or welfare. Next, it was necessary to determine whether or not a difference existed in the relationship, i.e., implied causality, between the variables in each organizational type. Analysis of the data showed the disparity in both Chi-square and Q-values to be significant when comparing the two organizational types. Values for health organizations were $X^2=1.05$ and $Q=.56$ when $p < .05$. Welfare agencies, on the other hand, had values of $X^2=12.2$ and $Q=.76$ when $p < .05$. The large difference in these values could be explained in part, by the high number of welfare agencies that were interviewed, therefore giving a higher $n_{welfare}$ than n_{health}. But these values are standardized, so the great disparity could have another explanation. Examination of Tables 1 and 3 shows a direct relationship between the variables, i.e., as resources were reported high, so were the numbers of links. We had hypothesized an inverse relationship, but this was not supported by the data. Indeed, this direct relationship held irrespective of organization type (see Appendix).

Organizational Network Configurations

The examination of overall network configurations shows some similarities in their design across all counties. The emergence of the Department of Social Services in each county

TABLE 3

DISTRIBUTION OF HEALTH AND WELFARE ORGANIZATIONS' LINKS IN FIVE COUNTIES (BY RESOURCE LEVEL)

		HEALTH RESOURCES		WELFARE RESOURCES	
		HIGH	LOW	HIGH	LOW
LINKS TO OTHER ORGANIZATIONS	HIGH	80	58	74	26
	LOW	20	42	26	74
		100 N=5	100 N=19	100 N=19	100 N=33

as the focal agency, i.e., that agency with the largest number of links, implies a concentration of some resource that is desired by its constituents. The type of resource is not made entirely clear; however, the predominance of "work with" links, i.e., other organizations referring clients and/or undertaking joint programs, serves to imply the presence of surplus clients or funds. In every case, the focal agency formed non-mediated, direct links only with other major service agencies. Major agencies are regarded as those with great financial (donor) capabilities indicated by a high dollar-to-patient ratio, or large client populations implying a surplus, and may be seen in the Department of Public Health. These major service agencies (including DSS) appear to form closed groups, exclusive of any private concerns, segregated only by the types of services they provide, i.e., health versus welfare. Any involvement of these major service groups with the smaller, private agencies, is generally seen in a direct link of the private agency with a major one. This might be considered an organizational symbiosis in that the private agency picks up the spillover, or surplus, of the major service provider. Although the separation between health and welfare agencies is quite distinct, there is not a total separation between the two.

Communication between most of the organizations in a particular environment is important for establishing a rationally based operation (Evans, 1976; and Blau, 1962). Without communication between organizations, different environmental needs might be "over-serviced" or neglected.

Eventually, an agency could be eliminated because of their supplying a product or service that is not necessary. Communication within a system serves as a feedback mechanism, telling the agency to produce more, less, or differently. Also, Monge (1978) relates the withholding of information or communication as a technique of retaining or increasing control or power. Since organizations try to maximize this retention, activities against one agency trying to capitalize on the withheld information may tend to irreparably disrupt a balanced system; this lack of communication might make the members of the system behave irrationally. So, it would prove counterproductive in the long run for an organization or a group of organizations to alienate themselves from other agencies by withholding information.

In the urban counties, there appeared a relatively small multiservice agency that joined health and welfare groups. Specifically, Figure III shows United Community Services (559) linked with the agency in each group that was significantly larger than any other group members. In Ingham County, Vocational Rehabilitation (160) served a similar function.

Mediating agencies also demonstrated some general characteristics that served to identify them functionally. In every case studied, mediating agencies had direct links to major service providers of each of the two groups, or between one group and the focal agency, although the latter situation was more rare. In general, these agencies were multiservice and served more of an administrative function. It appeared, in general, that at most these agencies handled four

interagency links and a minimum of two. In the larger urban systems, they had maximum linking, apparently holding the system together by their mediating functions. In rural systems, though, it seemed that these agencies, who reported two links, could have handled more interagency activity, possibly with other, outside agencies (outside of their respective counties). This is, of course, a subjective assumption based on the evaluation of the total network configurations and the similarity between the five counties.

The network configuration in the rural counties resembles a small, single, multiservice group. There is no dichotomy of health and welfare organizations, although health and welfare agencies do not link directly. Instead, agencies resembling the "mediators" in the urban areas appear to be serving a similar function in the rural areas, although direct links did exist between the focal and major service agencies. In the rural areas, too, there appeared to be an absence of some of the large agencies that serve as support to smaller service agencies. Clearly, it seemed that the urban network was large and self-contained, while the rural network appeared small and incomplete, as manifest in the absence of support services.

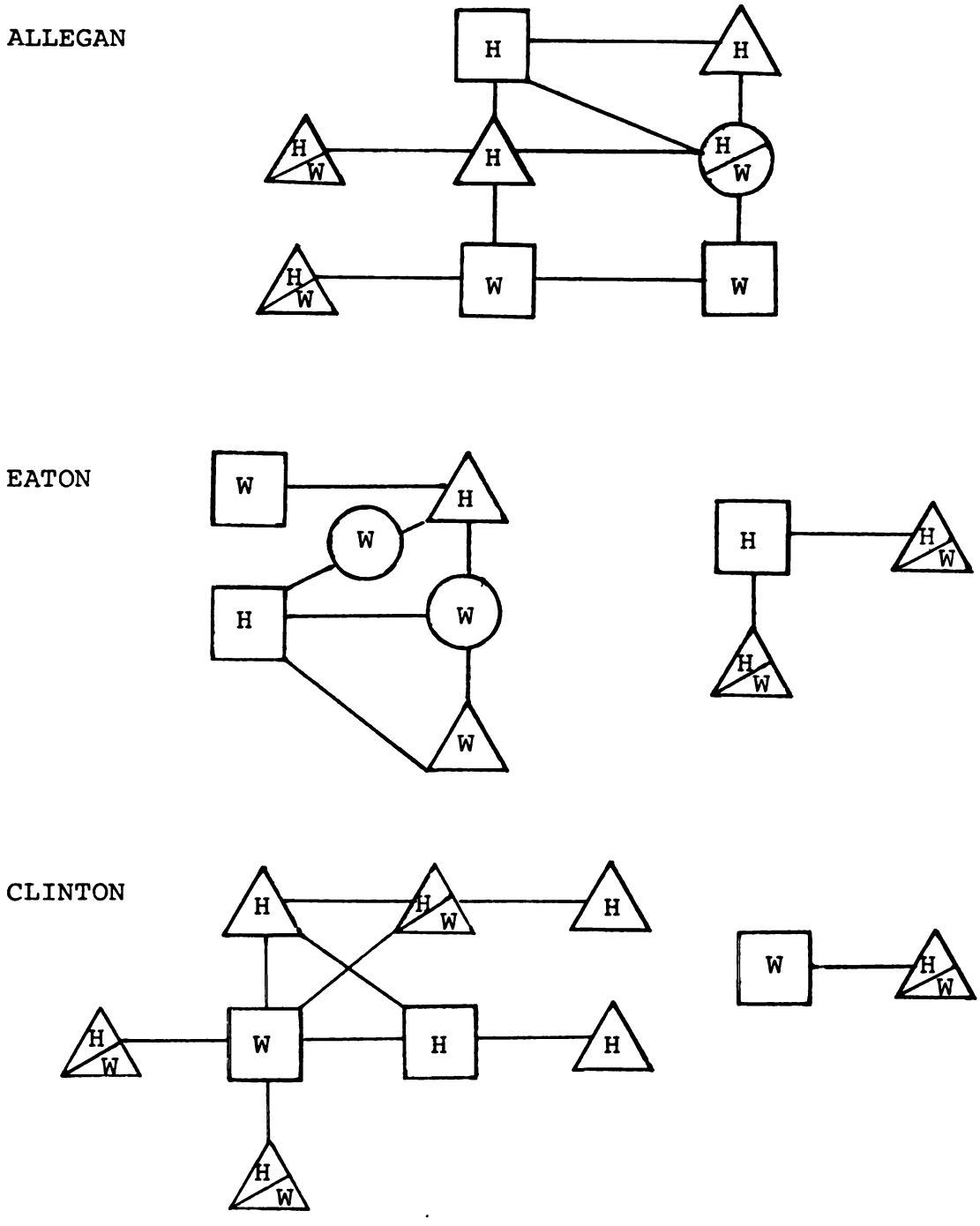

FIGURE 1. LINKING PATTERNS IN THREE (RURAL) COUNTIES

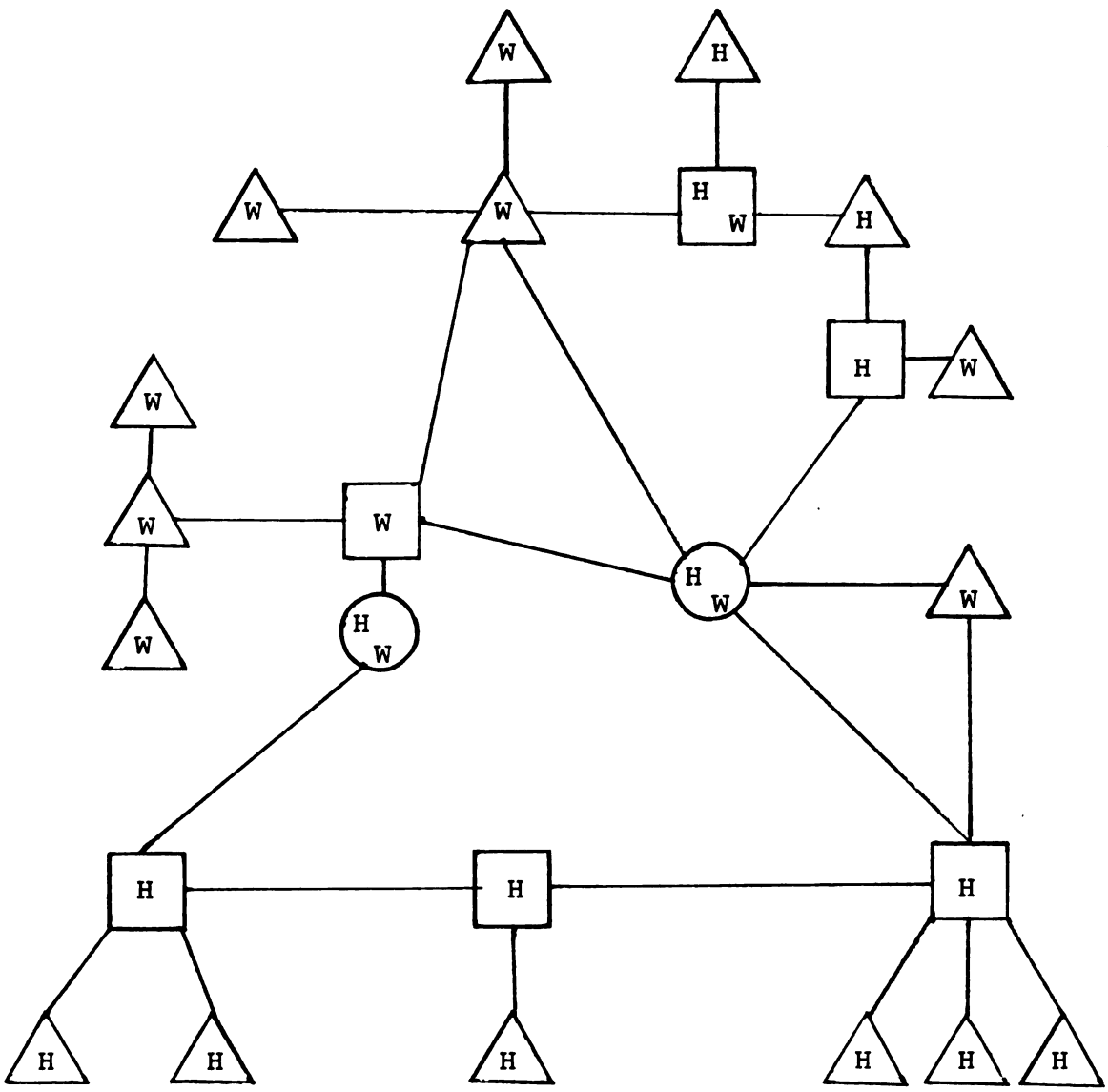

FIGURE 2. LINKING PATTERNS IN INGHAM COUNTY

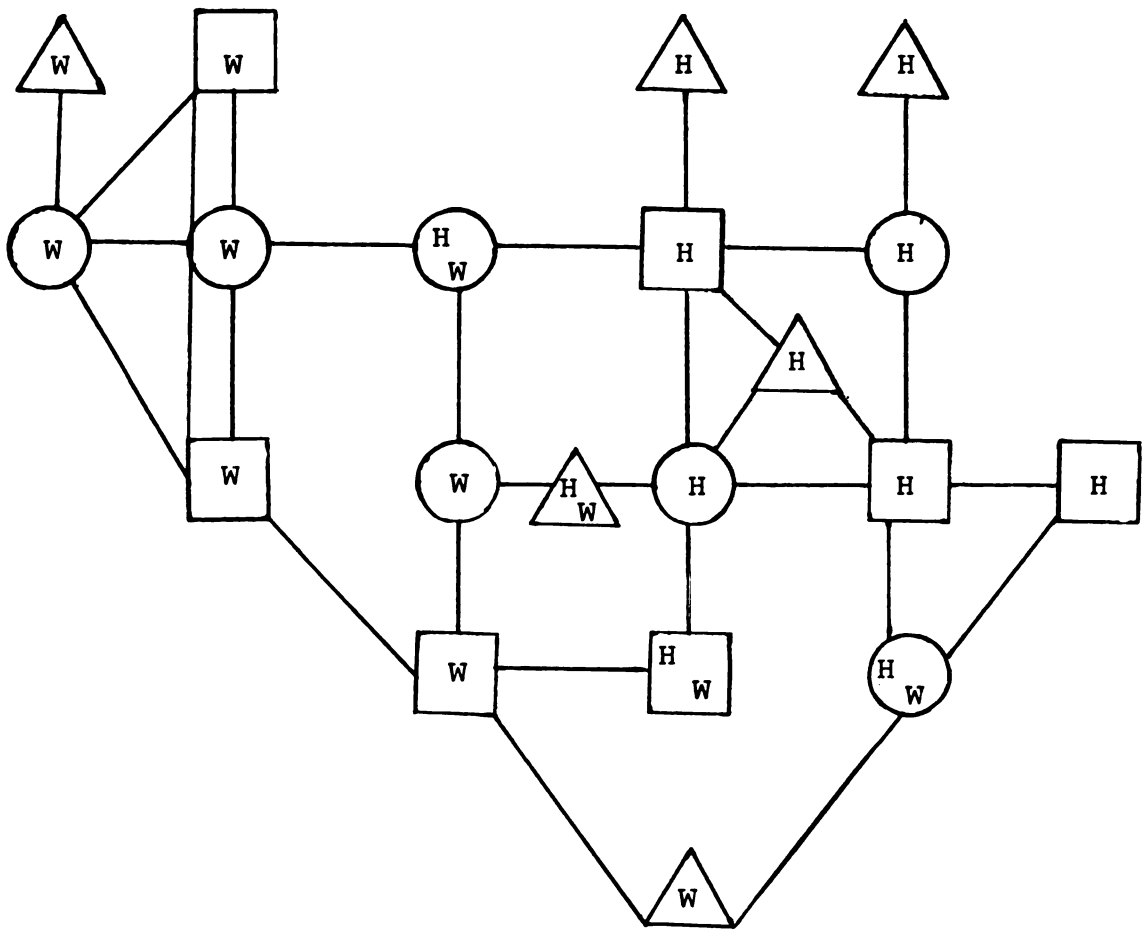

FIGURE 3. LINKING PATTERNS IN MACOMB COUNTY

KEY:

△ PRIVATE AGENCY

□ LOCAL BRANCH OF STATE AGENCY

○ COUNTY AGENCY

H/W MULTI-SERIVCE AGENCY

CONCLUSION

This (pilot) study yielded some valuable insight into the effects of resource availability on the formation of interorganizational linkages, and the resultant network configuration(s). Analysis of the data did not support the hypothesis that posited an inverse relationship between resource availability and linking frequency. The agencies demonstrated a direct relationship between independent and dependent variables, such that the preliminary indications are that agencies do not respond in the same manner as speculated by Levine and White when faced with reduced resource availability. Our data imply that high resource agencies can "afford" extraorganizational activity in the form of joint programs, or links, where this is only a luxury to low resource agencies who cannot afford them.

Results contrary to the hypothesis may be due to the skewness of the data. Fifty-two welfare agencies were interviewed as opposed to twenty-four health agencies. A significant portion of these agencies failed to report any linkages generally attributable to the respondents' lack of knowledge into that activity. These non-responses also followed a similar pattern in both organizational types.

Respondents appeared often not to know how many funds or clients their agencies dealt with. Many times there was no response, but these were included in the analysis. The means

that were figured were, of course, skewed by this inclusion as well as the large, high budget (urban) welfare agencies. As a result, most of the rural agencies, health and welfare, were placed in a low resource category.

A basic error exists in the assumption that the levels of resources necessary for organizational survival are shared by organizations of the urban and rural sectors. Thus, what might appear adequate for a rural health agency would not be so for its urban counterpart. In reality, though, this is not the case. Differing caseloads, employee numbers, and physical facilities are all variables in the determination of "adequate" resources. Though a grand mean across our entire organizational population could be considered to yield a false determination of average resource adequacy, it was used as a starting point, and did yield some trends.

The second hypothesis that concerned the types of organizations that linked was seen in the sociograms of the total (county) networks. These figures showed that organizations of similar type, i.e., health versus welfare, hung together in their linking patterns. In the urban counties, in fact, these two organizational types segregated themselves into two distinct groups. In each county, the members of these groups never linked directly to the member of another group. Instead, smaller, multiservice agencies served as mediators between them. The description of the mediator agency was the same across all counties; small, multiservice, and usually more administrative than service oriented. This network structure generally held across all

counties, but the configuration changed radically as one moved toward smaller, rural counties as evidenced in the sociograms.

The network of the rural counties was similar to their urban cohorts; their health agencies did not link directly with welfare except by a mediator, and the agencies of similar type linked directly. The rural agencies, however, did not segregate into two groups. Instead the network resembled one large group. Missing also were many smaller support services for the major agencies. For example, "senior nutrition", found in the urban counties, often aid the health department in their nutrition education programs and are not found in the rural counties. These types of agencies served important functions in keeping the (urban) network cohesive and comprehensive in nature.

Mentioned earlier was the fact that the agencies serving as mediators in the urban networks appeared to have a maximum number of links they could handle to join groups of agencies together. In the rural sector, although these types of agencies were present, the numbers of links were much less. For example, the Department of Community Services (Figure III, #559) in Macomb County joins two major service groups, where its counterpart on Allegan County, the Department of Human Services (Figure I, #24), links to a health clinic of moderate size, but no more. An explanation of this phenomenon may be in the nature of the network size and common trans-county functions of certain agencies such as the coordination of intercounty hospital services.

The rural network configurations seem incomplete. By virtue of the increased size of the service population (Appendix), the actual size and fiscal resources of the agencies, we could deduce that these agencies do not provide services on their given resource allocations. Near these counties are larger, urban networks with (speculated) resource surplus. Logically, these smaller agencies of the rural sector would follow the already demonstrated linking pattern of going after a larger, more (resource) solvent agency. Our Q-values (Table 2) have shown a stronger relationship between funds and linking, and, given the size of the rural populations as well as the net migration patterns (Appendix), money would be considered as a strong motivation to link "out-of" the rural networks. But, our instructions to the respondents provided for links only <u>within</u> their respective counties. Therefore, the urban networks would appear complete and self-contained while the smaller urban ones would not.

APPENDIX

	HEALTH AGENCIES	WELFARE AGENCIES	MULTI SERVICE AGENCIES	PRIVATE AGENICES	COUNTY AGENCIES	LOCAL BRANCHES	TOTAL LINKS (+2)
ALLEGAN	3	2	3	4	1	3	10
EATON	3	4	2	4	2	3	10
CLINTON	5	2	4	6	0	3	10
INGHAM	12	10	3	17	2	6	26
MACOMB	8	8	4	6	6	7	39

TYPES OF AGENCIES REPORTING LINKS

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