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# Community size, network structure, and the flow of information\*

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*Abstract.* The flow of information following disaster is compared for two Canadian communities: North Bay, previously reported on, and Port Alice. It is argued that the main difference between the two cases is the difference in size, with North Bay much larger. Size is found to go with differences in the networks and communication flows of housewives but not of the formally employed. Workplaces have broadly similar structures whatever the size of the communities in which they are located; but the networks of housewives are much denser in smaller towns so that small town housewives have better access to communication during the day. It is conjectured that similar results may hold for the leisure networks of the formally employed, which is consistent with another North Bay study tracing communication flows over a weekend instead of during a working day.

*Résumé.* Le volume de renseignements qui suit un désastre est comparé entre deux communautés canadiennes, soit North Bay, dont il a déjà été question, et Port Alice. Il est soutenu que la grandeur est la principale différence entre les deux villes, North Bay étant la plus importante. On a constaté, entre autres, que la grandeur est reliée aux différences relevées dans les réseaux et les moyens de communications des ménagères mais non dans ceux de la population féminine sur le marché du travail. Les lieux de travail ont sensiblement les mêmes structures, et ce, quelle que soit l'importance des villes où ils sont situés. Toutefois, les réseaux des ménagères sont beaucoup plus denses dans les petites villes. Ces femmes ont donc plus facilement accès aux moyens de communications au cours de la journée. On émet l'hypothèse que des résultats semblables peuvent s'appliquer dans le cas des réseaux de loisirs des femmes sur le marché du travail, ce qui est compatible avec une autre étude menée à North Bay, laquelle retrace les moyens de communications au cours d'une fin de semaine au lieu d'un jour ouvrable.

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### **Introduction**

An earlier paper reported a study of information diffusion following an explosion of a downtown office building in North Bay, Ontario (Erickson et al., 1978). Here, we report on and compare information diffusion after a large mudslide in Port Alice, B.C. Such a comparison is, of course, difficult given the many important differences between the situations but the comparison appears to shed some rare light on a classic theoretical concern, the relationship between community size and the structure of interpersonal networks. It is unusual to get data of any kind directly bearing on this issue because it is difficult to get relational data of any complexity for communities of even quite modest size (Granovetter, 1976).

The comparison centres on differences in the two communities and the two disasters on the one hand, and the pattern of communication on the other. The outstanding difference between the two places is size: at the times of the events studied, North Bay had a population of about 50,000 while Port Alice had a population of about 1,500. Both the explosion and the mudslide were "big bangs": major, sudden disasters of widespread interest. Moreover, both occurred during normal working hours. On the other hand, the Port Alice mudslide was a threat to everyone in the community while the explosion was not: moreover, the explosion took place downtown while the mudslide was near a residential area. (Erickson et al., 1978 provides more extensive information on the North Bay disaster.)

The principal differences observed in the two studies centre around communication patterns outside the formal workplace. Workplace patterns when compared were notable primarily for their strong similarities. This is one of the indicators pointing toward community size as the major variable in this comparison, as size would be expected to have a strong impact on the informal networks while workplace relations might be more affected by the size of the formal organization and constraints imposed by work rather than community size, per se. This argument will be returned to subsequently.

### **The Port Alice mudslide**

The first eleven days of November, 1975 had been exceptionally wet in Port Alice — a British Columbia coastal town of about 1,500 inhabitants. Rainfall intensified even further the morning of Wednesday, 12 November and at 11:00 AM, a mud slide hit the uppermost residential street of Port Alice. Information began to flow immediately from person to person and within about thirty minutes, the local mill (situated about four miles away) was reported to be almost deserted as workers headed for their homes and families. Evacuation of the entire town began roughly three hours later.

### *The data collection*

The data used here were originally collected by a team headed by Joseph Scanlon as part of a series of policy-oriented studies of disasters (Scanlon et al., 1976). Port Alice households were randomly sampled, and then within each household a respondent was randomly selected, yielding an initial random sample of 114 individuals. These respondents were interviewed within a few days of the mudslide. Among other things they were asked how they heard of the mudslide; if a respondent first heard from another person, that person was

identified and then interviewed; if the initial respondent's informant heard from another person in his turn, this informant's informant was also interviewed and so on back to the original source of information. This back-tracing of information chains generated a total of 236 people (including the initial 114) of whom 230 were successfully interviewed, an overall response rate of 98 percent.

Analysis of interpersonal chains can yield a variety of results about both interpersonal networks and the ways in which parts of such networks are used in the diffusion of information. There are some special advantages to using chains of the present kind, those generated by an emergency and very quickly traced afterwards. One advantage is the generally excellent response rate; the respondents can recall the desired information vividly and are usually very willing to talk about it. Another advantage is the very simple way in which the chains are constructed, with most people simply passing the word along to others as they are met, so that the chains reflect the patterns of frequent interaction. In other kinds of chains, for example, those associated with seeking an illegal abortion (Lee, 1969), information may be sought or diffused in much more specialized ways which produce chains reflecting just part of interpersonal network structure. For a more detailed discussion of the opportunities and dangers involved in the analysis of chain data, see Erickson (1978); and for some applications to the particular kind of data considered here, see the earlier North Bay report (Erickson et al., 1978).

#### *The overall flow of information*

News of a dramatic event of widespread interest commonly spreads very quickly, primarily by word of mouth. These typical features appear in the Port Alice case. As indicated in Table 1, news spread very quickly, with more than three quarters of the population hearing about the mudslide within half an hour. The bulk of the population heard the news from other people (see Table 2). A very few (2.7 percent) heard over the radio; since these all turned out to be people who were out of town at the time, and hence excluded from the local interpersonal networks and diffusion processes, they were omitted from further analysis.

Buckner (1975:63-4) argues that rumor transmission will be faster where (1) people are more involved in the topic, and (2) interpersonal networks are more dense so that more communication channels are available. For both of these reasons we would expect faster transmission in Port Alice than in North Bay. Surely involvement was greater in Port Alice, where the event was clearly a very great threat<sup>1</sup>; as well, relationships would be expected to be more dense in a town of 1,500 than in a city of 50,000. Figure 1 shows that information did get around faster in Port Alice, even though North Bay had a "head start," a greater proportion of immediate eyewitnesses drawn to the explosion site by the loud noise. Although we cannot sort out the relative importance of type of event and size of community here, it seems clear that both were in some degree consequential for speed of diffusion.

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1. This differential degree of involvement is supported by the reports of respondents. In Port Alice, 52 percent reported "alarm" upon hearing the news, whereas in North Bay, "only 10 percent of the respondents reported extreme emotions like panic or fear. Similarly about 20 percent had a personal reason for direct concern" (Erickson et al., 1978).

**Table 1: Speed of information flows**

<i>Time (day of slide)</i>	<i>Percent of initial sample who had heard by that time</i>
11:00 A.M. (slide occurs)	6
11:10 A.M.	43
11:30 A.M.	76
12:00 noon	83
3:00 P.M.	96
6:00 P.M.	98
12:00 midnight	100
N = 114	

**Table 2: How respondents heard the news**

	<i>(N)</i>	<i>Percent</i>
Eyewitness	9	8.1
From someone else	99*	89.2
Media (radio)	3	2.7
Total	111	100.0
No answer	3	

\* Including 4 persons who heard via private radio.

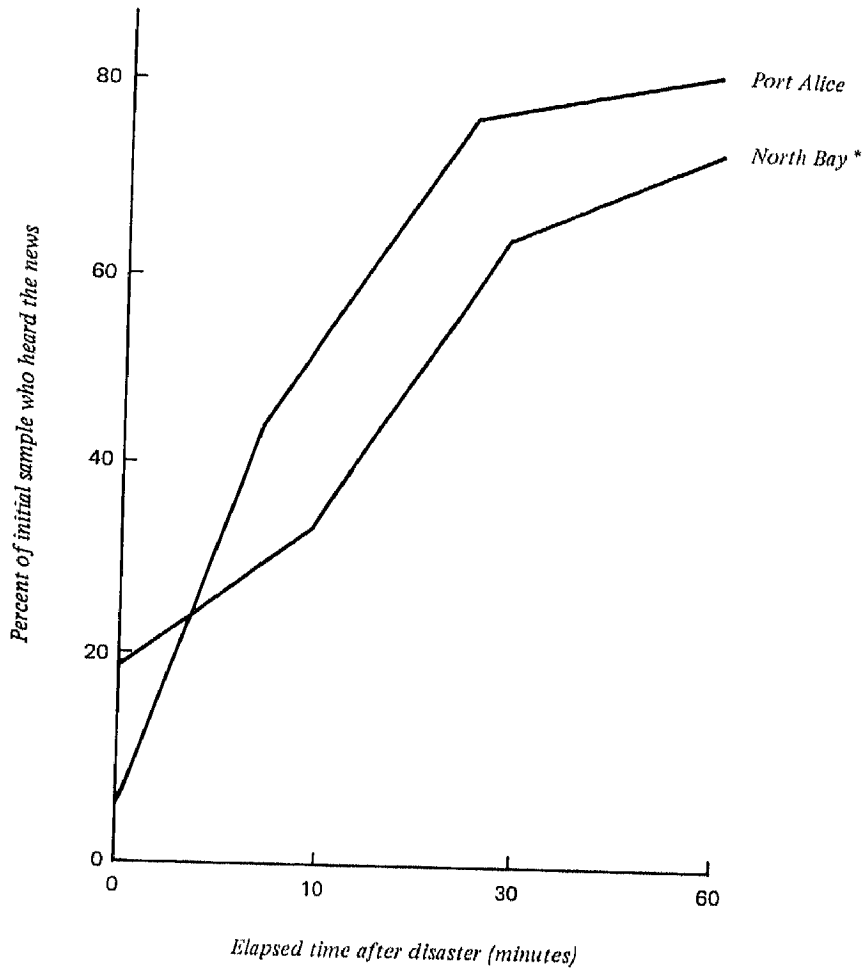
**Table 3: How quickly respondent told someone by relationship of person informed\***

<i>Relationship of person informed</i>	<i>How quickly respondent told someone</i>				<i>N</i>
	<i>≤ 10 min.</i>	<i>11-30 min.</i>	<i>&gt; 30 min.</i>	<i>Total</i>	
Co-worker, client, customer	66	26	9	101%	35
Family	50	38	13	101%	16
Friend, neighbor	74	15	11	100%	27
Known visually, stranger	100			100%	4
N					82

\* Based on those members of the total (N=236) sample who answered both questions in sufficient detail.

In an emergency situation, it is arguable that people might spread the news along special emergency networks atypical of their usual interaction patterns, in which case the chain data would be a poor guide to overall network structure. The data do not support this view. Most people heard the news from regular not atypical interactants; 59 percent of the respondents reported that they were informed by people they saw at least once a day, and 63 percent reported that their informants were such normal workday contacts as workmates, clients, or customers. We can get somewhat more detail by turning from the respondent's informant to the first person the respondent himself informed (if he did inform someone). Since there is much missing data, the full network sample rather than the random sample is used in Table 3. Again we see that people passed the news onward quickly, almost always to people they knew more than just vis-

Figure 1: Relative speed of information flows



\*Erickson et al., (1978: 24)

ually, and most often to the kind of contact normal for a working day. Furthermore, if emergency patterns had supplanted more typical workday communication lines, one would expect family members to have priority in the news transmission; in fact they are informed more slowly than any of the other sorts of contacts. Most likely, Port Alice residents were indeed eager to get in touch with their families (and were, in absolute terms, by no means slow in doing so) but families were simply not as accessible as co-workers, or the fellow housewife next door. The net result is that communication followed routine workday patterns though with an accelerated pace fueled by the general threat and by the early shutdown of workplaces.

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Thus, we see no reason to abandon the position argued in Erickson et al., (1978) that it is legitimate to use the flow of crisis information as a probe of workday relational patterns. We begin by focusing on effects of formal employment, and next move to the results for housewives. Since our interest is in the networks probed by information chains, we will use the network sample from now on.

The reader will note that tables are presented without significance tests; there are two reasons for this. First, the tracing of communication chains produces neither an unbiased sample nor a statistically independent set of observations. Thus, standard tests would be difficult to apply appropriately. Second, Port Alice is a very small place and even our initial sample is a sizable fraction of the population; if we concentrate on fairly strong patterns in the data, we are not likely to be far off the true results for Port Alice as a whole. Those who care to work out chi-square values will find that most of the findings are statistically reliable but it is not at all clear that this is a meaningful piece of information. Again, see Erickson (1978).

#### *Occupation and workday networks*

The North Bay study (Erickson, et al., 1978) indicated that occupational status is related to access to information via possession of more, and more strategically located, ties at work. Very similar results obtain for Port Alice. Table 4 indicates that most respondents heard the news at work (true for all occupational groups, including housewives, given that their workplace is the home). The mundane nature of the ties used in passing the word along is clearly evident in this table. More detailed examination shows further that occupational status is directly related to the chances of hearing the news at work and inversely related to hearing it at home; as status increases so too does access to information at the workplace. The extraordinary low rate of hearing at work for semiskilled and unskilled workers can be accounted for by a special feature of the Port Alice economy, the prevalence of shiftwork (especially for lower status workers) at the mill.

Nearly all the students in our sample heard the news at their "workplace," the school. Most of them heard in the same way, via an announcement by the principal (Scanlon et al., 1976:18-19). Since the student group is in effect little more than a single case several times repeated we decided to drop students from further analysis.

Table 5 provides some more direct data concerning the differential effects of status on access to communication channels at work. Respondents were asked to estimate the number of fellow workers spoken to in the course of a normal workday; not surprisingly, higher status workers reported more workday contacts. If higher status workers are more likely to hear the news at work, and also more likely to have a large number of work relationships, then they are well situated to pass the word on to other workmates. Table 6 shows the relationship between respondent's occupation and his relationship to the first person he informed, for those 121 respondents claiming to have informed another. There is a striking connection between higher status and first informing a co-worker. Tables 4-6 together give strong support to the view that lower status workers are only peripherally connected to other workers and hence to the flow of information at the workplace.



**Table 4: Where respondent first heard of the slide by occupational category**

<i>Occupation</i>	<i>Location</i>					<i>Total</i>	<i>N</i>
	<i>At the scene</i>	<i>Home</i>	<i>Work or school</i>	<i>Travelling</i>	<i>Other</i>		
Professional, owner, manager	9	9	73	—	9	100%	22
Skilled white collar	5	10	67	10	10	102%	21
Skilled blue collar	14	12	66	7	2	101%	59
Semi and unskilled	12	43	39	—	6	100%	49
Housewife	25	56	8	3	8	100%	36
Student	—	5	79	—	16	100%	19
							206

**Table 5: Number of fellow workers talked to in a normal day**

<i>Fellow workers talked to</i>	<i>Occupational Category</i>			
	<i>Professional, owner, manager</i>	<i>Skilled white collar</i>	<i>Skilled blue collar</i>	<i>Semi and unskilled</i>
Less than 5	8	12	15	36
5 or more	92	88	85	64
Total	100%	100%	100%	100%
<i>N</i>	25	26	60	47

**Table 6: Occupation by relationship of first person respondent reportedly informed**

<i>Respondent's occupation</i>	<i>Relationship of the informed</i>				<i>Total</i>	<i>N</i>
	<i>Co-worker</i>	<i>Family</i>	<i>Friend</i>	<i>Stranger</i>		
Professional, owner, manager	93	7	—	—	100%	15
Skilled white collar	67	7	20	7	101%	15
Skilled blue collar	53	11	32	5	101%	38
Semi and unskilled	29	36	29	7	101%	28
Housewife	—	44	52	4	100%	25
Total						121

A more detailed picture of communication relationships can be obtained by breaking the chains down into informer-informant dyads. In the North Bay study, "who to whom" matrices were constructed in several ways, with the major results again centring on occupational structuring of the relational patterns. The three main features were: communication with like-status others, the presence of communication upward and downward in status in roughly

Table 7: Who people told: news flows between occupational categories

From	To					N	Total
	Professional, owner, manager	Skilled white collar	Skilled blue collar	Semi and unskilled	House wife		
Professional, owner, manager	37	26	5	26	5	19	99%
Skilled white collar	31	15	27	19	8	26	100%
Skilled blue collar	6	12	42	23	17	65	100%
Semi and unskilled	10	3	24	48	14	29	99%
Housewife	6	14	23	23	34	34	100%
N						174	

equal amounts (unlike more formal communication at work), and relative isolation of lower status workers. These overall trends were replicated in the Port Alice data. Tables 7 and 8 give the occupational "who to whom" matrix percentaged across (emphasizing who people told, Table 7) and percentaged down (emphasizing by whom people were told, Table 8).

We see again the preponderance of communication among persons of like status, indeed to a greater extent than appears in the percentage tables. In Table 8, for example, semiskilled and unskilled workers appear to hear from skilled blue collar workers a bit more often than from their own category, but this anomaly disappears once the effects of differential size are controlled for. The one group clearly not fitting this model is the skilled white collar workers, who communicate less often with each other than with those just above or just below them in status. Perhaps they are communication links between management and labor. Again, as in North Bay, information flowed both up and down the status hierarchy (compare entries below and above the main diagonals in Tables 7 and 8) with nonmanual workers better able to communicate with employed workers than were those in manual positions.

Overall, then, the North Bay and Port Alice results are strikingly similar with respect to occupational networks as indicated by the flow of news at work. This similarity is understandable in terms of the standardized, hierarchically organized structure of work relationships in our society. In Port Alice, North Bay, or in any community, the gross organization of a workplace is likely to be much the same and repeatedly leads to a connection between work status, the number and strategic location of work relationships, and access to the flow of communication (Rogers and Agarwala-Rogers, 1976). Fine details of workplace networks are another matter; research on specific workplaces suggests that work networks do vary depending on technology, recruitment and promotion patterns, sex and ethnic composition of the work-force and many other factors. But these variations will not often show up in comparisons like the present one because their effects are comparatively subtle and consequently are likely to be "swamped."

**Table 8: Who people heard from: news flow between occupational categories**

<i>From</i>	<i>To</i>				
	<i>Professional, owner, manager</i>	<i>Skilled white collar</i>	<i>Skilled blue collar</i>	<i>Semi and unskilled</i>	<i>House wife</i>
Professional, owner, manager	29	22	2	11	3
Skilled white collar	33	17	14	11	7
Skilled blue collar	17	35	54	32	37
Semi and unskilled	13	4	14	30	13
Housewife	8	22	16	17	40
Total	100%	100%	100%	100%	100%
N	24	23	50	47	30

On the other hand there is considerable evidence that size of community is highly relevant to neighboring relationships. A variety of studies have found that larger community size is correlated with fewer and weaker ties between people and their neighbors, while also correlated with more ties based on common interests rather than on propinquity of residence. In larger places, with modern facilities for communication and transportation, there is no need to rely on neighbors for social interaction; while in smaller towns neighbors are likely to associate from sheer lack of alternatives (Fischer, 1973; Wellman, 1979). Thus, we would expect information flow among housewives to be most responsive to differences in community size.

#### **Housewives in two communities**

In the North Bay study, housewives seemed quite isolated. They heard the news of the explosion more slowly than other groups, they more often heard of it via the mass media rather than via personal communication, and if they did hear from another person that person was often a family member bringing news home at the end of the school or work day. Similarly, housewives informed fewer people and more of them were family members. One datum from Port Alice appears to give a similar impression; in Table 9 housewives report speaking to dramatically fewer people during the course of a normal day and hence have smaller numbers of contacts than others. (We also note that network size is once again related to occupational status for those formally employed). Yet these small networks were surprisingly effective in tapping the flow of information; see Table 10, showing that housewives heard more quickly than any other group. This speed could be a result of one aspect of the mudslide itself, its location near a residential area and hence nearer to at least some housewives than to those at work. However, note first that Table 10 deliberately excludes eyewitnesses; and note also that the semiskilled and unskilled workers were also likely to hear the news at home (Table 4) yet were slowest of all to hear in spite of this advantage. Overall, Tables 4 and 10 make it clear that

**Table 9: Number of people talked to in a normal day**

<i>People talked to</i>	<i>Occupational Category</i>				
	<i>Professional, owner, manager</i>	<i>Skilled white collar</i>	<i>Skilled blue collar</i>	<i>Semi and unskilled</i>	<i>House wife</i>
10 or less	4	23	31	53	92
More than 10	96	77	69	47	8
Total	100%	100%	100%	100%	100%
N	25	26	61	47	38

Note: This Table is similar to, but not the same as, Table 6, which portrays number of fellow workers only.

**Table 10: Speed of hearing news of slide: non-eyewitnesses, by occupation**

<i>Occupational category</i>	<i>Under 30 min.</i>	<i>Over 30 min.</i>	<i>Total</i>	<i>N</i>
Professional, owner, manager	90	10	100%	20
Skilled white collar	84	16	100%	19
Skilled blue collar	88	12	100%	49
Semi and unskilled	63	37	100%	40
Housewife	92	8	100%	26

being at work was not generally a handicap in hearing about the slide in the residential section.

Since the nature (especially the location) of the disaster does not seem to be a plausible explanation of the housewives' speed of hearing, let us examine some data further probing their network structure. In the North Bay study speed of hearing was compared to chain position; the denser the networks, it was argued, the more easily people would hear the news quickly even when hearing it at several removes from the original source. In denser networks more channels of communication are available so passing the word from one person to another does not require long delays while one of the rare links is sought. By this argument the North Bay data indicated density was greater for those of higher status, and for any of the formally employed statuses than for the housewives. Table 11 gives a very different result for Port Alice: among those who heard the news at many removes, fifth hand or more, the housewives were the fastest to hear. At closer removes, the housewives are tied for second. Once again, the same status pattern shows up for the formally employed in Port Alice as in the larger community but housewives' networks, unlike work networks, are different in the two communities.

Turning to the housewives' patterns of informing others, rather than how they heard the news themselves, parallel results are found. Housewives were able to tell other people the news very quickly (Table 12) but did not inform as

**Table 11: Chain position and speed of hearing (non-eyewitnesses only)**

Occupational category	Strata 2 to 4*		Strata 5 to 10	
	Percent of group hearing within ½ hour	N	Percent of group Hearing within ½ hour	N
Professional, owner, manager	100	12	82	11
Skilled white collar	94	18	75	4
Skilled blue collar	89	27	71	24
Semi and unskilled	73	22	57	23
Housewife	94	18	92	12

\* Eyewitnesses are Stratum 1

**Table 12: Speed of telling someone, by occupation (non-eyewitnesses only)**

Occupational category	Speed of telling someone			N
	10 min. or less	Longer than 10 min.	Total	
Professional, owner, manager	73	27	100%	11
Skilled white collar	73	27	100%	11
Skilled blue collar	52	48	100%	23
Semi and unskilled	53	47	100%	19
Housewife	92	8	100%	13

large a number of people as did those in formal employment (for housewives,  $\bar{X} = 2.7$ ; for employed workers,  $\bar{X} = 4.9$ ).

It would seem that Port Alice housewife networks are small in size, quickly saturated with information, and with few chances for one person to inform many. Such features would be consistent with small highly dense networks, probably with some interlinkages between cliques so news can flow from one to another as well as rapidly saturating a clique once entered. The North Bay results, by contrast, are consistent with housewife networks which are both small and low in density so that news goes from hand to hand much more slowly. The comparison fits a model of community size and neighboring where in larger communities, housewives live in much less "neighborly" neighborhoods in which relationships are less dense, less intimate, and less facilitated by common localized activities such as shopping in the same smaller stores. In larger communities the housewives may well have a number of non-neighborhood ties which partly offset the weaker and more scattered ties to neighbors; but such

ties are likely to be at a distance, requiring either travelling some distance or telephoning for activation. Hence, such ties would be more difficult to activate in an emergency situation where time is crucial and phone lines likely to be flooded.

### **Summary and discussion**

The Port Alice mudslide and North Bay explosion differed both in size of community and in some aspects of the event. We have argued that the main impact of the event was a more rapid diffusion of information in Port Alice, where the mudslide was more generally threatening than was the explosion in North Bay. The differing sites of the events (residential in Port Alice, downtown in North Bay) might have also been relevant to patterns of information diffusion, but the Port Alice analysis suggests that in fact location made little if any difference to those who were not eyewitnesses. Eyewitnesses were more common for the more centrally located explosion, to be sure, but once chains of information get started they seem to proceed in much the same way wherever they began.

Size of community is relevant to some kinds of networks, and hence some diffusion patterns, but not to others. Work networks are rooted in formal, efficiency-oriented, planned organizations whose structures are broadly similar whatever the size of community in which they happen to be located. If community size has any effect on work networks it would likely be a weak and indirect effect via correlations between size of place and type of work organization. Effective analysis of work networks in detail would require use of organizations, not communities, as the unit of study. At the community level, one must expect to find a broad similarity in work networks, with occupational status repeatedly related to network size and connectivity and hence to access to the flow of information.

Community size does, however, have implications for the networks of housewives. In smaller communities, housewives are more likely to participate in more dense daytime networks. They more often share common foci of interaction, such as small local stores; ties formed in this way are likely to be stronger, because of the paucity of alternative bases of relationships, and strong ties tend to become dense ones as close friends are introduced to each other. Thus the housewives in smaller places may not know any more people, but the people they know are more likely to know each other, which makes possible a much more rapid diffusion of information. We note the importance of two things which tend to be underrated in the literature: (1) examining the structure of networks and not just their sizes (e.g. Wellman, 1979, in which density is included versus Fischer, 1973 which only considers number of people known); (2) the importance of neighborhood ties in the lives of housewives, especially with respect to their access to communication during the day.

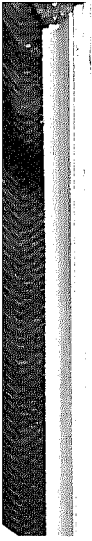
Our comparison of non-work networks in two communities has been confined, by force of circumstance, to the networks of housewives. What might be the effects of community size on other kinds of networks outside formal workplaces? Residents of larger communities tend to have a wide variety of crosscutting, loosely knit acquaintance circles (Simmel, 1964; Wellman, 1979) so that most personal networks have relatively low density and weak ties. This is not uniformly true of urban areas, since the large size permits the development

of some densely knit subgroups rooted in common ethnicity, interests or other special basis with enough representatives in the city (Fischer, 1975). Within such special subgroups, information about salient matters could diffuse very quickly just as in a small community. However, most urbanites do not participate in very dense or active networks unless they are at work. If so, the flow of news should be on the whole slower if it takes place when most people are off the job. It is interesting to note that an earlier study of North Bay found much slower diffusion on a weekend. A fatal shooting took place at 10:30 PM Saturday; 27.1 percent of the initial sample had heard of the shooting by midnight, and 89.2 percent by noon Sunday. In the explosion study, 33.3 percent had heard in ten minutes and 93.5 percent in three hours. (See Mostacci, 1979.) The comparison is only suggestive, since news spread after the shooting might have been slowed by several factors such as the smaller number of eyewitnesses.

We conclude with three conjectures concerning the effects of community size on network structure. First, community size per se has no effect on networks on the job. In large places or small, news of general interest flows quickly at the workplace, especially for those of higher work status who have larger and better connected networks. Second, non-work community size probably does have effects on the non-work networks of the formally employed: such networks, in larger places, are more often low in density and high in weak, special-purpose ties of considerable variety. Information diffusion via off-the-job ties is thus likely to be relatively slow, although these ties do provide potential access to a great variety of information via wide-ranging contacts. Third, the networks of housewives are also affected by community size; the effect is not so much on the kinds of ties housewives have (family and neighborhood ties seem to dominate) as on their density, which is greater in smaller communities. Urban housewives are thus especially isolated from urgent communication during the day, since they do not have any equivalent to the dense and active networks at formal workplaces and their daytime networks are generally of low density. Most news breaks during the day; urban housewives and low status workers are the most likely to hear such news very slowly or miss it all together.

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