



Gossip in Organizations

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Abstract

Three hypotheses about the effects of different informal social network structures on gossip behavior are developed and tested. Gossip is defined as a conversation about a third person who is not participating in the conversation. Having analyzed the costs and benefits of gossip, we prefer the coalition hypothesis. It states that gossip will flourish in social networks that have a relatively large number of coalition triads, that is ego and alter having a good relationship amongst themselves and both having a bad relationship with tertius, the object of gossip. Two rivalling hypotheses are developed. The constraint hypothesis predicts that the inclination towards gossip is greater, the larger the number of structural holes in the personal network of the gossipmonger. The closure hypothesis predicts that more gossip will be found in networks with a large number of closed triads, that is where both gossipmonger and listener have a good relationship with the absent third person. The hypotheses are tested using a newly developed instrument to measure gossip behavior and network data from six work organizations and six school classes. The data support the coalition hypothesis and do not support the two rivalling hypotheses.

Keywords: informal networks, third party gossip, social control, social capital, social networks

1. Introduction

People like to talk about other people. Large parts of free conversations are devoted to persons that do not participate in the conversation (Levin and Arluke 1985). Non-obligatory talk about absent third persons is called gossip. Gossip may be defined as the provision of information by one person (ego) to another person (alter) about an absent third person (tertius). Since at least three persons are involved, gossip is a pre-eminently social activity. Gossip binds the gossipmonger and the listener and may have effects on their respective relationships with the person talked about.

In ordinary language, gossip is often associated with negative behavior toward the absent third person. It is also widely accepted that the intensity and maliciousness of gossip behavior differ. In this research, we focus on the determinants of such gossip behavior. Our vantage point is that social conditions determine the pervasiveness and maliciousness of gossip. More precisely, our interest is in the network structures that stimulate individual gossip behavior. Our purpose is to formulate hypotheses about the network structures that enhance gossip behavior, and to test these hypotheses on intra-organizational networks.

In Section 2, we position our approach in the theoretical and empirical research on gossip behavior. In Section 3, we elaborate our preferred hypothesis and two rivalling hypotheses about the structure of informal social networks and gossip behavior. In Section 4, we describe the research design and measurement instruments. In Section 5, we present the test results for the rivalling hypotheses. We conclude by discussing the implications of our results for organizational design.

2. Gossip Research

Our scientific interest in gossip concentrates on two issues. First, the pervasiveness of gossip, i.e., why we find more gossip in some networks and less in others. Second the effect of gossip on the relationships between the people involved in the gossip process.

Most earlier theoretical contributions assumed that differences in gossip behavior were the result of different individual needs (Fine and Rosnow 1978; Gambetta 1994). In this perspective, people belonging to a certain social category will gossip more than others. For example, much empirical research on gossip behavior focused on the popular hypothesis that gender is an important determinant of gossip behavior (Levin and Arluke 1985). In order to measure in what ways categories of persons differ in their gossip behavior, these studies applied content analysis to real life conversations, but found that women do not spend more time talking about third persons than men, although they are more interested in personal information (Dunbar 1997; Leaper and Holliday 1995; Morrill 1995: 81; Levin and Arluke 1985). Since these studies show that it is hard to identify characteristics that determine individual gossip behavior, the social category approach does not appear to be very fruitful.

Another prominent approach derives from theoretical interest in the social functions of gossip. The central thesis is that gossip is a powerful mechanism of informal social control, which contributes to the preservation of social groups and their norms (Elias and Scotson 1965; Gluckman 1963, 1968; Merry 1984). Though this hypothesis may appear plausible, it is hard to find support in empirical research. Ethnographic descriptions of specific gossip episodes followed by in-depth content analyses (Gilmore 1978; Bergmann 1993: 71–138; Eder and Enke 1991; Handelman 1973; Arno 1980; Rasmussen 1991) elaborate on the functional effects of gossip, but are hardly convincing with respect to the central thesis. The problem is that this line of research did not fruitfully incorporate the fact that gossip may be malicious and therefore disruptive for relationships. Simply calling such disruptive gossip behavior dysfunctional, is begging the question.

The problem of disruptive effects of gossip behavior is especially acute in formal organizations. Consequently, gossip and rumor received a lot of attention in the organization literature. However, what is central in this strongly empirically orientated literature is the description of gossip behavior in terms of sociometric structures, rather than its explanation.

A core concept in the research on gossip in organizations is the 'organizational grapevine', the network in the organization that transmits the information (Baker and Jones 1996; Davis 1953; Goldhaber 1987; Hellweg 1987; Zaremba 1988). In the older, more descriptive literature, the grapevine was conceptualized as a network in a sociometric framework. Caplow

(1946), Davis (1953) and Sutton and Porter (1968) were especially interested in the role of formal rank and informal liasons in the transmission of rumor. It was found that persons with higher formal ranks were generally better informed. However, clear conclusions about informal liasons, the personal contacts that bridge otherwise disconnected networks, were not drawn.

More recent organization studies show a renewed interest in gossip. The old interest in bridge positions got a sound theoretical foundation with Burt's theory of structural holes. Its central thesis is that network positions that bridge otherwise disconnected groups provide information advantages that will be exploited by persons occupying such bridge positions (Burt 1992; Burt and Knez 1995). In this paper, we will elaborate and test a hypothesis drawing on Burt's structural hole argument.

Nevertheless, it still appears to be hard to study gossip behavior within networks, without referring to questions about its effects. Thus, it is also frequently argued that gossip is a technique of information management both within (March and Sevon 1988; Paine 1967, 1968, 1970) and between organizations (Von Hippel and Schrader 1996; Schrader 1995).

In a broader context, issues about the effects of gossip on network closure and group formation are raised. Hodson (1993) picks up these issues, arguing that gossip creates bonds of solidarity. Such an approach addresses both the questions of the pervasiveness as well of the social effects of gossip. For example, Hodson concludes that gossip is more pervasive in a context of strong competition between workers, when there is a lack of leadership, or when there are strong role ambiguities. Referring to the social effects of gossip, he argues that gossip inflicts damage on the target with minimal risk to the attacker (Hodson 1993: 61).

We conclude that considerable progress has been made in measuring networks, but that existing theory about gossip behavior is still inadequate. Neither the social categories nor the functionalist approach produced convincing research results. Nevertheless, the renewed interest in gossip, especially the focus on its effects on group formation and network closure, is promising. Not being burdened by functionalism such an approach paves the way towards a theory about the costs and benefits of gossip. In this study, we want to contribute to the development of such a theory by elaborating, specifying and testing hypotheses about gossip behavior in different organizational networks. We assume that gossip is behavior which is beneficial to some and may be damaging to other relations.

3. Hypotheses

We start our theoretical analysis by presenting the characteristics that define the gossip problem as a social structure. First, we will explicate the social structure in which gossip occurs. We will then add three assumptions about gossip behavior. The combination of social structure and assumptions about gossip behavior enables us to derive a preferred hypothesis about network characteristics that stimulate gossip. In addition, we derive two rivalling hypotheses.

The social structure of gossip involves at least three persons. They are the gossipmonger, to be called ego, the listener, to be called alter, and the person who is discussed, to be

called *tertius*. This triad is the smallest unit to analyze gossip. The problem now is to add assumptions about gossip behavior that enable us to specify the network characteristics that stimulate gossip. We elaborate on three characteristics of gossip behavior which, in our view, together establish ‘hot gossip’ (cf. Gambetta 1994).

Our first assumption is that all three actors are maximizing status. Thus, we assume that it is worthwhile for ego to talk to alter about *tertius*, because ego will gain status from alter by providing information about *tertius*. If not, ego would anticipate by not doing so. Further, we assume that alter will appreciate the information more the greater its news value. This enhances alter’s status when passing on the information to *quartius*. However, alter will not be interested in negative gossip about his friends, since this depreciates his own status. The more alter appreciates ego’s information, the more ego gains in status. As a side-effect of passing on information to alter, the bond of ego and alter is strengthened. For the same status reason, we assume that *tertius* likes positive information about himself to be spread in the network and prefers to hide negative information.

The second assumption refers to the person talked about, *tertius*. We assume that alter will appreciate the information more when alter knows *tertius* personally. Such information generally implies a short gossip chain, and therefore has the potential value of increasing alter’s status if the information is transmitted to other persons. Information about public persons is generally more easily accessible, and for that reason also less valuable.

The third assumption is that alter will appreciate information more when the information is hard to verify. Information that is easily verified quickly loses news value. Since the facts are easily accessible, the true story can be reconstructed and spread quickly through the network. Information that is hard to verify has greater value for two reasons. At least, there is a reason for *tertius* to keep this information hidden. *Tertius* thinks that the spread of this information probably will not enhance his status. But as a consequence this is scarce information which is more rewarding to pass on since the chance is greater that alter is not fully informed.

Combining the assumptions, we assume that ego preferably provides alter with secret information about a *tertius* known to alter. We think that this is a fairly parsimonious characterization of ‘hot gossip’. Other well-known characteristics of gossip follow straight away from these assumption. For example, they imply that rewards for gossip are higher in short rather than long gossip chains.

Having explicated the gossip structure, we are able to formulate a testable hypothesis about gossip behavior in networks. Our conjecture is that the assumptions for gossip are best met in a so-called coalition triad. This is a triad in which ego and alter have good personal relationship, whereas they both have a bad relationship with *tertius*. The coalition triad is depicted in figure 1. The existence of a relationship in the figure is represented by an arrow, whereas the sign indicates the quality of the relationship.

The coalition triad stimulates gossip, since it satisfies all three assumptions. It satisfies the first assumption, since ego and alter have a good relationship, and therefore ego can gain status from alter by providing information about alter. It also satisfies the second assumption, since ego and alter both personally know *tertius*. Because it is harder to see why it also satisfies the third assumption about the secrecy of information, we discuss this more extensively.

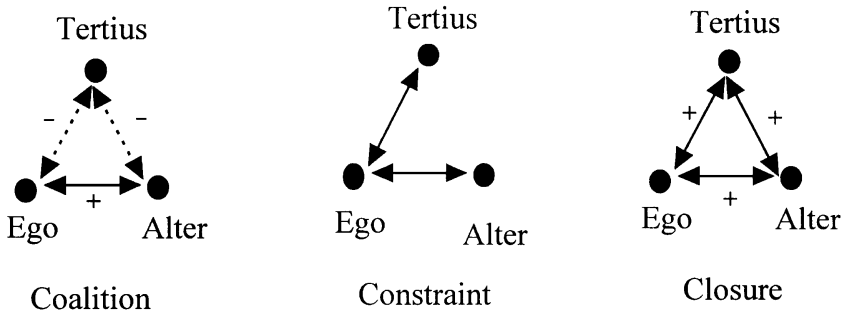


Figure 1. Coalition, constraint and closure triads.

We expect tertius to allow information that enhances his status to be spread freely in a network. If the information lowers his status, however, he will not want the information to be spread. Therefore, we may assume that if tertius has reason to keep information hidden, this probably is information that depreciates tertius' status.

To understand gossip behavior, it is noteworthy that tertius' vulnerability for negative information differs. Tertius' friends, at least his real friends, will note the negative information about tertius, they may or may not be willing to bear the cost of verifying the information, and will acquiesce in the situation. Not flattered by their friend's behavior, there is not much reason to pass on the information.

Tertius' 'enemies' will act differently. They will not verify the information, but will directly pass on the information to other persons in the network. This negative information harms tertius' status, but this is not a problem since both ego and alter already have a bad relationship with tertius. The relationship between ego and alter will be strengthened, since ego provides information that confirms alter's opinions about tertius. Thus it is the negative relationships of tertius with ego and alter that stimulate gossip.

For these reasons, we hypothesize that gossip flourishes in coalition structures. This is the main hypothesis to be tested in this paper. To put this hypothesis in perspective, we elaborate two rivalling hypotheses.

The first rivalling hypothesis is the **constraint hypothesis**. Drawing on Burt's argument about structural holes (Burt 1992), it may be argued that the status of ego increases less the better alter is already informed. An ego participating in two almost separate networks disposes of more information to transmit from the one network to the other. Such a position is called a structural hole and a person occupying such a position will exploit it. In structural terms, a social hole exists when ego has a relationship with both alter and tertius, whereas a relationship between alter and tertius is absent. Figure 1 depicts the structural hole. Thus, according to the constraint hypothesis, it is those egos with the greatest number of structural holes in their network who will gossip most.

The constraint hypothesis is not our preferred hypothesis. The main reason is that it does not take into account the greater value of information about a person personally known to alter. In fact, in the constraint hypothesis it is assumed that information about a person not personally known by alter has greater news value. This violates our second assumption.

The second rivalling hypothesis is the **closure hypothesis**. The closure hypothesis draws on the older functionalist argument about the positive effect of gossip on group formation. According to this hypothesis gossip is an almost costless activity, that binds alter and ego. If alter and ego have a good personal relationship, they will exchange information about themselves and about persons they both know. Sharing information enhances their relationship. Furthermore, since the information often has a normative connotation, sharing this information supports their shared norms. Accordingly, actors do not exchange information because of the news value of the information, but rather because they want to strengthen their relationship at low costs. To strengthen group ties, they rather talk about a tertius who is their common friend, than about quartius whom they both do not like. Thus, according to the closure hypothesis, when ego and alter have a good relationship with each other and both have a good relationship with tertius, they will spend a lot of time talking about tertius. The closure structure is depicted in figure 1.

The closure hypothesis draws heavily on the older functionalist argument about gossip behavior and group integration. However, it is not our preferred hypothesis, since it violates our third assumption. The closure hypothesis does not assume that information which is not verified is more interesting to gossip about. Instead, it is assumed that ego and alter prefer to talk about people belonging to their group, thus their friends. This is the reason why the closure hypothesis differs from the coalition hypothesis.

We now have elaborated three rivalling and testable hypotheses about network structure and gossip. We prefer the coalition hypothesis, since this hypothesis takes full account of ego and alter maximizing status, a tertius personally known to them both and the problem of verifying gossip information. Drawing on Burt's structural hole argument, we constructed the rivalling constraint hypothesis which states that gossip will flourish in triads in which ego knows both alter and tertius, but alter and tertius do not know each other. The other rivalling hypothesis is the closure hypothesis which argues that ego and alter will prefer to gossip about a tertius they both do not only know well personally, but who is also their common friend.

4. Data and Operationalizations

Respondents. Data were collected in six work organizations in the Netherlands and in Germany and in six classes of a Dutch business school. Since we started data collection in the school, we describe these data first.

The business school is part of the Dutch higher educational system and provides four year courses. Lessons are in English and a relatively large number of students has grown up abroad. The culture in the school is, at least to Dutch standards, competitive. The school consists of 19 classes. The mean class size is 20. Six classes were chosen to participate in the research, four first-year classes and two third-year classes. Questionnaires were distributed and collected during a lesson, in the presence of a researcher.¹ In total 104 students have filled in a questionnaire; this is a participation rate of 74%. Non-response was caused by absence, because of illness or truancy. In Table 1 we summarize some descriptive statistics.

The data on the work organizations were collected in the context of a panel study on the social network dynamics in six work organizations, notably a housing association, a

Table 1. Summary statistics for six classes.

Variable	Class						Total
	A	B	C	D	E	F	
Level	1	1	1	1	3	3	
Size/Response	24/18	27/21	26/22	33/21	18/13	12/9	140/104
Response %	75.0	77.8	84.6	63.6	72.2	75.0	74.3
Mean age	19.6	18.8	21.7	19.5	21.3	21.8	20.23
Non-Dutch %	12.5	16.7	50.0	16.7	30.0	12.5	28.4
Men %	50.0	71.4	45.5	38.1	30.7	77.7	50.9

Table 2. Summary statistics for six organizations.

	Organization						Total
	Hospital	Hospital	Computer firm	Housing corp.	Paper factory	Bank	
Departments studied	Care unit	Dialysis unit	Project team	All five units	Manag. team	All six units*	
Size/Response	49/45	30/29	31/28	78/74	22/21	55/23	265/220
Response %	91.8	96.7	90.3	94.8	95.4	41.8	83.0
Mean age	38.5	35.2	43.1	38.0	41.2	40.3	41.33
Supervisors %	8.8	10.3	60.7	18.9	19.0	30.9	26.8
Men %	24.5	20.0	83.9	56.4	100	14.5	53.2

*The members of the management team filled in the sociometric questions on all members of the organization. Their subordinates did not participate in the research.

computer firm, a dialysis department and a care unit of a hospital, a bank and the management team of a paper factory.² The first five organizations are Dutch; the paper factory is German. The organizations vary considerably in task structure and characteristics of the workers employed. Summary statistics are presented in Table 2.

Gossip. To measure gossip behavior, we developed an instrument specific for our goals. We did not want to rely on indirect measures of gossip behavior (cf. Burt and Knez 1996; Friedkin 1983), nor did we need an instrument that specifies which persons have been topic of which conversations (cf. Lazega 1993, 1995; Lazega and Lebeaux 1995; Lazega and Vari 1992). The Tendency-to-Gossip instrument, developed by Nevo et al. (1993), was inspiring, but hardly captures work related variables. For these reasons, we decided to develop a new instrument, that focuses explicitly on gossip in organizational contexts.

This instrument to measure gossip was compounded from a battery of eleven items, that covered different types of gossip. The items were introduced by emphasizing that talking about colleagues or classmates is a natural thing to do. The items were formulated according to two dimensions. The first dimension refers to the normative evaluation of

Table 3. Means and standard deviations of eleven gossip-items.

No.	Wording of items	School	Organizations*
2	Classmates/Colleagues criticizing uncooperative behavior of an absent person	.41 (.22)	.42 (.25)
1	Classmates/Colleagues praising the skills of an absent person	.37 (.20)	.40 (.22)
10	Classmates/Colleagues criticizing something they regard as a negative trait or feature of an absent person	.34 (.22)	.39 (.24)
11	Classmates/Colleagues criticizing the passive behavior of an absent person	.31 (.19)	.37 (.25)
7	Classmates/Colleagues trying to justify or defend a specific behavior of an absent person	.29 (.19)	.35 (.23)
5	Classmates/Colleagues asking the opinion of others concerning a particular behavior of an absent person	.35 (.23)	.34 (.24)
3	Classmates/Colleagues making fun of the behavior of an absent person	.35 (.22)	.31 (.24)
9	Classmates/Colleagues comparing their own performance at school to the performance of an absent person	.39 (.23)	.30 (.24)
6	Classmates/Colleagues who say they feel treated badly by an absent person	.23 (.20)	.27 (.22)
4	Classmates expressing their irritation about a strange remark of an absent person	.38 (.24)	—
8	Classmates just informing others about some interesting news concerning an absent person (e.g., relationships)	.42 (.24)	—

*Means, standard deviations in brackets. Sorted in descending order.

tertius' behavior. Thus the gossip information may express approval of tertius' behavior, it can be evaluated as neutral, or it may contain a complaint, a defamation or an accusation. The second dimension refers to the substance of the gossip information. Thus we distinguish between a completely harmless anecdote about tertius and an accusation of non-cooperation. Respondents were asked to evaluate each of the items on a ten point scale, ranging from 'almost never' to 'almost always'. The items are reproduced in Table 3.

To validate the scale, we added one item in which the respondents were asked to evaluate to what extent fellow students had been the topic of the conversation during the last break. This was measured on a ten point scale, ranging from 'did not at all' to 'was central'.

In the business school, intra-class reliabilities varied from (Cronbach's) $\alpha = .81$ to $\alpha = .96$. We conclude that reliability is satisfactory. For each of the classes we then computed the correlation between the sum of the evaluations and the validation item. Results show positive and significant correlations for all classes, except for class E (positive but not significant). Though these results are acceptable in terms of validity, we will interpret the results of the empirical analyses for class E with care. The descriptive statistics and test results for each class are summarized in Table 4.

We asked the same questions in the work organizations, excluding items 4 and 8 to reduce its number. With Cronbach's α ranging from .83 in the dialysis department to .94

Table 4. Gossip scale for six classes.

	Class A	Class B	Class C	Class D	Class E	Class F
Gossip scale (means, SD)	.34 (.12)	.33 (.15)	.30 (.16)	.37 (.19)	.44 (.12)	.35 (.19)
Validation item (means, SD)	.35 (.18)	.31 (.20)	.19 (.15)	.33 (.27)	.54 (.20)	.42 (.26)
Cronbach's α	.83	.92	.92	.93	.81	.96
Validation (Pearson's r)	.66**	.46*	.71**	.72**	.36	.75*
Number of valid respondents	18	21	22	21	13	9

* $p < .05$, ** $p < .005$.

Table 5. Gossip scale for six organizations.

	Hospital dialysis	Hospital care	Computer firm	Housing corp.	Paper factory	Bank
Gossip scale (means, SD)	.44 (.14)	.41 (.17)	.31 (.18)	.29 (.18)	.35 (.16)	.32 (.17)
Validation item (means, SD)	.27 (.16)	.24 (.18)	.18 (.20)	.18 (.29)	.27 (.23)	.20 (.22)
Cronbach's α	.83	.94	.91	.90	.90	.90
Validation (Pearson's r)	.63**	.63**	.58*	.40**	.59**	.57**
Number of valid respondents***	39	20	16	55	18	23

* $p < .01$, ** $p < .005$.

***Not all of the respondents participated in all four waves of the panel. Since the gossip items were included only once, the number of valid respondents for these items is lower than the total response as it was reported in Table 2.

in the care unit, reliability is satisfactory. The correlation of the scale with the validation item ranges from $r = .40$ to $r = .63$, and is significant for each of the six organizations ($p < .01$). Table 5 contains the summary statistics and the test results.

Coalition and Closure. Having elaborated our hypotheses at the level of individual action, we test them at this same level. Thus we measured the number of coalition and closure relationships per person to include them as independent variables in the analysis. In terms of network analysis, these are triad counts for every ego in the network.

In the business school classes, the number of closure and coalition triads was determined by asking for an evaluation of the relationship of the respondent with each of his classmates, with response categories ranging from negative affect to very strong friendship. The answers were trichotomized into negative, neutral or positive. Then we symmetrized the answers, coding a tie positive (or negative), when at least one of the respondents had done so, whereas the other had not evaluated the relationship as negative (respectively positive). The other ties were coded neutral. We then were able to count the number of closure and coalition triads for each respondent.³ Table 6 shows that the average proportion of coalition triads varies from 4.9% in class A to 9.3% in class C. The number of closure triads is lower, the average varying from 2.3% in class C to .5% in class F.

In the work organizations, we followed a slightly adapted procedure, asking for evaluations of the relationships with colleagues in terms of closeness and trust. Such an adaptation

Table 6. Mean frequencies of constraint, closure and coalition structures in six classes.

Variable	Class						
	A	B	C	D	E	F	
Coalitions	Mean	12.3 (9.6)	22.6 (19.9)	27.6 (10.2)	22.0 (14.8)	8.0 (6.0)	4.5 (3.6)
	%	4.9	6.9	9.2	4.4	5.9	8.2
Constraint	Mean	.18 (.07)	.19 (.04)	.17 (.02)	.14 (.01)	.32 (.11)	.34 (.21)
Closure	Mean	1.6 (2.0)	1.8 (2.2)	6.8 (5.6)	2.7 (3.7)	1.5 (2.2)	.25 (.45)
	%	.64	.55	2.3	.55	1.1	.45

Means, standard deviations and mean proportions.

proved to be necessary, because people in the same work organization appeared not to know each colleague personally. Furthermore, a good relationship with a colleague is often not evaluated as a friendship, although the trust element in the relationship is acknowledged. Thus the respondents were asked to evaluate the relationship with each of their colleagues according to the categories ‘not personally known’, ‘distant’, ‘neutral’, ‘trustful’ and ‘very trustful’. A distant relationship was defined as a person that the respondent knows personally, but to whom he would certainly not confide personal information. We have used data from the first round of data collection, but added, if necessary and possible, data from the second, third or fourth round. We then trichotomized and symmetrized the data. The results of the subsequent triad counts are presented in Table 7. The average percentage of coalition triads ranges from 3.4% in the care unit of the hospital to 6% in the bank and the computer firm. The average percentage of closed triads does not exceed 1%.

Constraint. The last index necessary to test the hypotheses is the number of structural holes in the respondent’s communication network. We asked every respondent to evaluate how often he or she was talking to each colleague during work time, with response categories

Table 7. Mean frequencies of constraint, closure and coalition structures in six organizations.

		Organization					
		Hospital dialysis	Hospital care	Comp. firm	Housing corp.	Paper factory	Bank
Coalitions	Mean	38.3 (28.2)	4.9 (3.9)	2.71 (2.8)	87.2 (56.1)	2.1 (1.87)	8.65 (11.5)
	%	3.39	1.2	.62	2.9	1.0	.60
Constraint	Mean	.09 (.00)	.15 (.01)	.17 (.04)	.06 (.02)	.20 (.01)	—
Closure	Mean	5.3 (6.8)	1.4 (1.9)	2.32 (2.9)	27.4 (36.0)	1.2 (1.9)	.82 (1.87)
	%	.47	.23	.53	.93	.58	.06

Means, standard deviations and mean proportions.

varying from 'never' (value 0) to 'daily' (value 5). The communication matrix enabled us to compute Burt's measure of constraint for each respondent. The measure ranges from 0 to 1, with the highest value indicating that there are no structural holes in the network, and low value indicating a relatively high number of structural holes. The calculations were done in Burt's purpose-made program STRUCTURE. It should be noted that since the measure transcends the level of the triad, it is more than a simple count of open triads as represented in figure 1.

Control Variable. Because earlier research has shown a positive relationship between rank and 'grapevine information' (Davis 1953; Sutton and Porter 1968: 94), we added the formal position of the respondent as a control variable. It is coded '1' if the respondent was a supervisor of at least one person in the network, and '0' otherwise.

5. Analysis and Results

Data are analyzed in a meta-analytical design (Rosenthal 1984; Snijders 1997). The reason for doing so is that the answers of the respondents in each class and each work organization are not independent, precluding the application of standard statistical procedures. Data analysis has proceeded in three steps.

In the first step, we estimated an OLS multiple regression model for each class and work organization, with the gossip scale value as the dependent and the percentage of coalition, closure and constraint triads as the independent variables (plus formal position as a control variable in the case of the work organizations).

In the second step we combined the significance levels of the individual studies. Following Stouffer's method of adding weighted standard normal deviates, we were able to compute the z -values that correspond to the p -values of each independent variable in the regression (Rosenthal 1984: 97).⁴ Degrees of freedom serve as weights, implying that the organizations with a higher number of respondents have a stronger effect on the overall parameter. The z -value has a normal distribution which allows to determine its significance.

In the third step, we assessed the contribution of each independent variable to explained variance by estimating a new series of multiple regression models. However, from each model we now excluded one independent variable at a time and then compared the resulting R^2 with the value of the original model. Tables 8 and 9 present the results of the multiple regression analyses and of the meta-analysis.

The meta-analysis for the six classes in the business school does not show significant results, not even at the 10%-level. However, having excluded class E with its low validity and less reliability from the analysis, the significance level decreases to $p = .05$ for the percentage of coalition triads, $p = .10$ for closure, and $p = .39$ for constraint. In the meta-analysis the sign for coalitions is positive. This result supports the coalition hypothesis. Looking more closely, we see that the sign is negative in classes A and E. Effect sizes (ΔR^2) are strong (between .13 and .20) for classes B, C, E, and F, and far weaker (.03 to .05) for classes A and D. The sign for the number of closure triads is negative in four of the six classes and in the meta-analysis. This implies that a higher percentage of closure

Table 8. Meta-analysis for six classes.

Variable		Class						All	All (w/o E)
		A	B	C	D	E	F		
Coalitions	<i>p</i>	.27	.03	.35	.14	.12	.17	.12	.05
	<i>z</i>	-.62	1.92	.38	1.07	-1.18	.97	1.16	1.65
	ΔR^2	2.7	19.8	13.1	5.1	14.2	16.0		
Constraint	<i>p</i>	.39	.27	.30	.18	.14	.14	.47	.39
	<i>z</i>	-.29	-.62	.51	-.90	1.10	1.08	-.08	-.29
	ΔR^2	.6	1.9	1.3	3.7	12.3	2.4		
Closure	<i>p</i>	.33	.06	.06	.14	.17	.42	.19	.10
	<i>z</i>	-.45	-1.54	-1.59	1.10	.96	-.21	-.87	-1.27
	ΔR^2	1.4	12.2	13.1	5.5	9.1	0		

triads correlates negatively with gossip. The constraint variable shows three positive and three negative effects for the classes. In the meta-analysis these effects neutralize and the overall effect is clearly not significant.

Thus, for the school classes we have found that the percentage of coalition triads corresponds positively with gossip behavior, whereas constraint shows no clear effects and closure even corresponds negatively. Though we are well aware that the effects for the school classes are not very strong, we find most support for the coalition hypothesis, and far less support for the constraint and the closure hypotheses.

For the work organizations, we see a clear significant effect of the number of coalition triads in the meta-analysis ($p = .001$). The effect is positive in all six organizations. The

Table 9. Meta-analysis for six organizations.

Variable		Organization						All
		Hospital dialysis	Hospital care	Comp. firm	Housing corp.	Paper factory	Bank	
Coalitions	<i>p</i>	.02	.42	.19	.13	.25	.43	.01
	<i>z</i>	2.18	.20	.87	1.14	.69	.19	2.33
	ΔR^2	11.3	0	7.6	5.2	1.6	.7	
Constraint	<i>p</i>	.44	.25	.35	.06	.35	—	.18
	<i>z</i>	-.16	-.68	.39	1.55	.39	—	.91
	ΔR^2	.1	0	.4	4.2	.7	—	
Closure	<i>p</i>	.0005	.47	.11	.12	.26	.23	.44
	<i>z</i>	-3.50	.06	1.26	1.20	.65	.73	-.17
	ΔR^2	27.8	5.4	9.3	1.8	.2	0	

effect is strongest in the dialysis department of the hospital ($\Delta R^2 = .11$), followed by the computer firm ($\Delta R^2 = .08$) and the housing corporation ($\Delta R^2 = .05$). The number of closure triads shows a strong and significant negative effect for the dialysis department of the hospital ($\Delta R^2 = .08$). The effect is positive, but not significant in the other organizations. In the meta-analysis we do not find a clear effect for closure. The pattern for the constraint variable is again erratic with three weakly positive and three weakly negative effects. As was the case in the business school, this result implies that constraint in the network does not have any effect on gossip behavior.

The findings can be summarized as follows. First, neither in the school classes, nor in the work organizations did we find a significant effect of the constraint variable on gossip. This result is in accordance with our critique of the constraint hypothesis and supports our argument that it is not very rewarding to exchange information about a tertius not well known to alter.

Second, network closure has a negative effect in four of the school classes—two of which are significant ($p = .06$)—and in one of the work organizations ($p < .001$). The overall effect of closure is negative in both settings and even approaches a moderate level of statistical significance in the school classes ($p = .10$). This result contradicts the closure hypothesis and supports our claim that in a positively closed triad the social costs associated with the potentially disruptive effects of negative gossip will discourage people to engage in talk about third persons.

Third, there is a clearly positive effect of the percentage of coalition triads on gossip behavior, and this effect is even more pronounced in the work organizations than in the school classes. Thus, of the network measures discussed here, coalition triads turn out to be the best and most consistent predictor of gossip behavior. This supports our argument that gossip requires potential allies and members of an outgroup as the objects of gossip.

Finally, no effect could be found for formal rank, which has been included as a control variable. Thus, contrary to what has been found in earlier research, occupying a position high in the hierarchy does not increase the tendency to talk about third persons.

6. Conclusions

The focus of this paper has been on the pervasiveness and the maliciousness of gossip. Our point of departure were the social structural conditions that stimulate gossip. We elaborated gossip as a social structure in which three persons are involved. We then added assumptions about gossip behavior: that actors are maximizing status, prefer to gossip about a tertius they personally know, and prefer to exchange secret information. Elaborating on these assumptions, we argued that a so-called coalition triad, i.e., a triad in which ego and alter have a good personal relationship and both have a negative relationship with tertius, will stimulate gossip. Testing the coalition hypothesis for six school classes and six work organizations, we found support for our hypothesis. In addition, the coalition hypothesis did better than two rivalling hypotheses.

The first rivalling hypothesis elaborated on Burt's structural hole argument and states that gossip will flourish in networks with many structural holes. Testing this hypothesis,

we did not find any significant result. This underscores our argument that the existence of a personal relationships between alter and tertius is important for gossip. Furthermore, gossip apparently is not only exchange of information, but also the confirmation of some relationships and the exclusion of others.

The second rivalling hypothesis, the closure hypothesis, elaborated on the functionalist theory that gossip enhances group integration. This theory implies that friendly relationships between ego, alter and tertius stimulate gossip. This, in turn, enhances group formation. We did not find such an effect. Moreover, our evidence even shows a tendency towards a negative relationship between closure and gossip. The support for the coalition hypothesis and the rejection of the closure hypothesis show that it is not mutual friends but mutual enemies that are the topic of most gossip. In fact, it appears that gossip marks and enhances group boundaries by strengthening the relationship of ego and alter at the cost of tertius, with whom both have a bad relationship. This result solves the apparent contradiction between the positive effects of gossip on group integration, as emphasized by the functionalists, and the acknowledged negative effects of gossip on social relationships. Negative talk about third persons outside the own group may disrupt relationships with members of the other group and at the same time strengthen the own group relationships.

Our results have two further implications that deserve further testing. Our theoretical and empirical analyses imply that gossip flourishes in socially segmented environments. Such environments are often fostered on shopfloors that are highly competitively organized. In such a structure the sharing of negative information about a competing tertius contributes to the establishment of a coalition. For this reason, it is likely that such environments show a high degree of clique formation: groups in which all members are friends with each other with almost no friendships outside the own group. It follows from such an analysis that organizations that apply competition as a motivation device also stimulate gossip behavior. We think this is a fruitful hypothesis for further research.

The second implication refers to the formal structure of the organization. Elaborating on the coalition hypothesis, a hypothesis about formal structure is easily formulated. It follows that supervisors will be a preferred object of gossip. Since supervisors have control authority, there is by definition a negative element in the relationship between boss and workers. Workers thus have a common interest in forming a coalition. This explains the strong informal networks within strongly hierarchically organized work environments, as was established in, for example, the older human relations literature (e.g., Roethlisberger and Dickson 1939).

Both competitive climate and formal structure are design variables in the construction of organizations. Thus, we believe that our approach will prove to be fruitful not only for the analysis of gossip behavior and the informal network, but also for the design and development of organizations.

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1. The data from the school classes were collected by Carmen Lindenberg.
2. Gerhard van de Bunt and Henk Hangyi shared their data with us.
3. We thank Tom Snijders for writing the computer program.
4. Tables containing the z -values and their corresponding p -values can be found in most introductory statistical text books.

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