

POST-BUREAUCRATIC GOVERNANCE, INFORMAL NETWORKS AND OPPOSITIONAL SOLIDARITY IN ORGANIZATIONS

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Abstract

It is argued that post-bureaucratic forms of governance will decrease the likelihood of oppositional worker solidarity, i.e. cooperative behavior among employees that is not in the interest of the employer. Post-bureaucratic organizations are characterized by a strong reliance on extrinsic rewards, functional legitimation of authority, and a weak social embeddedness of the workforce. Drawing on arguments from new institutional theory, we develop hypotheses on the effect of different forms of workplace offenses, extrinsic and intrinsic rewards, and informal social network structure on oppositional solidarity. Results of multiple regression analysis on data collected from 149 employees in four Dutch organizations support the hypotheses that a weak network embeddedness (measured as a high number of dyadic alliances in the ego-network of an employee), a high incidence of deadline-related workplace offenses, and a high level of employee satisfaction with extrinsic and intrinsic rewards decrease the level of oppositional solidarity, whereas network closure has no effect. The findings lend support to the so-called hegemony thesis, according to which modern forms of work organization may encourage workers to internalize managerial definitions of their work. Implications for the effect of post-bureaucratic organizations on informal organizational networks are discussed.

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Introduction

In past decades, various waves of organizational restructuring have fueled speculations to what degree the resulting changes in organizations would follow a trend toward a fundamentally different form of work organization and management: “The paradigm of the post-bureaucratic organization says that the decentralized, loosely coupled, flexible, non-hierarchical, and fluid organization is or will become dominant” (Alvesson & Thompson, 2005:487). A key aspect of these new forms of organization consists in the way management exerts control over their employees. According to the so-called ‘hegemony thesis’ (Vallas, 2003), for instance, the resulting post-bureaucratic forms of work organization “may encourage workers to internalize managerial definitions of their work situations, and – as a result – strengthen management’s hegemony over them” (Vallas, 2003:204), thereby undermining solidarity between co-workers and opposition toward organizational authorities. According to this argument, post-bureaucratic forms of work organization constitute a new frontier of control, in which employees internalize values and goals of management. Instead of traditional forms of management, post-bureaucratic organizations enact subtle normative and ideological pressures on employees (Barker, 1993; Kunda, 1992).

However, an alternative view posits that the new forms of organization and their management will heighten suspicion among employees and lead to employee opposition. The argument for this prediction is that workers will realize that new forms of management will threaten their authority and decision freedom inside the organization. Because people are motivated to maintain and restore their scope of freedom (Brehm, 1966), employees may oppose the introduction of these new forms of work organization (Vallas, 2003).

Although the ‘hegemony-debate’ has received theoretical attention in management literature (Vallas, 2003), there are few studies that address the question whether new forms of management will lead to oppositional forms of solidarity among employees (Hodson et al., 1993).

The purpose of this study is to address this gap in management literature and to examine how ‘post-bureaucratic’ forms of organization might undermine or reinforce vertical and horizontal cooperative relationships within the organization. In what follows, we will first clarify the multidimensional nature of cooperative relations in organizations and briefly review some major contributions to the literature on cooperative relations on the one hand, and the control implications of new forms of work organization on the other. Then we derive and empirically test a number of hypotheses on the impact of ‘modern’ forms of work organization on cooperative relationships in organizations.

Work organization and worker solidarity: previous research

During the past two decades, research on pro- and antisocial behavior in organizations has made considerable progress in various sub-disciplines of the social sciences. This research can be broadly classified according to its emphasis on individual vs. collective forms of behavior on the one hand, and the detrimental or beneficial outcomes of this behavior for the organization as a whole on the other (see Table 1). We will briefly discuss the resulting four types of behavior.

Table 1: *Typology of pro- and anti-social behavior and their effect on organizations*

Type of Behavior	Effect on Organization	
	Detrimental	Beneficial
Collective	Worker Solidarity (Goldthorpe et al., 1969; Hodson et al., 1993; Zetka, 1992)	Clan Culture (Ouchi, 1980) High Trust Organizations (Fox, 1974)
Individual	Workplace Deviance (Robinson and Bennett, 1995) Resistance to Change (Oreg, 2003; Folger and Skarlicki, 1999) Workplace aggression (Douglas and Martinko, 2001)	Organizational Citizenship Behavior (Podsakoff et al., 2003) Organizational Commitment (Meyer and Allen, 1997) Commitment to Change (Herskovitch and Meyer, 2002)

First, research dealing with individual level cooperative behavior that is beneficial for the organization probably represents the fastest growing branch in the field. The theoretical construct of “organizational citizenship behavior” (OCB) and the related indicators meanwhile pertain to the standard tools in the study of organizational behavior (see Podsakoff et al., 2000, for an overview). OCB is characterized by extra-role behavior of individual employees, who invest extra effort to help their colleagues and other members of the organization to solve problems. It seems that the OCB construct, initially popular in social psychological research on organizations, is increasingly tending to replace the older construct of organizational commitment, which captured a similar dimension, but put a stronger emphasis on attitudes rather than behavior.

Second, for about a decade, there has been increasing attention for individual behavior that is detrimental for the organization. Three types of literature are particularly prominent in this context. Research on workplace deviance and anti-social work behaviors (Robinson and Bennett, 1995) investigates behaviors such as ignoring instructions or stealing. A specific class of anti-social behav-

ior at work is the subject of research on workplace aggression (Douglas and Martinko, 2001). The behavioral measures focus on incidences of individual aggression, for example inflicting physical harm on colleagues. The literature on resistance to change focuses on attitudes and behavior directed towards planning and implementation of all kinds of planned organizational change efforts. The remaining two categories of research address collective forms of behavior. The analytical focus shifts from individual acts of cooperation or defection toward collective actions or their cognitive representation. A key theme in the field of studies on beneficial effects of collective cooperative efforts is the research on high trust organizations (Fox, 1974) and clan cultures (Ouchi, 1980). In much of this research, analysis shifts to the group or organization level: teams, departments, and firms are characterized by the degree to which the attitudes and behaviors of their members exhibit the characteristics attributed to cooperative or 'high trust' cultures (e.g. Barker, 1993; Kunda, 1992). This line of research emphasizes that trust behavior on and between all levels of the organization ultimately benefits the organization as a whole, and contributes to superior performance. This branch of research became particularly active in the wake of the growth of the Japanese economy, and is currently institutionalized in a subfield on organizational trust.

The final category in our typology consists of collective pro-social behavior that is potentially detrimental to the organization as a whole, in the sense that it is opposed to the goals of the dominant coalition (Hodson et al., 1993; Bolino & Turnley, 2003; Collinson & Ackroyd, 2005). This type of cooperative behavior, which is probably better known under the label "worker solidarity" (Hodson et al., 1993), represents one of the classical themes of the sociology of work and organizations. One of its defining characteristics is that it is solidary toward an ingroup (e.g. one's work group members) *and* at the same time unsolidary toward an outgroup (e.g. upper management; for an early description of this phenomenon, see Sherif et al., 1961:124). These behaviors and attitudes have an oppositional or subversive intent or effect, and cover a wide range of manifestations (for a typology, see Prasad & Prasad, 1998), ranging from covert collective opposition through strikes, output restriction, and sabotage to more open forms of organized resistance. Triggered in particular by the study by Goldthorpe et al. (1968), which diagnosed a decrease in social cohesion and solidarity among workers due to increasing welfare, the determinants of workers' solidarity attracted massive attention from social scientists during the 1960s and 1970s (Hamilton, 1967; Gallie, 1978). Since then, collective manifestations of worker or employee solidarity with detrimental effects on the organization seem to have moved to the margins of the research agenda of organization scholars, only to be gradually replaced by a focus on individual pro-social behavior that is beneficial for the organization (for an overview on the historical development of research on misbehavior and resistance in organizations, see Collinson and Ackroyd,

2005). The recent hegemony debate mentioned above and the studies on which it draws upon (Hodson, 1995; Zetka, 1992; Vallas, 2003) seem to mark a turning point and can be taken as an indicator for a renewed interest in the determinants and consequences of worker solidarity (Collinson and Ackroyd, 2005). With this article, we intend to contribute to this re-emerging literature by focusing on worker or “oppositional” solidarity and some of its organization-level determinants.

The key question addressed by the hegemony debate is to what extent ‘modern’ forms of organizational governance affect the level of worker solidarity through influencing the normative frame of reference of employees. Post-bureaucratic organizations “operate on the basis of horizontal and vertical networking, and mutual adjustment, and will be guided by visions and shared values rather than command and control” (Alvesson & Thompson, 2005:487).¹ This focus implies a shift to organization level antecedents of worker solidarity, and requires a more precise delineation of the institutional mechanisms of ‘post-bureaucratic forms’ of governance. In the following section, we sketch the key elements of an institutional explanation of worker solidarity.

A new institutionalist theory of oppositional solidarity

Although the “New Institutionalisms” in Sociology, Economics, and Organizational Studies share the idea that institutions, social relations, and cultural beliefs are crucial determinants of behavior, they differ with regard to the importance they attach to individual interests and incentives (Nee, 2005:55). An interest-based view of institutions emphasizes the necessity to align individual interests, norms, and power structures. Building on this perspective, Nee (2005:59) has recently proposed a general hypothesis on the conditions for the emergence of opposition norms: “The incentives and disincentives emanating from the institutional environment, in combination with interests, needs, and preferences of individuals, influence whether norms and networks give rise to a close coupling of informal and formal rules, or decoupling through opposition norms”. That is, when formal rules are at odds with the interest and identity of individuals in close-knit groups, the rise of opposition norms that facilitate, motivate, and govern the action of individuals in those groups becomes likely. In the remainder of this section, we will address the four key elements of this general working hypothesis – norms, interests, incentives, networks – and assess the conditions under which their close coupling or decoupling results in a decrease or increase of worker solidarity.

Norms

Weber’s bureaucratic model of organizations featured formal rules and clearly defined authority relationships. In bureaucratic organizations authority is exercised through hierarchical command, and based on formal power. Power resides

in superiors, who can demand compliance based on their higher position in the hierarchy.

In contrast, post-bureaucratic work organizations are often described as networked, flat, and flexible (see Ancona et al., 1999, for an overview). Here, an important substitute for the legitimization of demands by management is the functional legitimization of authority (Kelley & Thibaut, 1978; Lindenberg, 1993). The exercise of authority is functionally legitimated if the instrument that is used to create compliance is related to requirements of the task itself, rather than linked to the right to control in a relationship. For example, a deadline, jointly agreed by supervisor and employees, makes recurrence to the formal position of the supervisor obsolete: the deadline will take over the role of a governance instrument. Functional legitimization of authority, e.g. through deadlines, will have a number of consequences for the functioning of organizations. First, management is less likely to be held responsible for the repercussions and disturbances that deadlines might have on the daily business and routine on the work floor. Second, governing through deadlines can lead to a concatenation of ad hoc adjustments to short term goals – all of which will be perceived as restricted by the deadline. In an ethnographic case study, Perlow (1999) described how such a way of organizing work affects not only the fragmentation of work and tasks, but also contributes to the creation of an almost ‘heroic’ cult, in which the solution of short-term problems, dictated by the closest deadline, becomes institutionalized.

In sum, we distinguish two fundamentally different normative mechanisms: post-bureaucratic structures rely on the functional legitimation of authority, whereas bureaucratic governance builds on the power-based legitimation of authority.

Incentives

From an interest based institutional perspective, solidary behavior requires concrete incentives or “regulatory interest” (Heckathorn, 1990; Lindenberg, 1998). Regulatory interest emerges where actors share in the production and/or consumption of valued goods, i.e. where the behavior of an individual has positive or negative consequences for others. For example, employees in work groups are interdependent on each other in order to reach valued outcomes, such as completion of tasks (Wageman, 1995). In such settings, an employee’s behavior can have both negative and positive consequences for other employees. For instance, an employee may decide to withdraw his contribution to the group product (with negative consequences for the group) or he may decide to exert extra efforts in order to make the group reach a deadline (with positive consequences for the group). Norms are instruments to prevent the occurrence of such negative consequences. Hence, if authority norms are violated, the resulting offense or grievance is likely to create a regulatory interest for those affected by the norm violation.

Based on the distinction between functional and power-based legitimation of authority, we argue that two different types of norm violations or offenses have to be distinguished. They differ in their effect on oppositional solidarity.

First, the open demonstration of power by individuals who lack the formal position to do so is likely to violate norms about the legitimate use of power. That is, we need to distinguish between power-based actions taken by management, and actions taken by one's peers. Actions of management always – at least to a certain degree, and more so in bureaucratic than in post-bureaucratic organizations – involve the exercise of legitimate authority (management has the right to exert control due to the employment contract with the employee). As long as management operates within the boundaries of accepted and legitimated procedures, employees will not consider the exercise of power as a violation of norms. The second type of power-based actions that lead to workplace offenses are carried out by one's peers. We define these types of offenses as attempts of one's peers to increase their power base. Examples for this type of behavior include misrepresenting information toward other members of a management team in order to secure a larger share of one's own budget. Such actions can be expected to have two repercussions. First, they will be seen as attempts to increase the power of the individual colleague, thereby showing that the colleague cares less about the group. Such actions will have a high chance of being perceived as a violation of solidarity norms. Second, they will also be seen as a failure of the formal authorities to safeguard legitimate procedures inside the firm. Informal attempts to increase one's power will lead to unbalanced redistribution of resources. Whenever management fails to secure compliance to the formal task structure, employees will be confronted with either the impression that management is too weak to accomplish this task, or that management in fact is in favor of this behavior. Thus, power-based behavior by peers who lack a formal power base can be expected to have a negative spillover effect on the evaluation of the intentions and relational frame of management. This ambiguity in the perception of management's actions is likely to increase the incentives of employees to search for alternative sources of support in order to defend themselves against similar future infractions that might lead to a further imbalance in the resource distribution. Hence, we predict that the more frequent an employee is confronted with situations in which peers attempt to exert power, but lack the formal power base, the higher will be the degree of oppositional solidarity.

H1: The more power related offenses, the greater the degree of oppositional solidarity.

Second, as recent research shows (Perlow, 1999), one of the key instruments for the functional legitimation of authority is deadlines (other tools include, e.g. task descriptions). We suggest that the more an organization makes use of

functional legitimization of authority, the higher the frequency of what could be termed 'myopic' offenses: problems and incidents that are caused by the inter-relationship between deadlines. The ubiquity of ad hoc adjustments to tasks related to deadlines allocates the responsibility for work interruptions and problems to one's colleagues. As a consequence of functional legitimization, formal authority is pushed into the background of the employee's perception, whereas the realization of short-term goals becomes salient. Problems will be perceived not as being caused directly by one's boss or a deficient organization structure, but will be seen as being inherent to the type of business or job that one is doing. Thus, if deadline-related problems occur, they will most likely not immediately be attributed to a supervisor or management, but to the nature of the task or the idiosyncrasies of the specific colleague with whom one has to deal in this situation. This has the almost paradoxical implication that the incentive effect of a (threatening) violation of the deadline might even trigger pro-social behavior of colleagues in order to fix the job in time or mitigate the negative effects of not having met the deadline (Barker, 1993).

In sum, we argue that the more frequently such deadline-related incidents occur, the lower the degree of oppositional solidarity in a firm.

H2: The greater the number of deadline-related offenses, the lower the degree of oppositional solidarity.

Rewards

One of management's major tools to breed commitment and solidary behavior of employees consists in the allocation of rewards (Lazear, 1998). Two types of rewards have to be distinguished, depending on whether they trigger extrinsic or intrinsic motivation. First, in organizations, extrinsic rewards are usually related to some form of direct or delayed financial compensation (Prendergast, 1999). Second, intrinsic motivation usually emerges either from the nature of a task itself or from the social approval for carrying out certain activities (Deci and Ryan, 1985; Frey, 1994; Lindenberg, 2001). Thus, intrinsic rewards are to a high degree 'immaterial' and not related to the size of financial or other material remunerations. Crowding theory (Frey, 1994) even predicts a negative relationship between the two dimensions: if intrinsic motivation is high, offering financial compensation can actually lead to a reduction of effort.

From an institutionalist perspective, extrinsic rewards can be interpreted as gifts that contribute to the relational framing of the employment contract. For example, payment of above-market wage rates will increase worker commitment as long as the employer respects fairness norms, but can lead to reduced effort where rewards are distributed according to principles that are not considered as fair (Mühlau & Lindenberg, 2003). Employers usually have some discretion in affecting extrinsic rewards. Therefore it becomes likely that dissatisfaction with the level of extrinsic rewards will be perceived as the violation

of solidarity norms by employees. Consequently, we expect higher levels of oppositional solidarity the more an employee is dissatisfied with the level of extrinsic rewards he receives from the employer.

H3: The lower the degree of extrinsic satisfaction, the greater the degree of oppositional solidarity.

On the other hand, an employer can only indirectly contribute to the allocation of intrinsic rewards. One way to do that is to create conditions which facilitate the production of intrinsic rewards. For example, the enrichment of jobs, the granting of more decision-making autonomy, and the creation of a collaborative working climate through increasing worker participation in decision-making are widely seen as management tools that enhance commitment to the job and the firm (Deci & Ryan, 1985). In fact, based on this reasoning it has also been argued that these measures might lead to an erosion of (oppositional) worker solidarity (for a discussion of this argument, see Hodson et al., 1993). Given that employers can only indirectly affect intrinsic motivation, it is less likely that dissatisfaction that is due to a lack of intrinsic rewards will immediately be attributed to the employer. As a result, disappointment with intrinsic rewards will have a much weaker effect as a trigger of oppositional solidarity than dissatisfaction with extrinsic rewards. Empirical evidence supports this view. As a meta-analysis of workplace ethnographies shows, elevated levels of worker participation in decision-making did not negatively affect worker solidarity (Hodson et al., 1993). This leads to the following hypothesis.

H4: The negative effect of intrinsic satisfaction on oppositional solidarity is weaker than the negative effect of extrinsic satisfaction on oppositional solidarity.

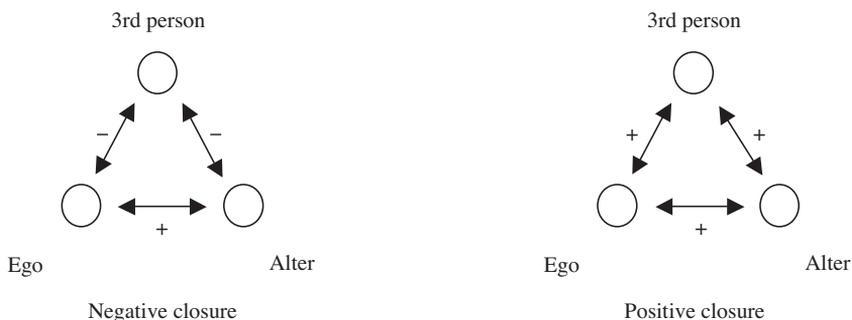
Networks

Workplace offenses and (lack of) rewards can create a regulatory interest for the creation of norms of oppositional solidarity. However, regulatory interest alone is not sufficient for such norms to be actually realized. For this to be the case, opportunity structures need to be available which enable information sharing, consensus formation, and monitoring of compliance to group norms. Informal social networks also play a crucial role in this respect (see Borgatti & Foster, 2003, for a recent overview). During past decades, various studies have documented that network embeddedness can have both beneficial and detrimental effects on pro- and anti-social behavior in organizations (e.g. Flache & Macy, 1996; Lazega, 2000). However, to our best knowledge, network effects on oppositional solidarity so far have not yet been studied (but see Lamertz & Aquino, in press, for a recent contribution to this field).

Previous research on network effects showed that close-knit social structures facilitate the creation and maintenance of solidarity norms (Gully et al., 1995).

Institutional theory also argues that solidarity norms require dense social networks because network closure facilitates monitoring and sanctioning. Given the power advantage of management over employees, showing oppositional solidarity can be very costly for individual employees. Therefore, oppositional solidarity requires a strong alternative power base for employees. In order to be willing to confront management, individual employees need to be able to count on other employees for their support. This implies that employees need clear and unambiguous cues that their peers would also be willing to bear the costs that oppositional solidarity might cause. Interaction patterns of one's peer group members will be taken as valuable information concerning their cognitive orientation. Somebody who almost exclusively interacts with one's own ingroup is less likely to be influenced by deviating opinions from other groups, and is also less likely to relate opinions and action plans as they were formed within ones group to unrelated groups. Consequently, we expect the composition of personal networks to play a crucial role for the development of oppositional solidarity. It is useful to distinguish between two types of network configurations (see Figure 1).

Figure 1: *Network embeddedness: negatively and positively closed triads*



First, there is network closure, which can take the form of a positively or a negatively closed triad. In a positively closed triad a focal actor, ego, has a trust relationship to alter and a third person who also has a trust relationship to alter. In a negatively closed triad (or coalition; see also Wittek & Wielers, 1998), a focal actor has a trust relationship with alter, and both the focal actor and alter ego have a distrust relationship with the same third party. Embeddedness in close-knit structures, and clear demarcations of informal ingroups vs. outgroups increases mutual trust for oppositional action, and provides the necessary structural source of support and coalition power for potential confrontations with management. Thus, we consider the number of closed triads, either positively or negatively, as a major condition for the development of oppositional solidarity.

H5: The higher the number of negatively and positively closed triads in the personal network of an actor, the greater the degree of oppositional solidarity.

While triad closure is the breeding ground for strong solidarity, dyadic alliances (Morey & Luthans, 1991) are defined as a trust relationship between a focal actor and an alter, both of whom lack a trust or distrust relationship to the same third party (see Figure 2). The dyad can be seen as 'isolated' with regard to this specific third party. Such dyadic alliances essentially are characterized by a lack of structural embeddedness into a broader group context. The structural precondition for collective action is also lacking. Unlike actors embedded in closed structures, individuals in dyadic alliances will have difficulty in mobilizing support for collective opposition. They lack the structural base of support, and as a result will not be sure to what degree they can count on their contacts. In sum, we predict that individuals with a high number of dyadic alliances will be less likely to show oppositional solidarity than individuals with a low number of dyadic alliances.

H6: The higher the number of dyadic alliances in the personal network of an actor, the lower the degree of oppositional solidarity.

Close coupling vs. decoupling of formal and informal rules

Close coupling of formal and informal rules, resulting in a decreased incidence of oppositional solidarity, is most likely if an organization shows all three of the following elements of post-bureaucratic governance: members are satisfied with their extrinsic and intrinsic rewards, there is a strong reliance on the functional legitimation of authority, and the informal networks of the workforce are characterized by dyadic alliances. In such settings, formal and informal rules are closely aligned: employees are likely to value their jobs, internalize a focus on deadlines, and draw on their informal social capital to solve work-related problems rather than mobilize oppositional action.

De-coupling between formal and informal rules will become likely if one or more of the three conditions mentioned above is absent. That is, the oppositional worker solidarity will become more likely to the degree that employees are dissatisfied with extrinsic or intrinsic rewards, the legitimation of authority is based on power, or networks are closely-knit and dense.

Methods

Between 1995 and 1997 we collected network data in four organizations in The Netherlands: two departments in a general hospital (a Dialysis Department and a Nursing Department), a Housing Corporation, and a Computer Firm. We spent approximately three months inside each organization. The social network

data was collected at four points in time. Data on job satisfaction, oppositional solidarity and workplace offenses were only collected at two points in time. For more details we refer to Van de Bunt (1999), and Wittek (1999).

Sample

Table 2 presents some characteristics of the organizations and their members. The average age of organizational members is between 35 (Nursing Department) and 43 (Computer Firm). The standard of education is highest in the Housing Corporation; on average approximately fifteen years. In the dialysis department and the nursing department, more than 76% of all employees are women, whereas in the Computer Firm this is only 13%. The average number of years employees have worked in the organization is highest for the Computer Firm. However, if we focus on the number of years employees occupy their present functions, the Computer Firm has the highest turnover, although it does not differ much from the other organizations (except for the Dialysis Department).

Table 2: *Some characteristics of the four organizations*
If applicable, mean and standard deviation between brackets.

	Dialysis Department	Nursing Department	Computer Firm	Housing Corporation
Size*	43 (38)	30 (26)	23 (22)	70 (63)
Percentage female	76%	83%	13%	44%
Level of education in years	13.96 (2.60)	13.18 (2.01)	15.86 (2.33)	14.85 (2.79)
Age	38.50 (8.62)	35.03 (11.27)	43.13 (5.46)	38.01 (9.48)
Years in organization	10.50 (7.66)	7.83 (6.57)	20.28 (6.79)	9.59 (7.85)
Years in present function	9.19 (7.30)	5.64 (5.70)	4.96 (4.21)	4.76 (3.90)

* Number of respondents who filled in most of the questionnaires between brackets

Measures

Oppositional solidarity

To our knowledge, the concept of oppositional solidarity has not yet been operationalized satisfactorily. A suitable measurement should simultaneously consist of items stressing horizontal solidary behavior (the ingroup), and active collective resistance toward management (the outgroup). A set of items that comes closest to this concept is the classical measurement of worker solidarity developed by Goldthorpe et al. (1969). We used a reduced version of the Dutch

adaptation of these items as they were translated and applied by De Vos (1980). The final scale consists of seven items (see Table 3). Based on standardized values of the items, the reliability of the scale, as indicated by Cronbach's alpha, was 0.84. A principal component analysis showed similar results; 54% of the variance in the original items can be explained by one factor. In the analyses, we use the factor scores of the seven items.

Table 3: *Oppositional solidarity*

Response categories: a 7-point scale from 1 = strongly disagree to 7 = strongly agree. The items are translated from Dutch.

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- 1 An employee should always be cautious toward supervisors.
 - 2 When you're working alone, you're more vulnerable for the arbitrariness of supervisors, than when you're working with others.
 - 3 Wherever you're working, supervisors never show any consideration.
 - 4 Employees should band together against the supervisors.
 - 5 Employees and supervisors always have opposite interests.
 - 6 People who work in a group should always cling to group decisions, despite possible difficulties with supervisors.
 - 7 Employees should always stand up for each other.

Principle Component Analysis: one component explains 54% of the variance.

Deadline and power-related offenses

Deadline and power-related offenses are measured with the following question: *At work one is often dependent on others. Your colleagues' behavior may have consequences for how you can carry out your task. The following list sketches several situations; for each situation, please indicate how often you have had to deal with it in the past three months?* Table 4 lists the six items that followed. The items were formulated based on information about workplace offenses gathered during participant observation. For both types of offenses, the items were dichotomized such that a one means that a situation occurred at least once a month. Following this, the three indicators were added. This led to two new variables with scores between zero and three, the latter meaning that all three 'offensive' situations occurred at least once a month.

Table 4: *Deadline and power-related offenses*

Original response categories: never, less than once a month, one to three times a month, one to three times a week, daily. Afterwards dichotomized into less than once a month, and at least once a month. The items are translated from Dutch.

Deadline-related offenses

- 1 Someone who is very petty when doing his/her job.
- 2 Someone who waits for the very last moment before doing his/her job.
- 3 Someone who is afraid to make decisions.

Power-related offenses

- 1 Someone withholding relevant information.
- 2 Someone who doesn't consult you when taking a decision that is relevant to you.
- 3 Someone who interferes with other persons' tasks.

Intrinsic and extrinsic job satisfaction

Intrinsic and extrinsic job satisfaction are adopted from Bulder et al. (1993), and consist of two components of three items each, measured on a 10-point scale (1 = very dissatisfied to 10 = very satisfied). Intrinsic job satisfaction was measured by asking how satisfied respondents were with type of work activities, freedom to make own decisions (i.e. degree of autonomy), and their utilization of job skills. Extrinsic job satisfaction was measured with items on income, job security, and career opportunities within the organization. A principal component analysis revealed that these items can be separated into two factors and together explain 64% of the variance. Reliability of the scales, as indicated by Cronbach's alpha, was 0.62 for intrinsic job satisfaction and 0.75 for extrinsic job satisfaction. In the analyses, we use the factor scores of both components.

Network measures

In organization research, a distinction is made between expressive networks and instrumental networks (Lincoln and Miller, 1979). Expressive networks are usually characterized as friendship or trust networks. Instrumental networks are represented as communication or advice networks. In the present study, we build on the trust network, which was generated with the following question:

We all feel closer to particular people than to others. By 'close' we mean how much you trust somebody. For example, to whom you confide personal information. This can include both private and work-related issues. Please indicate for each colleague on the list which of the following descriptions best describes your relationship with this person.

The response categories are ‘distant’ (colleagues who one would certainly not take into confidence about personal matters), ‘neutral’ (don’t know this colleague well enough to take him into confidence for personal matters), ‘close’ (take into confidence for personal matters that are relatively important for you) and ‘very close’ (take into confidence for matters that are very important to you)’. Trust is trichotomized in order to define positively and negatively closed triads. If one of the actors rated the relationship as ‘distant’, the tie is coded as a ‘negative relationship’. The tie is coded as a ‘neutral relationship’ if either both or only one of the actors rated the relationship as ‘neutral’, whereas the others rated it as at least ‘close’. If both actors rated the relationship as ‘close’ or ‘very close’, it is coded as a ‘strong’ relationship. Missing values are treated as follows. If information about an actor’s trust partners is missing, the information of the other actor toward the focal actor was used. The remaining missing values were coded as a ‘neutral relationship’.

Dyadic alliances and network closure

The variables ‘dyadic alliances’, ‘positive closure’ and ‘negative closure’ are based on a triad census (Wasserman and Faust, 1994). Positive and negative closure are based on the trust network and equal the number of +++ and +-- triadic configurations, respectively, with the first sign depicting the relationship between ego and alter, the second sign reflecting the relationship between ego and the third party, and the third sign describing the relationship between alter and the third party. In the former case, ego has a strong relationship with alter, and both have a strong relationship with the third party. In the latter case, ego has strong relationship with alter, and both have a negative relationship with the third party (see Figure 1). The variable ‘dyadic alliances’ is also based upon the trust network and defined as the number of +00 triadic configurations of the focal actor (see Figure 2).²

We distinguish two types of control variables. First, dummy variables that grasp the effects of the specific organizations at the level of oppositional solidarity. Second, several individual attributes: level of education, sex, age, and tenure of the respondents. Table 5 shows some descriptive statistics of and the correlations among the key variables.

Table 5: *Mean, standard deviation, and correlation coefficients among all variables, except the dummy variables indicating the organizations*

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Oppositional solidarity	0.00	1.00	-									
2. Age	38.36	9.41	0.03	-								
3. Sex (male =1; female = 2)	1.55	-	0.14 ⁺	-0.20 ^{**}	-							
4. Standard of education	14.47	2.66	-0.30 ^{***}	-0.06	-0.21 ^{**}	-						
5. Tenure	6.10	5.63	0.13 ⁺	0.44 ^{***}	0.13 ⁺	-0.05	-					
6. Deadline-related offenses	1.41	1.12	-0.19 [*]	0.15 ⁺	-0.07	0.36 ^{***}	0.02	-				
7. Power-related offenses	1.09	1.41	0.00	0.14	0.07	0.19 [*]	0.06	0.42 ^{***}	-			
8. Extrinsic job satisfaction	0.00	1.00	-0.18 ⁺	0.17 [*]	0.05	-0.00	0.00	0.06	-0.17 [*]	-		
9. Intrinsic job satisfaction	0.00	1.00	-0.34 ^{***}	0.17 [*]	-0.10	0.14	0.00	0.07	-0.03	0.40 ^{***}	-	
10. Dyadic alliances	0.10	0.07	-0.17 [*]	0.10	-0.10	0.22 ^{**}	-0.10	0.16 ⁺	-0.11	0.13	0.16 ⁺	-
11. Positive and negative closure	0.05	0.03	-0.40 ^{**}	0.07	-0.10	0.25 ^{**}	-0.12	0.13	-0.10	0.09	0.20 [*]	0.65 ^{***}

⁺ p<0.10; ^{*} p<0.05; ^{**} p<0.01; ^{***} p<0.001.

Results

Table 6 presents some descriptions concerning the key concepts of this study per organization. The employees of the Dialysis Department can be characterized as relatively strongly opposed against management. They are relatively dissatisfied with intrinsic aspects of their job (e.g. type of work activities). They often have to deal with power-related offenses (e.g. withholding information), and deadline-related offenses (e.g. petty colleagues). The percentage of closed triads is similar to that of the other organizations.

The Nursing Department differs from the Dialysis Department in the sense that their members are relatively free from power and deadline-related offenses. Members of the Computer Firm have to deal with relatively many power and in particular deadline-related offenses, but they are relatively satisfied. They also have relatively many dyadic alliances. Compared to the other organizations, the mean score of oppositional solidarity takes an intermediate position. Members of the Housing Corporation show relatively little oppositional solidarity, and are also relatively intrinsically satisfied. In network terms they show no peculiarities.

Table 6: *Work-related and network-related attributes per organization*

	Dialysis Department	Nursing Department	Computer Firm	Housing Corporation
<i>Work-related attributes</i>				
Oppositional solidarity	0.68 (0.42)	0.56 (0.46)	-0.07 (1.10)	-0.74 (0.94)
Power-related offenses	1.42 (0.98)	0.81 (0.79)	1.21 (0.82)	0.97 (0.92)
Deadline-related offenses	1.42 (1.13)	0.86 (0.87)	2.00 (1.07)	1.45 (1.14)
Intrinsic job satisfaction	-0.46 (0.80)	-0.15 (0.82)	0.12 (0.89)	0.24 (1.13)
Extrinsic job satisfaction	-0.02 (0.76)	-0.10 (0.74)	0.10 (0.91)	0.01 (1.23)
<i>Network-related attributes</i>				
Dyadic alliances: trust	0.09 (0.07)	0.08 (0.06)	0.16 (0.06)	0.09 (0.06)
Closure	0.03 (0.02)	0.04 (0.03)	0.06 (0.03)	0.06 (0.03)

Note: Mean and standard deviation between brackets. The scores on work-related attributes are factor scores (mean is zero, standard deviation is one), except for power and deadline-related offences which scores are based on a dichotomization of the original variables. The scores on the network-related attributes are relative scores (i.e. the absolute number divided by the total number of triads).

Table 7 presents the results of a multiple regression analysis. Model A shows the effects of the control variables on the degree of oppositional solidarity. Model B provides information about the additional effects of the variables under study³.

Multicollinearity is always a problem in network research (Wasserman and Faust, 1994). Since we only use three of out sixteen possible triadic configurations, the multicollinearity problem is captured to an agreeable degree. The lowest tolerance is 0.45 (for closure); all others are at least 0.60.

Model A shows that there are large differences in the level of oppositional solidarity between the four organizations (the Housing Corporation is used as reference category). Compared to the Housing Corporation (and controlling for all other effects), members of the other three organizations show a relatively large degree of oppositional solidarity. Regarding the other control variables, only level of education is significant; the greater the standard of education, the lower the degree of oppositional solidarity ($\beta=-0.24$; $p<0.01$). Sex, age, and tenure show no relation with the degree of oppositional solidarity. The percentage of explained variance is 48% ($F_{7,109}=16.32$; $p<0.001$).

Model B adds offenses, job satisfaction, and network embeddedness to baseline model A. The results show that power-related offenses do not significantly affect oppositional solidarity ($\beta=-0.01$; $p>0.10$). Thus, the data do not support Hypothesis 1. However, the greater the number of deadline-related offenses, the lower the degree of oppositional solidarity ($\beta=-0.15$; $p<0.05$), which supports Hypothesis 2. Extrinsic satisfaction is negatively related to oppositional solidarity; the lower the degree of extrinsic satisfaction, the greater the degree of oppositional solidarity ($\beta=-0.12$; $p<0.05$). This finding corroborates Hypothesis 3. As predicted in Hypothesis 4, the negative relation between intrinsic satisfaction and oppositional solidarity is weaker ($\beta=-0.11$; $p<0.10$) than the negative relation between extrinsic job satisfaction and oppositional solidarity.

Table 7: *Results regression analysis*
Dependent variable is level of oppositional solidarity^{1,2}

	Model A		Model B	
	B	beta	b	Beta
Constant	0.43		0.33	
Dialysis department ³	1.19	0.49***	1.36	0.58***
Nursing department ³	1.44	0.62***	1.06	0.44***
Computer firm ³	1.15	0.45***	1.39	0.54***
Standard of education (in years)	-0.09	-0.24**	-0.07	-0.19*
Sex	-0.09	-0.05	-0.06	-0.03
Age	0.01	0.09	0.02	0.12
Tenure	-0.02	-0.13	-0.02	-0.10
Deadline-related offenses			-0.12	-0.15*
Power-related offenses			-0.01	-0.01
Extrinsic job satisfaction			-0.12	-0.12*
Intrinsic job satisfaction			-0.12	-0.11+
Dyadic alliances			-3.07	-0.19*
Positive and negative closure			1.80	0.06
	$R^2_{adj}=0.48$; $F_{7,109}=16.32$		$R^2_{adj}=0.54$; $F_{13,103}=11.60$	

¹ + $p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$.

² All effects that are being checked are tested two-sidedly, whereas all hypothesized effects are tested one-sidedly.

³ Reference category is the Housing Corporation.

The results also show that the greater the number of dyadic alliances in the network of an employee, the lower the degree of oppositional solidarity ($\beta=-0.19$; $p<0.05$). This finding supports Hypothesis 5. However, no support is found for Hypothesis 6, which predicted a positive effect of the total number of negatively and positively closed triads on oppositional solidarity ($\beta=0.06$; $p>0.10$). An additional analysis, in which we separated negatively and positively closed triads, barely changed the results. The relation between positively closed triads and oppositional solidarity is somewhat stronger than between negatively closed triads and oppositional solidarity. Besides, because of this distinction the three network embeddedness variables became multicollinear to an unsatisfactorily degree. Including the control variables, the percentage of explained variance is 54% ($F_{13,103}=11.60$; $p<0.001$).

Discussion and conclusion

Having been a relatively neglected form of social behavior in organization research for quite a while, oppositional worker solidarity is currently receiving increasing attention from organization scholars. Recent advancements of New Institutional Theory model the emergence of opposition norms as a result of a decoupling between formal and informal norms. Building on this framework, we have developed a set of hypotheses, according to which post-bureaucratic governance practices are likely to be characterized by a close coupling of extrinsic rewards, functional legitimation of authority, and weak structural embeddedness of the workforce. The empirical findings of our study show that a particular form of workplace offenses (i.e. those following from a salience of deadlines), a specific form of social network embeddedness (i.e. dyadic alliances), and a high level of satisfaction with extrinsic and intrinsic rewards tend to decrease the level of oppositional solidarity in a firm. The findings of our study are congruent with the hegemony hypothesis and the major social mechanism on which it rests, because functional legitimation of authority can be seen as a specific form of normative control. More specifically, the results support our major theoretical arguments, which were built on an interest-based conception of institutions. First, we suggested that post-bureaucratic organizational governance structures that build on attractive rewards and the functional legitimation of authority through deadlines would reduce an employee's incentive to engage in oppositional solidarity. Second, we hypothesized that since dyadic alliances are disembedded intra-organizational social network structures which foster bilateral rather than generalized exchanges, they will weaken the power base of employees *vis-à-vis* management, and ultimately inhibit the emergence of oppositional solidarity. Network closure and workplace offenses related to the open use of power by one's colleagues did not significantly affect oppositional solidarity.

Before discussing the tentative implications of these findings, we wish to indicate some methodological limitations of our study. First of all, future studies could certainly benefit from a better measurement of the construct ‘oppositional solidarity’. We relied on a scale of “worker solidarity” developed in the Great Britain of the 1960s (Goldthorpe et al., 1969). With the shift toward organizational citizenship behavior (see Podsakoff et al., 2003, for a review) as the most widely used concept in organizational survey research, the traditional connotation of worker solidarity as a resource in a structural conflict between management and the workforce seems to have largely disappeared from the survey literature. This stands in stark contrast to case study research in which oppositional solidarity plays a prominent role (e.g. Church & Outram, 1998; Hodson et al., 1993; Vallas, 2003; Zetka, 1992). Judging from insights generated by these studies, the one-sided redefinition and narrowing of the concept of solidarity may be considered a serious omission (Hodson, 1995).

Second, the measurement of workplace offenses builds on a set of items strongly inspired by the idiosyncratic circumstances in the organizations under study. Therefore they might capture very specific instances of power and deadline-related offenses that are difficult to generalize to other organizational settings. The latter would require the systematic elaboration of a valid and reliable measurement instrument. A noteworthy observation in this context concerns the fact that power-related offenses occur less frequently than deadline-related offenses in all of the organizations in our study. To what extent this pattern could be attributed to a culturally induced preference for low power distance in the Netherlands at this point, remains a matter of speculation. The fact that power-related offenses show considerable variation across organizations indicate that organizational characteristics are likely to play an important role, independently of the cultural setting of the organization. More generally, the findings suggest that workplace offenses deserve more systematic theorizing, both with regard to their forms, antecedents and consequences. Although data-driven classifications of offenses yield important insights into organizational processes, their payoff as predictors of organizational behavior so far has been disappointing (Morrill, 1995). By linking offense types to organizational governance practices, the framework presented in our study provides a heuristic for a theory-guided approach to the dimensions and consequences of workplace offenses and offenses and their measurement.

The findings have some interesting implications both for the study of intra-organizational networks and organizational governance. With regard to the investigation of social network effects, our findings suggest that positional approaches based on triads certainly deserve more research. Unlike most of the previous research, network closure did not have an effect on the outcome variable. In contrast, dyadic alliances had a negative and significant relationship with oppositional solidarity. This structural form has been largely neglected in organizational network research. Dyadic alliances occupy a hybrid position

among the more common network measures like network closure (Coleman, 1990), weak ties (Granovetter, 1973), or network constraint (Burt, 1992). On the one hand, a large number of dyadic alliances in an employee's personal network can be seen as an indicator of this employee's 'social capital' in the sense that each tie is a potential source of social support. On the other hand, what makes dyadic alliances special is their lack of structural embeddedness into a broader network context. The dyad is decoupled from third parties. Persons with many dyadic alliances can be rich in social capital, but nevertheless live in a highly fragmented and disembedded social structure. Social control will be much more difficult to realize in such settings, with the result that the mobilization of allies or coalitions for the realization of oppositional action will become less likely.

The findings also raise some questions with regard to the governance practices and social structure of post-bureaucratic firms. A case in point is the Computer Firm, in which we encountered the highest percentage of dyadic alliances. The particular department under study is involved in preparing and executing bidding processes, in which potential customers have to be lured into a contract based on sharp prices and tailormade customer solutions. Such bidding processes are highly competitive and require quick reactions, because other companies are also involved and seek to outwit each other. Furthermore, employees need to be informed about the special technical needs of their potential customers, which also require considerable technical background knowledge. Our ethnographic evidence shows a highly competitive work climate, which management stimulates through elements of High Performance Human Resource Management (Applebaum and Batt, 1994): performance contingent pay, promotion based on performance in projects, and informal rules that limit tenure in a project or the department to two to three years. Compared to the other organizations, the Computer firm shows the closest resemblance with a post-bureaucratic organization. To what degree such governance practices actually rely on the functional legitimation of authority, how they foster the development of dyadic alliances and inhibit the evolution of close-knit networks might be a fruitful avenue for future research.

At the same time, our findings also point toward an additional social mechanism that so far has remained under-explored in previous research: the link between post-bureaucratic governance and the fragmentation of informal social networks at work. From the point of view of the hegemony thesis, these emerging network forms apparently seem to unite two properties that might facilitate efficient managerial control of the workforce. On the one hand, dyadic alliances provide sufficient social capital for an employee to mobilize the level of social support and help needed to cope with the contingencies of a modern work environment. On the other hand, an informal network that mainly consists of dyadic alliances seems to be insufficient as a breeding ground for collective action or a power base for oppositional solidarity.

This reasoning would suggest a reinterpretation of the positive relationship between modern forms of work organization and oppositional solidarity as it was empirically established by critics of the hegemony hypothesis (e.g. Hodson et al., 1993; Vallas, 2003). Many of these studies focused on team systems, where functional interdependence between workers or employees tends to be high. Functional interdependence in teams tends to breed close-knit social networks (Zetka, 1992), thereby facilitating social control, which in turn can work both in favor of or against the goals of the dominant coalition. Teamwork does not play a dominant role in the settings investigated in our study. As recent survey data shows, team systems are practiced by approximately half of the establishments in the U.S., and in only about 35% of these firms are the majority of core employees involved in teams (Knoke, 2001; Osterman, 1994). In The Netherlands, 30% of establishments of private firms use teamwork for more than 50% of their workforce (Mühlau, this special issue). With teamwork designs being in the minority, the investigation of hegemonic control and oppositional solidarity might benefit from broadening its focus to a more diverse set of organizational governance practices and their impact on informal social structures in the firm.

NOTES

- 1 For a detailed overview on the vast literature on variations in modern forms of organizational control and governance, see Smith (1997).
- 2 We are indebted to Tom Snijders for writing the algorithm to calculate the triad census.
- 3 Common method bias is a major threat to social scientific research (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003). A tentative technique to show whether common method variance is a risk is the so-called Harman's single factor test. All variables are loaded into an exploratory factor analysis. The fewer the number of factors needed to account for the variance in the variables, the higher the risk of common method bias. In our study, we used seven constructs (i.e. oppositional solidarity, power and deadline-related offenses, intrinsic and extrinsic job satisfaction, dyadic alliances, and closure). These constructs are based on 21 variables in total. An unrotated factor analysis leads to a seven factor solution, accounting for almost seventy percent of all variance in the 21 variables. Although we agree with Podsakoff et al. (2003) that this method has some drawbacks, we also have some reason to believe that common method bias is not that big an issue, because the number of extracted factors equals the number of constructs.

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