

Organizational Conditions Fostering Prosocial Work Orientations in Teams

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Abstract

A hypothetical framework for "collective action regulation" is presented that includes an integration of concepts and a typology, which contains criteria for a clear distinction between "autonomous" and "restrictive" forms of group work. Furthermore, processes of collective action regulation can crystallize in "common objectifications". These are understood as the material results, when members of a work group mutually create or improve their own tools, knowledge stores, etc. This framework resulted in a method integration that consists of condition-related observation-interviews. Self-report scales were developed for the measurement of common task orientation and further cooperation-relevant attitudes. In a cross-sectional study, 17 work groups including 122 group members were analyzed in two companies. A strong correlation exists between types of collective self-regulation and the number of common objectifications. There are also correlations between the latter and most components of common task orientation. Variance analyses show that a high degree of collective self-regulation is positively related to certain, but not all, components of common task orientation. It is discussed, whether common objectifications can be seen as "objective", materialized expressions of prosocial work attitudes.

Keywords

Work Groups, Autonomy, Cooperation, Cohesiveness, Activity Theory

Different views on cohesiveness, prosocial work orientations, and their work-related antecedents

If group work systems are to be evaluated responsibly and even improved upon for the workers involved, an adequate psychological model of the requirements for collective action (from manager-led operation to self-regulation) and of the conditions that foster or hinder collaboration, cooperative attitudes and mutual help is an essential prerequisite. Overviews by Goodman et al. (1987), as well as by Mudrack (1989), suggest that the findings of many studies on relations between group tasks, group cohesiveness, and outcome variables (e.g. work motivation, performance, effectiveness) are unclear or contradictory due to their theoretical-conceptual and operationalization problems. Moreover, Mullen and Copper (1994) showed in a meta-analysis that neither "interpersonal attraction", nor "group pride", but "... commitment to the task seems to be the most important component of cohesiveness in the cohesiveness-performance effect" (p. 224). For this reason, work- and task-related conceptualizations of group cohesiveness are desirable.

There are some theoretical approaches that emphasize the role that specific organizational conditions, namely self-regulation, collective autonomy of decision-making, positive goal interdependence, and task interdependence, play for the development of common task orientation just up to prosocial orientations (e.g. Deutsch, 1973; Emery and Thorsrud, 1976; Petrovsky, 1985). This relationship is the central subject of the present paper. However, possible relations between the kind of structures of group tasks in the organizational context and the development of cooperative versus competitive attitudes have long been neglected in social psychological small group research. For example, group cohesiveness and the readiness to help are traced back to mutual sympathy, to personal attraction, to mood management, to self-concept enhancement, or to external norms.

A work-related concept of group cohesiveness might benefit from recent concepts like organizational citizenship behavior (OCB, Organ, 1988), which has provided psychology with a construct, that allows to differentiate "prosocial" and "selfish" work orientations. However, a closer look at theoretical reflections and several scales for the measurement of OCB and related constructs (Moorman and Blakely, 1995; Konovsky and Organ, 1996) reveals that organizational citizenship behavior is not so much aimed at the furtherance of social skills like Altruism and Courtesy, but at the effectiveness of the enterprise. From the point of view of effectiveness, workers' citizenship behavior serves as a means of labor intensification and personnel selection. OCB only includes (self-reported) behaviors, which are functional to the economic success of the employers. In the time of "downsizing", "outsourcing", or "shareholder value", it seems questionable, whether prosocial behavior in the sense of OCB really has beneficial effects for the majority of employees that form "the" organization. Furthermore, although Konovsky and Organ (1996, p. 262) recognize "that the Big Five rendering of traits, while useful at a globally descriptive level of personality, is not the most promising approach to predicting workplace contributions" to OCB, much research has been done to demonstrate causal influences of personality traits, such as Individualism-Collectivism, on prosocial behavior in organizations (cf. Moorman and Blakely, 1995).

In summary (cf. Weber, 1997), the following problems seem to exist in the research on possible organizational prerequisites of cooperative — up to prosocial — orientations:

- Collective self-regulation and collective autonomy are characteristically tapped with short self-report scales or with rating scales (overview: Ulich and Weber, 1996). An empirical comparison of different method reliabilities demonstrates that the correspondance between these methods is often not very satisfactory (Campion et al, 1993). This is possibly due to the fact that most autonomy scales and category schemes only allow a relatively rough analysis. The additional application of more fine-grained analysis instruments is desirable.
- Because of the attitude-behavior-gap, it would be favourable to also have other indicators of work-related group cohesiveness, rather than self-report scales. One attempt, is to analyze the material results of joint activity.
- Often, when psychological aspects, such as prosocial orientations in work groups are analyzed, this serves as a means for the assessment of criteria of economic viability, like productivity, effectiveness, and performance. In a more humanistic perspective, the promotion of cooperative attitudes is a legitimate goal — and not primarily a means — in promoting personal development through humane work design. Yet, there seems to be a lack of instruments, especially of methods with more than three to five items per construct, that focus on such humane aspects of prosocial work orientations.

A Framework of collective action regulation: constructs and methods

Concepts, methods, and a typology will be presented in this chapter, that are based on a theoretical-methodological integration proposal (Weber, 1997), which includes compatible action psychological constructs of the socio-technical systems approach, action regulation theory, and activity theory. Within this framework, it is hypothesized that the extent of possibilities for collective self-regulation (as supposed antecedent conditions) will positively influence cooperation-relevant attitudes of the members of a group and the common creation or improvement of shared tools, methods, and knowledge reservoirs (common objectifications).

Areas of collective self-regulation and levels of collective regulation requirements as core features of group work

The socio-technical systems approach considers the enterprise as an open system, which maintains its position by a high degree of self-regulation in the turbulent environment of market-economics. Cooperating (semi-) autonomous work groups in different units are an important means of organizational self-regulation (Emery and Thorsrud, 1976). In the United States, Susman (1976) developed his theoretical integration of self-regulation in

autonomous work groups simultaneously (but not in contact) with the development of action regulation theory in German-speaking countries (Volpert, 1989; Hacker, 1994). According to Susman, as well as to Alioth and Ulich (1981), in collective self-regulation, work groups plan together and make decisions, regarding the tasks assigned to them and the conditions under which tasks will be executed, or they decide on the decision principles themselves. Collective self-regulation refers to those decisions, which stand in indirect connection to the production process, such as decisions on production planning and control within the work system ("coordination"), on work distribution and "allocation" of resources, and on regulating input and output ("boundary transaction"). Collective self-regulation relates to communicated cognitive acts, by which intended material transformations in the manufacturing process are prepared or corrected.

According to the socio-technical approach as well as to further authors, the following features of semi-autonomous group work enable social competencies and prosocial orientations to be fostered or developed (cf. Deutsch, 1973; Alioth and Ulich, 1981; Petrovsky, 1985; Campion et al. 1993; Tjosvold, 1998): Positive interdependence of the (production) goal, interdependence of the included work tasks (that constitute the production throughput), and common requirements for planning and decision-making (with regard to the organization of the production process).

More sophisticatedly than the socio-technical approach, action regulation theorists have developed various constructs for a differentiated analysis of the requirements upon thinking, planning, and decision-making involved in work tasks. The construct of regulation requirements (Oesterreich and Volpert, 1986) describes demands upon planning and decision-making within separate, individually-executed work tasks. According to the theoretical-methodological integration proposal of Weber (1997), the shared regulation requirements regarding coordination, allocation, and boundary transaction (*sensu* Susman, 1976) may be represented as the collective action structure of the work group. In semi-autonomous work groups a central task exists that is shared by all group members involved, and within which planning takes place collectively (Kötter and Gohde, 1991). In accordance with the task requirements they share, equal-status group members gradually produce, in dialogue with one another, a common, (hierarchical-sequentially) organized structure of action: Individual contributions regarding planning, suggestions, evaluations, and so forth are mutually commented upon, modified, expanded, and are then gradually integrated (cf. case studies reported by Cranach et al. 1986). As a result, realistic situation evaluations, production process plans, decisions on finite production planning, error diagnosis, and solutions for technical problems can emerge. It is assumed that these potential functions of collective self-regulation provide a scope – like a biotope – for the (further-) development of prosocial work orientations in a work group, only if the functions contain enough complex requirements for collective decision-making.

Self-regulation functions, which are closely related in content and have the same, specific goal, form a central task area. The shared regulation requirements of seven central task areas can be analyzed with regard to their collective decision-making demands. The following abbreviated categorization is based upon industrial management and work psychological studies, as well as upon an own investigation of 20 work groups (in detail: VERA-CAR instrument, see Weber, 1997):

- (1) Production planning and control (boundary transaction).
- (2) Group-internal shop floor control (job scheduling, organization of resources).
- (3) Allocation of personnel and distribution of tasks (e.g., task rotation).
- (4) Joint execution of manufacturing tasks (e.g., repairing of machinery and equipment).
- (5) Improvement activities for technical and organizational problems.
- (6) Planning of personnel development and training.
- (7) Group decisions regarding self-government (e.g. setting decision criteria and rules, election of a group spokesperson, recruiting of group members).

Because no condition-related method of analyzing collective regulation requirements in work groups was found, the semi-standardized VERA procedure for evaluating individual work tasks was adapted. VERA ("Verfahren zur Ermittlung von Regulationserfordernissen in der Arbeit"; see in more detail: Oesterreich and Volpert, 1986) means Instrument to Identify Regulation Requirements at Work. Various socio-technical categorization schemes (Ulich and Weber, 1996) were then integrated. This and other modifications resulted in the VERA-CAR instrument (translated: "VERA for the Analysis of Collective Action Regulation in Industrial Work Groups"; version in German language: see Weber, 1997). The VERA-CAR instrument is a manual-guided observational interview. The level of collective regulation requirements is evaluated by trained investigators through observation and interviews of sufficiently trained workers during the actual performing of functions of self-regulation (one to four days).

Planning and decision-making demands as well as related communication demands are considered as joint, collective regulation requirements and tapped at group level. The extent of collective regulation requirements of each central task area is evaluated by an adaptation of the 10-step model of regulation requirements (the statistical standards of this instrument are presented in Leitner et al. 1993). Work tasks can be assigned to five levels of planning and decision-making demands. The level potentially most favourable for the (further) development of social and cognitive skills is Level 5. The lowest Level 1 characterizes work tasks offering no real decision-making demands or social opportunities (e.g., many tasks at assembly lines). For each level, an additional restrictive step (abbreviated as "R") is defined that occurs, when decision-making processes of the relevant level are only partially required. The regulation levels are differentiated as follows (in detail: see Leitner et al. 1993):

- Level 5: Design and set-up of new work processes
- Level 4: Coordination of part-processes
- Level 3: Complex strategic decisions
- Level 2: Single decisions
- Level 1: Application of algorithmic rules

A typology of collective action regulation in industrial work groups

In the following, a preliminary typology of collective action regulation in work groups in different areas of manufacturing, assembly, and technical support will be introduced (Weber, 1997). A prototype of this typology was derived from concepts of action regu-

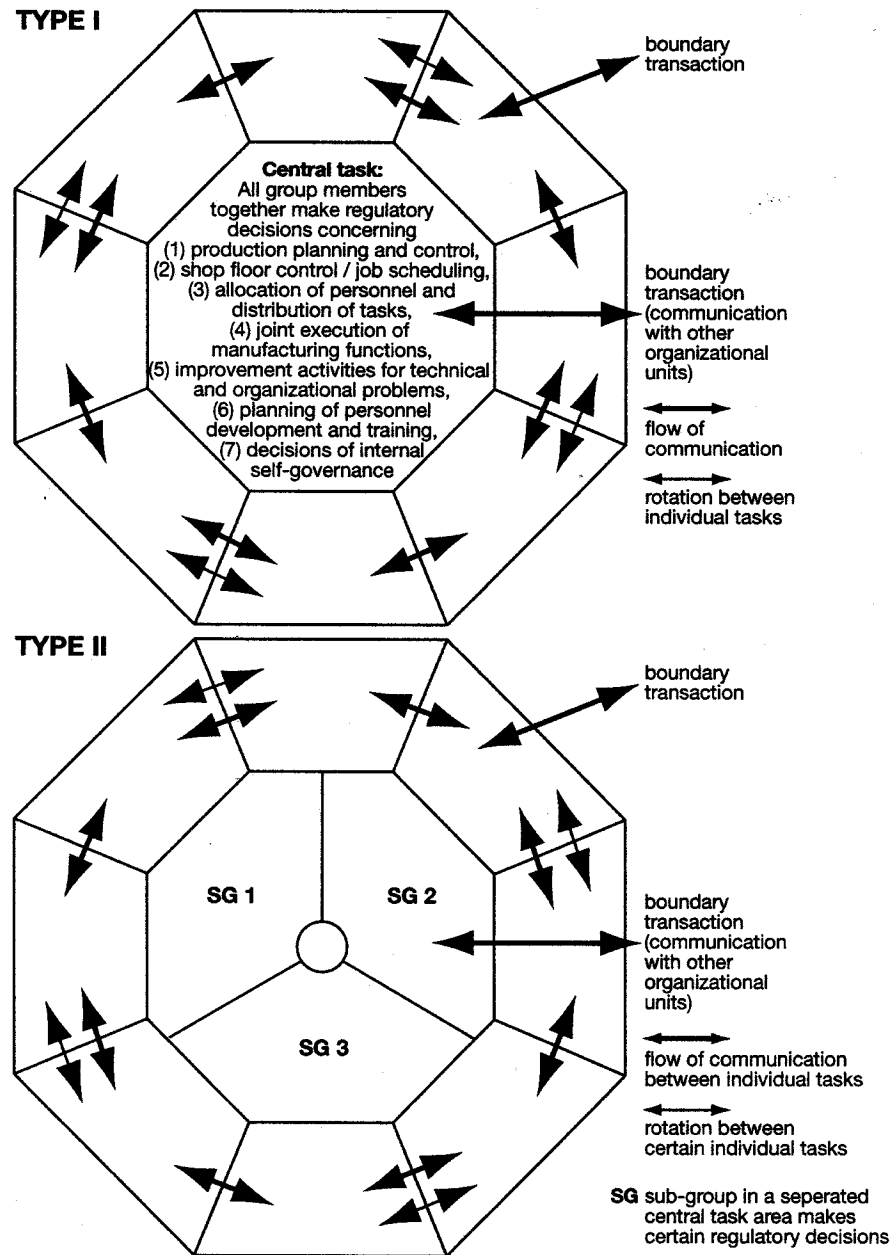


Figure 1. Group work with homogeneous and complete central task (Type I). Group work with distributed central task areas (Type II).

lation theory and of the socio-technical systems approach, as well as from former case-studies. This prototype was modified, based on the results of an investigation of 20 work groups (with about 155 team members) out of four enterprises. Statistical representativeness is not claimed. The types of collective action regulation are arranged from bottom to top with increasing possibilities of collective self-regulation.

Type I: Group work with a homogeneous and complete central task

This type, which was concipated by Kötter and Gohde (1991), corresponds to a type of autonomous group work with a homogeneous and complete central task (symbolized by the circle area in Figure 1, Type I). Characteristically, each member of the group participates in regulatory functions of all central task areas. Medium-size to high regulation requirements result from the fact that all group members decide on the coordination and allocation of resources, boundary transaction, as well as on planning of internal personnel development and self-government of the group. These regulation requirements are represented by common strategic decisions (VERA-CAR step 3), or perhaps, by a common coordination of part-processes (step 4). The group members decide on their rotation (interrupted, bi-directional arrows in Figure 1) between individually executed tasks (eight trapezoids). Type I did not occur in our sample, but some examples were realized in Swiss and German enterprises (Weber, 1997).

Type II: Group work with distributed central task areas

It is characteristic of Type II (see Figure 1) that several group members form a permanent sub-group. In one (or more) sub-groups, each member of the group participates in regulatory functions of certain, but not all central task areas.

Typically, regulatory functions of the central task areas 2, 3, and 7 are delegated to the work group. Therefore, a group of this type is entitled to decide (semi-) autonomously on job scheduling (coordination), on the allocation of personnel and distribution of tasks, as well as on its representatives and on its negotiations with the internal environment of the organization. The area of the large circle in Figure 1 Type II symbolizes the central task of the whole group. In contrast to Type I, the circle is divided into several fields that characterize different central task areas. Each area is collectively regulated by a different sub-group (whose members may, but need not, overlap with another sub-group). This form of distributed collective self-regulation is connected with common strategic decisions in at least one central task area, according to the collective regulation requirements of VERA-CAR step 3 (as in one group of our sample) or of step 3R (as in two groups). Four groups of our sample belong to Type II. On group meetings, the sub-groups occasionally resolve questions that are of relevance for the complete group. Bi-directional arrows characterize single acts of communication that are necessary for the execution of individual tasks (eight trapezoids). For example, two members of a group discuss with each other, whether a certain operation should be better done on one machine or on the other. Interrupted arrows symbolize the flexible rotation of various group members between several individually executed tasks.

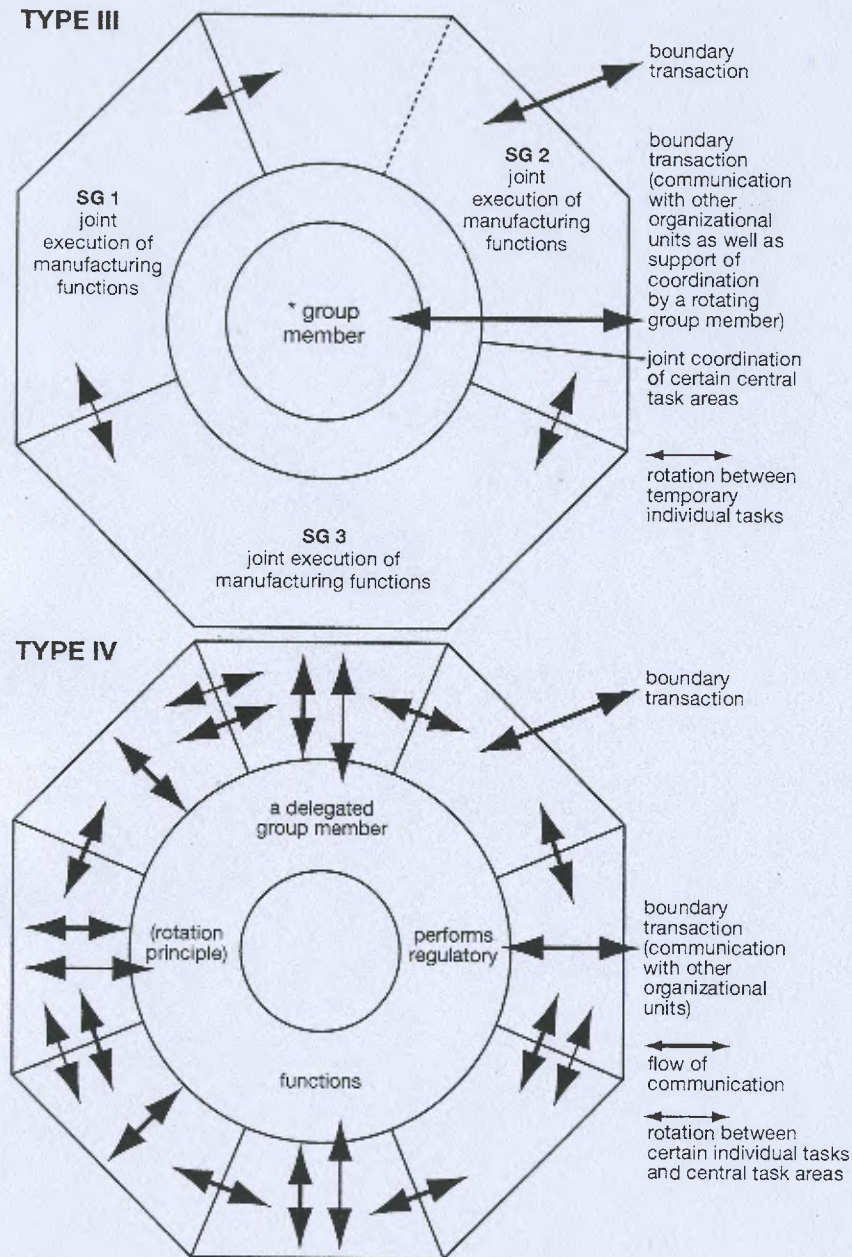


Figure 2. Group work with simultaneous cooperation (Type III). Group work with rotating central task areas (Type IV).

Type III: Group work with simultaneous cooperation

Compared with Type I, II, and IV, it is characteristic for work groups of Type III, that they jointly execute many manufacturing tasks. That is, they act together – shoulder-to-shoulder and face-to-face – during the planning as well as during the execution of manufacturing processes (Figure 2, on the left). Each cooperation partner follows his partner's actions attentively and supports him or her, in case his partner should need some help. All collaborating group members simultaneously receive feedback on any transformations of material, machinery, and tools. If organizational problems, technical defects, or errors appear, then the partners discuss and agree on strategies for solving these problems. If circumstances require, the separation between the central task (or central task areas) and individual tasks is cancelled and collective action takes place: Several individual tasks merge into one area. Additionally, temporary individual jobs may also be assigned to single group members (interrupted line).

Occasionally, the cooperation partners employ their experience and knowledge, which they acquire during these joint actions, in activities directed towards an improvement of machinery, tools, and work organization (central task area 5). The combined regulatory functions of the task areas 4 and 5 require at least common strategic decisions (VERA-CAR step 3R to 3). Two work groups of our sample, a maintenance team (VERA-CAR step 4) and a flexible manufacturing system team (VERA-CAR-group step 3), belong to this type applying semi-autonomous group work. In contrast to Type II, functions of production planning and control (central task area 1), connecting the group with other organizational units, as well as functions of group-internal shop-floor control (central task area 2) are alternately delegated to single group members (inner circle of Figure 3). At group meetings (symbolized by a ring around the inner circle), the whole group decides on matters concerning training activities (central task area 6) and its internal self-government (central task area 7).

Type IV: Group work with rotating central task areas

Figure 2 on the right shows Type IV that is characterized by central task areas, which are divided among individual group members, according to a self-regulated job rotation system. This is illustrated by the area in the shape of a ring. The inside of the ring is blank, because no direct collective action regulation takes place. Each member of the group participates in regulatory functions of some, but not of all central task areas. For example, some group members alternate in the execution of group-internal shop-floor control (central task area 2). Others alternate in the allocation of personnel and tasks (central task area 3). If circumstances require, the incumbents of "individualized" central task areas communicate with supervisors and with representatives of other organizational units (e.g. production controllers). From an organizational psychology point of view, the central characteristics of Type IV consists in the following: Alternately, (almost) each member of the group performs regulatory functions (a) of one central task area (or more) requiring strategic decisions (VERA step 3R to 3), or (b) of two (or more) central task areas that require single decisions (VERA step 2). This group-type represents the borderline of collective action regulation. Similar to Type I, II, and III,

the core features of semi-autonomous group work are manifest, because “collective” functions of coordination, allocation, and boundary transaction are individually performed by (nearly) all rotating group members – and not by a permanent group leader. Occasionally, incumbents of regulatory functions discuss and agree on organizational or technical problems with other group members. Therefore, it is justified to consider these processes of action regulation as “collective”. No group of this type appeared in our sample. Its occurrence in some Swedish and German enterprises is nevertheless documented (cf. Weber, 1997).

Type V: Group work with rudimentary central task areas

In this type of group work (Figure 3, on the left), most of the potentially collective regulatory functions are assigned to a permanent group leader. In effect, this means that he or she plays the role of a permanent foreman. Within the bounds of guidelines originating from a production planning department, the group leader is typically occupied with the more challenging regulatory functions of central task area 1 (boundary transaction: participation in production planning and control), of central task area 2 (coordination: internal shop-floor control), and of central task area 7 (decisions on self-government). In Figure 3 (on the left), his or her meaningful individual task is symbolized by a large octagonal area.

The small area of the inner circle shows that only a few regulatory functions from one or two central task areas are delegated to the group as a whole. The group members decide on the allocation of personnel and on the distribution of tasks (central task area 3), or they participate in improvement activities regarding technical and organizational

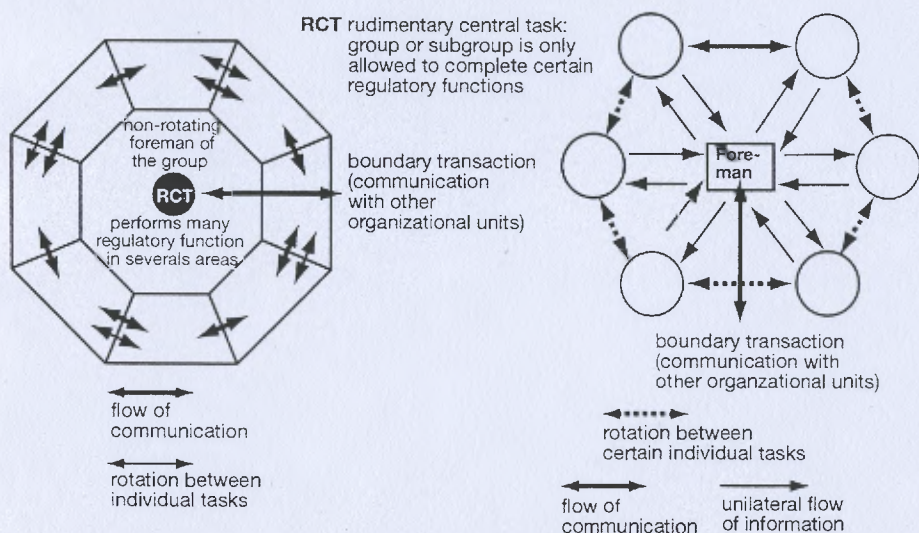


Figure 3. Group work with rudimentary central task areas (Type V, on the left). Hierarchically-led cooperative structure (Type VI, on the right).

problems that occur inside or within the environment of their work system (central task area 5). Yet, these collective improvement activities do not provide very challenging regulation requirements. As a main characteristic of Type V, only one central task area occasionally requires common single decisions (VERA-CAR step 2). Because many meaningful regulatory functions are centralized in the person of the group leader, one core feature of semi-autonomous group work, namely collective coordination, does not exist. Compared with the Types I to IV, Type V offers only a few chances for the group members to preserve or to improve their social and cognitive skills. Thus, this group-type can be labeled as “restrictive group work with rudimentary central task areas”. Case studies on “lean production” in production plants of Toyota, as well as the present study, indicate that many teams in automobile manufacturing belong to this type. The present sample is dominated by groups of Type V (in eight out of 20 cases; VERA-CAR-group step: 2)

Typ VI: Hierarchically-led cooperative structure

According to the criteria of action regulation theory and the socio-technical approach, a hierarchically-led cooperative structure (Type VI; see Figure 3, on the right) lies beyond the frontier between group work and (tayloristic) individual work. Characteristically, a “regulatory core” (Kötter and Gohde, 1991), meaning a collective central task that coordinates and interlinks the individually executed tasks, does not exist. An internal “group leader”, a foreman who is supported by members of planning departments “possesses” all central task areas. According to a job rotation scheme, the group members alternate between work places with different tasks (interrupted arrows in Figure 3, on the right). The group members do not participate in planning and decision-making at all. The internal informations flow uni-directionally and the flow itself is star-shaped. Communication is restricted to instructions, hints, or questions from the group leader, as well as to answers from his co-workers. Communicative acts of the group members are limited to the common application of algorithmic rules (VERA-CAR step 1R to 1) or to the common mental processing of activities in advance (VERA-CAR step 2R). Step 2R occurs, if the group allocates personnel and tasks (central task area 3) under changing conditions. There are nearly no possibilities at all for self-regulation and for the preservation or improvement of social and cognitive skills. Six groups of the present sample belong to this highly restrictive type of “group work” (VERA-CAR-group steps: from 1R to 2R).

Common objectifications as materializations of collective action regulation

In the present section, it will be argued that a high level of collective self-regulation (Group Type I to IV) not only fosters prosocial work attitudes, but at the same time, the common creation of a group’s own tools and knowledge stores, too. If this is true, then such “common objectifications” may serve as a material indicator – among further possible indicators – for prosocial organizational attitudes and behavior.