

Systems-Centered® Management: A Brief Review of Theory, Practice and Research

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Abstract

A theory is useful to the extent that it allows for new understanding and more effective solution of problems, such as improving morale and increasing organizational member participation in problem-solving under stressful conditions. Systems-Centered theory and practice are hypothesized to be useful to management of human systems in all contexts. In organizational contexts, the systems-centered approach presents an innovative approach to leadership, organizational structure and teamwork to improve performance. The goal of this paper is to introduce systems-centered theory and practice as well as to review the empirical studies of SCT methods including studies of comparative training group and work group performance and the unique, cardinal SCT method of functional subgrouping. We found preliminary, significant support for SCT hypotheses and methodology.

Keywords: Stressful conditions; Systems-centered; Organizational management; Functional subgrouping

Introduction

Leading and managing the members of an organization, from the board of directors and top management group [1], to the organization's departments, teams and individual line staff, has been the focus of theorizing and research for decades [2]. Yet only recently have coherent theories and related theory-driven management practices been developed that apply at all levels of an organization [3-6].

These models are termed "multi-level" [6-8] or "hierarchical and isomorphic system" models [8-10] they aim to integrate theory, practice, and research, and to facilitate more powerful, parsimonious organizational intervention methods that improve performance at all levels of system's hierarchy if properly implemented. The goal of this paper is to introduce systems-centered theory and practice as well as to review the empirical studies of SCT methods including studies of comparative training group and work group performance and the unique, cardinal SCT method of functional subgrouping [9,11].

Systems-Centered Theory and Its Relevance to Organizational Management

Agazarian [12,13] developed her systems-centered theory based on von Bertalanffy's [14] General System Theory concepts of hierarchy and isomorphy. In SCT, the organization-as-a-whole, irrespective of size, is depicted as three concentric circles representing a three-tiered hierarchy: the individual organizational member level nesting in the subsystem/subgroup level nesting in the organization as-a-whole. Hierarchy states that all living human systems exist in the context of the system above and are the context for the system below; isomorphy proposes that the functioning and structure of the systems above (i.e., the organization-as-a-whole or the organizational subsystem/subgroup) are essentially replicated in the functioning and structure of the system(s) below. Thus, these two concepts are central to Agazarian's delineation of how individual member and inter-member matrices are interconnected in an organization. They also bridge organization-as-a-whole and individual members' dynamics, and facilitate interventions connecting the member and organization-as-a-whole simultaneously via the subgroup level [4].

While the vocabulary of SCT is unfamiliar to most, and the task of understanding a new theory at this level can be daunting [15], the

organizational challenges which the theory and methods address are universal and enduring, and the systems-centered methodological solutions are sometimes relatively simple [3]. For example, Stasser and Titus [2] demonstrated one of the perplexing and enduring paradoxes of work groups-- that the more teams need members' information to solve problems, the less likely members are to contribute that information spontaneously [2,16]. This is despite the fact that information sharing can positively affect the productivity and creativity of teams, and that subsequent collaborative discussion of shared information "...expands knowledge and experience resources available to team members, improves the analysis of the problem, and allows better assessment of the usefulness of potential solutions" [17-19].

SCT proposes a particular multi-method approach to such information challenges relying centrally on a unique systems-centered method termed "functional subgrouping" which encourages member contributions and actively involves team members in decision-making. Research has shown that such participative styles of leadership and communication structure can enhance decisions, proactive behavior and productivity [20-22]. Relatedly, other research has shown that a positive group climate may be essential to a positive emotional experience for the group's members and emotional distress has been shown to predict poor outcome in groups.

Furthermore, in situations such as those Stasser and Titus [2] explored, as group members introduce information to the group, conflict can emerge as alternative ideas are discussed. Research has delineated different types of conflict with differential effects on team performance. Relationship conflict is characterized by perceptions of interpersonal discord or feelings of animosity, annoyance, or tension;

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Task conflict, on the other hand, occurs when team members disagree regarding ideas and decisions about how the group will achieve its goals. Relationship conflict erodes intra-team trust and team performance over time while task conflict, managed properly, enhances high-performing teams' ability to generate productive discussion as the team decides how to best reach its goals [23,24]. Thus, if team members introduce different ideas and the team can successfully manage and harness the resulting conflictual interaction energy to the task, team productivity can be increased.

A central systems-centered hypothesis is that conflict based on intra-group differences that are too large to be integrated, is often acted on in ways that generate unproductive relationship conflict, especially in stressful situations. However, SCT also hypothesizes that systematically managing differences in ways that introduce just-noticeable differences increases information transfer relevant to the organization's goals while simultaneously reducing noise and relationship conflict and thus enhances its functioning. Noise is defined as ambiguity, contradiction, and redundancy [1].

Systems-centered Methods for Organizational Management

SCT has four specific methods to reduce noise and increase information transfer and integration, reduce personal relationship conflict, and thus enhance morale, collaboration, productivity and creativity in individual and group work: Boundarying, Vectoring, Contextualizing, and the unique, cardinal method of Functional Subgrouping. These methods apply to all levels of the organizational hierarchy.

Boundarying facilitates the transition of individuals from their personal roles outside the organization to their "member" roles [25] within the organization by clarifying who does what, where and when in relation to a specified goal. For example, boundarying regarding time, space, and role occurs when a meeting begins and ends at certain times in a specific space with group members assigned specific roles with clear responsibility and authority for certain meeting- and goal-related tasks. Once the meeting begins, boundarying also filters the inter-member communication to reduce noise and to increase the flow of goal-related information for greater productivity.

Vectoring directs information toward a goal. For example, a meeting's agenda focuses the communications and energy of the group to specific, prioritized tasks during the meeting, and the "next steps" developed in the meeting direct the responsible members to accomplish certain tasks by a certain time after the meeting's end.

Contextualizing vectors member attention to different levels of the system hierarchy. According to systems-centered theory, organizations are comprised of three different system levels: the member, subsystem/subgroup, and organization-as-a-whole levels [1,3,8]. Contextualizing facilitates the consideration of perspectives and decisions from all three levels. As the context changes between levels, members recognize that perceptions and decisions often change as well. This helps the team reach decisions which process and integrate information from all system levels for the overall benefit of the organization's goals. Functional subgrouping manages differences (i.e. potentially contradictory information) between the members of the team-as-a-whole that could be acted out in unproductive relationship conflict. When subgrouping functionally the entire group membership is required to explore different sides of an issue sequentially in relation to the task goals, rather than argue noisily or otherwise express the differences in relationship

conflict. In this process, all members are encouraged to voice their viewpoints and the members with a similar viewpoint join together in a subgroup to discuss that overall perspective. Because each subgroup eventually has the opportunity to explore its particular point of view, all sides of the issue are introduced and discussed over the course of the meeting with the goal of integrating the differences creatively [26]. SCT leaders train members to value all the different task-related voices in a team and to communicate this way in all contexts.

Regarding functional subgrouping, Agazarian [12] observed and hypothesized

"The conditions of functional subgrouping include several group dynamic variables that are directly connected to successful goal achievement. Subgroups come together around similarity, which increases cohesiveness. The task of each subgroup is clear. The working methods are simple and familiar. There is intense work energy, focused over a relatively short period of time, toward a clear goal in an environment of high cohesiveness. Thus, the probability of positive outcomes for members who join and work within functional subgrouping norms is high. A member's subjective experience of subgrouping includes, on the one hand, the comfort of attunement and mirroring and, on the other, the intensity of involvement in a self-reinforcing activity".

Thus, for example, regarding the problem [2] identified of reduced member participation under challenging, possibly stressful conditions, the systems-centered hypothesis is that members of groups using functional subgrouping would contribute more information than those that do not, and, isomorphically, that these members' teams and organizations that use functional subgrouping up and down the hierarchy would be more collaborative and productive.

Systems-centered Research Review

The first empirical study of SCT training groups [6], later studies specifically of functional subgrouping [6,9], a quasi-empirical comparison of teams using SCT versus Robert's Rules of Order communication structures [27], and a large group study (n=340) exploring functional subgrouping and group member morale [14], have provided some support for these theoretically-derived hypotheses and clinical observations (Table 1).

O'Neill et al. [8] quasi-experimental study compared the process and outcome of 6 systems-centered training groups to those of similar but non-SCT training groups from two prior studies [28,29]. They based their hypotheses on Agazarian's [12] statements about functional subgrouping. As predicted, they found that SCT groups evidenced less group-as-a-whole level conflict and avoidance, as well as better member-to-member relationship quality and activity, and more member self-confidence, than the comparison groups

Consistent with the idea above that functional subgrouping is "self-reinforcing," they found that these SCT groups demonstrated increased engagement with the group task over time, as Mackenzie et al. [28] also found in successful groups of other theoretical orientations. Importantly, as favorable response to leadership has been shown to correlate with successful outcome, the SCT groups also gave more favorable leader evaluations than their comparison group counterparts.

Counter to hypotheses, however, the SCT groups showed less engagement relative to comparison groups. They also reported less learning about self-peer relationships and authority-leadership, but simultaneously reported the high overall level of learning characteristic

Study Design	Hypotheses					
	1. Personal experience of comfort	2. Self-reinforcing	3. Intense work energy/ intensely involved	4. Greater cohesiveness	5. Successful goal achievement	6. Positive outcome (increased depth of experience)
O'Neill and Constantino [6]: Quasi-experimental comparison of SCT and non-SCT training groups	Support: More self-confident; trend toward less anxiety but depression unchanged		Mixed results: Less avoidant but also less engaged initially; Less avoidant and highly engaged later; more active	Support: Less conflict; better relationship quality	Mixed results: Less learning about self-peer relations and authority/leadership but high global learning	
O'Neill et al. [9]: Correlational study of FSQ score, descriptors of FS experience, and mood, in SCT training groups		Support: Functional subgrouping increased over time		Support: Functional subgrouping descriptors had 8 to 1 ratio of positive to negative affect words		Support: Functional subgrouping linked to less anxious and depressive experience at end of workshop
O'Neill, et al. [8]: Pre-post study of mood, FSQ score, learning and goal achievement in large groups	Support: Functional subgrouping predicts less emotional distress	Support: Members' pre-training mood not related to functional subgrouping			Support: Functional subgrouping predicts self-reported learning and goal achievement	Support: Functional subgrouping predicts less emotional distress
O'Neill, et al. [26]: Quasi-experimental comparison of SCT and Robert's Rules of Order work groups			Support: More task-focused and productive	Support: More positive verbal behaviors and better group process on 3 of 8 variables	Support: More productive and creative	Support: More productive and creative
O'Neill and Mogle [10]: Correlational study of FSQ score and morale in a large group FSQ organizational training				Increased organizational connection and satisfaction with higher FSQ score		

Table 1: Summary of research results on Agazarian's hypotheses about SCT and functional subgrouping.

of successful groups [28] cautioned, however, that their quasi-experimental design did not allow for causal interpretations. They noted that many factors other than the SCT methods may have accounted for their findings, and pointed out that no reliable observations of functional subgrouping were made.

O'Neill, Smyth and MacKenzie [9] used the SCT Functional Subgrouping Questionnaire to measure functional subgrouping across time in two SCT training groups. These group members were being trained to use functional subgrouping and to use the SCT Stages of Defense Modification boundarying skills to undo their own negative mood states while engaging in the training tasks. Results showed trainees rated their experience of functional subgrouping using positive affect words about 40% of the time, compared to using negative affect words about 5% of the time. They also reported significantly increased use of functional subgrouping from the start of the workshops to the end. This finding supports Agazarian's assertion above that functional subgrouping provides "comfort" to members and is "self-reinforcing." Exploratory analyses found that more functional subgrouping was associated with significantly less negative, distressing experience. This finding also supports Agazarian's [12] hypotheses quoted above, specifically that it may enhance "...positive outcomes for group members who join and work in the functional subgrouping norms" p.46.

Building on O'Neill and Constantino's [6] and O'Neill et al. [8] findings, O'Neill et al. [9] used the SCT FSGQ to study functional subgrouping, mood, learning, and goal achievement. The groups studied were two large SCT training groups. The group members were being trained to use functional subgrouping and the SCT Stages of Defense Modification boundarying skills to undo their own negative mood experiences while engaging in the group task. Results showed that pre-training mood did not predict the amount of functional subgrouping

during training, that is, members did similar amounts of functional subgrouping regardless of their mood at the start of the training. Also as predicted, after controlling for pre-training mood, more functional subgrouping predicted better mood /less emotional distress after the training. In addition, results also showed that, after controlling for post-training mood, more functional subgrouping was unrelated to post-training reports of learning about self-peer relations, marginally related to learning about authority-leadership, and significantly related to more overall learning and more goal achievement. This was a partial replication of O'Neill and Constantino [6]. Like O'Neill and Constantino [8], however, urged caution in interpreting the results, in this case noting that the SCT Functional Subgrouping Questionnaire had adequate but limited reliability and validity data.

In fact, while the SCT Functional Subgrouping Questionnaire [30] used in this research above has adequate internal reliability, it does not explicitly discriminate between functional and stereotyped subgrouping, nor assess the sequential steps of functional subgrouping [12].

A new version measure, the SCT Functional Subgrouping Questionnaire-2 has been developed [26]. Initial research has shown it to reliably distinguish between SCT groups and non-SCT groups.

O'Neill et al. [9] compared the verbal behavior and productivity, and the process and creativity of work groups using either SCT methods or Robert's Rules of Order [27]. As measured by the System for Analyzing Verbal Interaction (SAVI®²) SCT work groups talked in ways more likely to transfer and integrate task-related information, and were more productive, better performing, and more creative as measured by the Group Productivity Scale [31] and the Work Group Inventory [32,33], respectively.

Finally, O'Neill and Mogle [14] examined the relationship of

organizational member participation using functional subgrouping in a large group discussion (n=340) to several morale-related outcome dimensions. In this challenging, possibly stressful situation involving speaking in front of 340 other organizational members, on average, members participating in the discussion felt less heard, less connected, and less satisfied from time 1 to time 2. However, as predicted, members who scored higher on the functional subgrouping scale were significantly more likely to feel connected and satisfied after the discussion than members with lower functional subgrouping scores. O'Neill and Mogle [14] cautioned that because this study used a correlational design, no conclusions can be drawn about cause-and-effect.

Summary and Discussion

Management of organizational behavior has hampered by the lack of comprehensive theory applying at all levels of the organizational hierarchy simultaneously. The relatively recent development of multi-level theories holds the promise of improving the understanding of organizational functioning and of simplifying related and hopefully more effective interventions to improve functioning.

Agazarian's [12] theory of living human systems is one such theory applying isomorphically up and down the organizational hierarchically. Her theory has been operationalized with four intervention systems-centered methods (contextualizing, boundarying, vectoring and functional subgrouping) to deal comprehensively with all organizational management issues (see [3] for examples).

For example, resolving conflict between upper level management and department heads, or between different organizational departments, or between individual members of a department, is addressed using the same SCT method of functional subgrouping no matter which level(s) is involved.

Functional subgrouping is now used extensively in both organizational and clinical settings in the United States, Europe and Japan [7]. In addition, research suggests that SCT methods may be useful in improving outcome and morale in organizations, as predicted by SCT theory. The central SCT method of functional subgrouping appears to be experienced positively and linked to improved team morale and less member emotional distress. Overall, systems-centered methods are related to increased learning, productivity, creativity, and goal achievement. These results are primarily correlational, however, so cause-and-effect conclusions cannot be drawn. Future research should include experimental manipulations of SCT methods and random assignment of subjects to experimental and control conditions. In addition, future research should employ the new Functional Subgrouping Questionnaire-2 that assesses the use of the theoretically-derived sequential behavioral steps of functional subgrouping [26]. Doing so would allow for a check of accurate use of the method while also testing for hypothesized outcomes.

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