Enterprise and Work Innovation Studies

Professions and inter-disciplinary teamwork in socially embedded bureaucracies: Synthesis and hypotheses on the impact of informal and formal organization

Daniel B. Cornfield (daniel.b.cornfield@vanderbilt.edu), Department of Sociology, Vanderbilt Institute for Public Policy Studies, Vanderbilt University, Nashville, USA[3].

Abstract

In order to maximize their productivity, inter-disciplinary multi-occupation teams of professionals need to maximize inter-occupational cooperation in team decision making. Cooperation, however, is challenged by status anxiety over organizational careers and identity politics among team members who differ by ethnicity-race, gender, religion, nativity, citizenship status, etc. The purpose of this paper is to develop hypotheses about how informal and formal features of bureaucracy influence the level of inter-occupation cooperation achieved by socially diverse, multi-occupation work teams of professionals in bureaucratic work organizations. The 18 hypotheses, which are developed with the heuristic empirical case of National Science Foundation-sponsored university-school partnerships in math and science curriculum innovation in the United States, culminate in the argument that cooperation can be realized as a synthesis of tensions between informal and formal features of bureaucracy in the form of participatory, high performance work systems.

In a service economy that is dominated by large economic organizations, knowledge workers, and high performance work systems, professionals often work in inter-disciplinary, multi-occupation work teams. In large U.S. cities, whose residents hail from a wide range of social backgrounds, multi-occupation work teams also tend to be socially diverse by ethnicity-race, gender, religion, nativity, citizenship status, etc. (Appelbaum et al 2000; Batt & Doellgast 2005; Frenkel et al 1999; Hinings 2005; Jackson & Ruderman 1995; Ruderman et al 1996; Tang & Smith 1996). In an era of status anxiety over career mobility within bureaucratic work organizations, and of "identity politics" that is infused within "socially embedded" bureaucracies (Cornfield 2005; Cornfield et al 2001), how does a socially diverse, inter-disciplinary, multi-occupation team of professionals achieve "inter-occupation cooperation"?

The purpose of this paper is to develop sociological hypotheses about the impact of informal and formal bureaucratic organization on the level of cooperation among the occupational members of a multi-occupation team of professionals, such as professors, nurses, teachers, doctors, lawyers, engineers, social workers, etc. *Inter-occupational cooperation* (IOC) is collegial and equal participation in core team work activities by the individual members of a multi-occupation work team of professionals. As a characteristic of teamwork, IOC consists of collegiality among team members and equal participation of team members in decision making in the core task domain of the team (e.g. Cornfield et al 2001; Ruef et al 2003; Vallas 2003b).

Furthermore, professionals are often not autonomous self-employed workers, but rather are salaried employees of large bureaucracies. As relatively autonomous salaried employees (Hinings 2005; Sallaz 2002; Tang 2000), professional workers are trained in a discipline of expertise which they apply in the operations of their employers and in the provision of services to their employer's customers and clients (Freidson 2001; Frenkel et al 1999; Hoff 1999; Mueller et al 1999; Thomas 1994). Situated in a large bureaucracy, professional autonomy based in expertise is constrained by, and competes as an organizational logic with, the prerogatives and interests of managers, consumer interests of customers and clients, and government regulatory interests (Barley 2005; Freidson 2001; Hinings 2005; Thomas 1994).

I develop the hypotheses from the heuristic empirical case of the on-going Program Evaluation of the Math and Science Partnership Program of the National Science Foundation (NSF) in the United States. Beginning in 2002, the NSF has invested some $500 million in approximately 70 Math and Science Partnership (MSP) programs in different locations in the U.S. Each of these 70 MSPs is a collaboration between a university and a local school district in curricular innovation and design for improving student (kindergarten through grade 12) achievement in math and science.

An MSP design group serves as a theoretical case study of the attainment of IOC by a multi-occupation work team of professionals. Successful MSP implementation partly depends on harnessing the inter-disciplinary expertise of the MSP designers in work group decision making. Five professional occupations participate in a single instance of MSP design, constituting an *MSP design group*. These occupations are: 1) education university professors; 2) science, math, and engineering university professors; 3) university academic administrators; 4) kindergarten through grade 12 teachers in a local school district; and 5) local school district administrators. The successful functioning of an MSP design group requires cooperation among these five occupations which, in addition, are distributed across two separate employers, i.e. a university and a local school district.

I assume that the achievement of IOC by a multi-occupation work team of professionals is challenged by, and is a synthesis of tension between, informal and formal bureaucratic organization. I first develop five hypotheses about the impact of informal bureaucratic organization on the attainment of IOC by socially diverse work groups which, according to theory, exhibit exclusionary, segregating, and homogenizing tendencies, generating a trade-off between equal employment opportunity and IOC. Next, I derive 13 hypotheses about the impact of formal bureaucratic organization—including high performance work systems, on the realization of IOC by MSP design groups. High performance work systems theory suggests how formal bureaucratic organization can optimize between equal employment opportunity and IOC in multi-occupation teams of professionals. Together, and based on the case of MSP design groups, all eighteen hypotheses culminate in the argument that multi-occupation teams of professionals can maximize IOC, and limit the counterproductive influences of informal bureaucratic organization, by constituting themselves as formally participatory, high performance work systems.

Informal Bureaucratic and Urban Context of MSP Design Groups.

Comprised of a formal, vertical authority structure and horizontal functional division of labor, the large bureaucracy also consists of three informal organizational characteristics that are relevant to the realization of IOC. The first is that a bureaucracy is an important arena that houses intra-generational social mobility and status attainment processes — that is, an arena in which individuals attempt to accomplish the American Dream by ascending an organizational status hierarchy of jobs through promotions and a long-term career in a single "internal labor market." As "organization men and women," salaried professionals who are employed in large bureaucracies attempt to attain status not only in the national professions in which they were trained, but also by accumulating recognition, resources, and status within the bureaucracies that employ them (Cassirer & Reskin 2000; Cornfield et al 2001; Kalleberg & Berg 2001; Osterman & Burton 2005; Tang 2000; Thomas 1994).

The second informal feature of bureaucracy is a power structure. The power structure is the set of informal social relations among occupations that cut across formal vertical and horizontal lines within a bureaucracy. According to power-process theory, occupations vie with one another, and coalesce with one another, as they endeavor strategically to attain resources and status from the management of the bureaucracy and ascend the organizational status hierarchy. From this perspective, competing occupations are more or less powerful, depending on the amount of resources they control, their functional inter-dependence with other occupations, their perceived importance for overall organizational success, and their societal stature (Thomas 1994; Vallas 2003b).

The third informal feature of bureaucracy is its social embeddedness. A bureaucracy operates within a web of societal social relations among status groups that are characterized by ethnicity-race, gender, age, nativity, religion and other statuses. These statuses define individual and group identities and often conflict with one another in "identity politics" in multiple arenas,

including schools, workplaces, neighborhoods, and the polity (Cornfield and Arzubiaga 2004). With respect to workplaces, the social embeddedness of a bureaucracy influences the quality of social relations along and across vertical and horizontal lines because bureaucracies are infused with the societal status conflicts and identity politics that accompany employees as they enter and their careers unfold inside bureaucracies (Cornfield 2005; Jackson & Ruderman 1995; McCall 2005; McGuire 2000; Mueller et al 1999; Ruderman et al 1996; Vallas 2003a).

The three informal organizational characteristics of bureaucracy suggest that work group team members are not only employees of a bureaucracy, they are also *status-anxious strategic actors* (Cassirer & Reskin 2000; McGuire 2000; Robinson et al 2005). These actors act to avoid status degradation and in ways that enhance their social status. Conceiving of MSP design group members as status-anxious strategic actors permits us to develop sociological hypotheses about how the informal organization of bureaucracy influences IOC within MSP design groups. *Sociologically, the realization of IOC within MSP design groups, then, depends on the perceptions and expectations of each of the five participating professions that the MSP design work experience will enhance their power, status, social mobility prospects, and, more generally, life chances.*

What is more, the degree of urbanism in the context of an MSP design group may mediate the impact of informal bureaucratic organization on the realization of IOC within MSP design groups. Sociologically, a city is a large, dense, socially heterogeneous human settlement. The degree of urbanism refers to the size, density, and social heterogeneity (status group composition) of the town, city, or metropolitan area in which the MSP design group is located. The more urban the MSP location is, the larger, more complex, and more impersonal are its bureaucracies, increasing the intra-organizational space and opportunities for occupational rivalry over career mobility. Furthermore, the more urban the MSP location is, the more socially heterogeneous are its bureaucratic workforces, increasing the complexity of the societal status conflicts and identity politics in which bureaucracies are embedded. *Therefore, it is likely that IOC will be most easily realized in MSP design groups that are located in small towns, and most difficult to realize in MSP design groups that are located in major metropolitan areas, all else being equal.*

Three sociological theories suggest how informal bureaucratic organization influences the realization of IOC in MSP design groups. I now develop hypotheses from the following theories: homophily, network, and status construction theories.

Homophily theory holds that socially similar individuals are more attracted to one another in groups and more likely to form groups than socially dissimilar individuals (Ruef et al 2003). Social similarity refers to similarity of individuals in terms of social identities, such as ascribed characteristics, that are externally attached to individuals, including gender, race, ethnicity, age, nativity, and social class background. It refers to a tendency toward social segregation, whether imposed by history and society, chosen voluntarily, or both. The theory holds that socially similar individuals tend to segregate into socially homogeneous groups because of shared understandings and higher levels of trust among individuals of similar backgrounds. The related theories of *relational demography* and *organizational demography* essentially apply homophily theory to work organizations. Empirical research in relational and organizational demography, for example, has shown that socially homogeneous boss-subordinate dyads are more likely to experience positive career outcomes and work attitudes than socially heterogeneous dyads. This body of research also has shown that over time work groups tend to become socially homogeneous because token minority group members are more likely to exit the work group than work group members of the majority social background (Jackson & Ruderman 1995; Ruderman et al 1996; Tsui & Fahr 1997).

Homophily theory suggests the following hypothesis about the effect of the social composition of an MSP design group on IOC:

H_1: *The more socially similar are the members of an MSP design group, the more likely is the MSP design group to achieve IOC.*

From a policy perspective, H_1 implies the existence of a trade-off between IOC attainment and the attainment of diversity and equal opportunity via affirmative action. The hypothesis suggests that an MSP design group will minimize disruptive rivalry among its status-anxious occupation members, and thereby maximize IOC, by staffing the multi-occupation group with socially similar individuals. The theory does not weight the importance or salience of the different dimensions of social similarity or different social identities.

Network theory holds that pre-existing networks among individual group members afford individuals the opportunity to meet, befriend and build trust with one another and thereby form and maintain solidary work groups (McGuire 2000; Ruef et al 2003). A network is a relationship that often grows out of membership in a common group or organization. "Tie strength" refers to the emotional depth of the relationship: family relations constitute "strong ties," acquaintanceships and friendships are "weak ties," and individuals with little or no relationship are "strangers." Relevant examples of weak ties include friendships and memberships in common professional associations and labor organizations and non-work groups, including religious, neighborhood, political, cultural, and hobby groups, and informal cliques. Social networks are also instrumental. They can provide network members with information and resources that otherwise may be less accessible or non-accessible by non-network members.

Network theory suggests the following hypothesis:

H_2:*The greater the number, strength and overlap in network ties among the members of an MSP design group, the more likely the MSP design group will realize IOC.*

H_2 implies a trade-off between the attainment of IOC and conflicts of interest in MSP design groups. Although strong ties may promote IOC, they may also generate a conflict of interest between individuals with strong ties. Group members who have strong ties may enjoy a voting advantage in the group and may effectively be engaging in self-dealing if their strong tie also runs across the two employers (university and school district) of the MSP design group occupations.

Although teachers unions can promote network development (labor solidarity) among MSP design group members, neither, both, or only one of the participating employers (i.e. school district, university) that staff the MSP design group may be unionized. The extent of union membership among the MSP design group members, and, therefore, the impact of union membership on the number, strength and overlap in network ties within an MSP design group, may vary.   From a network theoretical perspective, union membership would enhance IOC in MSP design groups in which more than 50% of the MSP design group members are union members:

H_3: *IOC will be greater in an MSP design group, the more the percentage of the group members who are union members exceeds 50%.*

Network theory implies that having a common association, if not membership, in an organization, also can tie two or more individuals in a network. In the case of an MSP design group, school district occupation members may be alumni of the participating university, and vice versa. Relational demography theory holds that alumni relations are meaningful in workplaces (Tsui & Fahr 1997) and therefore implies this hypothesis:

H_4: *The greater the number of MSP design group members who are alumni of the participating school district or university, the more likely the MSP design group will realize IOC.*

Status construction theory, also known as *status expectations theory*, holds that group members tend to form network ties with high-status individuals (McGuire 2000; Ruef et al 2003). According to the theory, individuals harbor "status value beliefs," that is, generalized beliefs that differentially value and rank some status groups—ethnic, racial, gender, etc.—over others. Higher-ranked groups are presumed to have more resources and to be more competent than lower-ranked groups. McGuire's (2000) review of status construction research indicates than white men are often ranked higher than women and people of color. In small group settings, according to this theory, conversations, networks, and resource flows will tend to be dominated by members of higher-ranked groups, and members of lower-ranked groups will tend to be excluded from group membership and group interactions and denied the benefits of group membership.

Status construction theory implies the following hypothesis:

H_5: *The more differentiated by status-levels the members of an MSP design group are, the less likely is the MSP design group to realize IOC.*

H_5 suggests that a trade-off exists between social diversity, egalitarian group decision making and, therefore, the attainment of IOC. Groups that are diverse by, for example, race, ethnicity, and gender, may fulfill affirmative action objectives but, according to this theory, will tend to conduct

non-egalitarian decision making that is dominated by members of higher-ranked groups. Similarly, groups that are diverse by education level, based on credential differences among participating professions in an MSP design group, will, according to this theory, conduct group decision making that is dominated by the occupation members with higher education levels.

In sum, H_{1-5} suggest that the attainment of IOC by MSP design groups occurs with tradeoffs that are generated by informal bureaucratic organization. The hypotheses imply that, in a socially diverse urban society in which status-anxious occupations vie with one another for more status, IOC is most likely to be attained in socially homogeneous MSP design groups. Socially homogeneous groups, according to these hypotheses, generate the most trusting and sharing networks among group members, engage in egalitarian group decision making and, therefore, are most likely to realize IOC. Deriving IOC from the social homogeneity of the MSP design group, however, occurs at the expense of not accomplishing affirmative action objectives and at the expense of raising the risk of conflicting interests.

Formal Bureaucratic Context of MSP Design Groups

The previous section suggests that, if left unchecked, the informal organization of bureaucracy may generate suboptimal levels of IOC in MSP design groups, especially those that are located in large-scale urban settings. In the context of an urban, socially diverse, status-anxious bureaucracy, informal organization can undermine the realization of IOC in multi-occupation MSP design groups whose members may often constitute a socially diverse team.

How, then, can an MSP design group capitalize on its multi-occupational inter-disciplinary expertise by generating optimal levels of IOC? The formal bureaucratic structure of workplaces is a malleable (and varying) feature of the context in which MSP design groups operate that can productively harness the inter-disciplinary expertise of MSP design groups.

High performance work systems (HPWSs) are a set of formal interventions for improving work attitudes, social relations at work, and worker productivity (Appelbaum et al 2000). As interventions, HPWSs effectively constitute restructuring of formal bureaucratic organization. The traditional, century-old "Fordist-Taylorist" and Weberian ideal-typical bureaucracy consisted of a vertical, formal pyramidal authority structure, in which commands and decision making issued by salaried managers ran unilaterally down a status hierarchy of "offices"; and a complex, horizontal formal division of labor of expertise that was distributed across departments and across narrowly defined, highly specialized jobs. Throughout the twentieth century, the traditional bureaucracy increasingly came to be viewed as alienating, degrading, demoralizing, and counter-productive, especially with the increasing incorporation of autonomous professions into bureaucracies and the increasing education level of the national labor force. Consequently, HPWSs have been continuously developed over the last half-century to create "post-Fordist-Taylorist" workplaces that relax the authority structure and simplify the division of labor in order to afford an evermore educated workforce more on-the-job autonomy, discretion, and participation in decision making (Appelbaum et al 2000; Cornfield et al 2001; Frenkel et al 1999; Hodson 2001).

HPWSs rest on the following theory of organizational performance (Appelbaum et al 2000: 27; for similar theories, see Hodson 2001: 255 and Frenkel et al 1999: 196-197). The level of organizational performance is attributed to the level of effective discretionary effort which, in turn, is a function of the presence of HPWSs in the workplace.

According to Appelbaum et al (2000: 39-44), HPWSs consist of three organizational practices that influence worker effort levels and, therefore, organizational performance. The first is the "opportunity for substantive participation." Compared to the Fordist-Taylorist bureaucracy, this HPWS component "emphasizes decentralization of the gathering and processing of information to nonmanagerial employees, with the information to be acted on and used by these employees for problem solving and decision making" (Appelbaum et al 2000: 39). The opportunity for substantive participation often takes the concrete form of self-directed work teams that afford workers greater responsibility, autonomy and control over decision making than they would have been afforded in a traditional bureaucracy (Appelbaum et al 2000: 39-40). In their empirical research, Appelbaum et al (2000: 174-202) demonstrate that the opportunity for substantive participation—as measured by autonomy, the presence of self-directed and off-line teams, and

communication—increases trust, intrinsic work rewards, organizational commitment, and job satisfaction, but has little or no impact on worker stress levels.

The second HPWS organizational practice is what Appelbaum et al (2000: 40) refer to as "policies to guarantee adequate skills." In order to empower workers to avail themselves of opportunities for substantive participation, they need to acquire the "appropriate skills and knowledge" for doing the work. In order to maintain managerial control over decision making, the traditional bureaucracy, in contrast, often withheld and minimized the diffusion of knowledge to workers. Imparting skills to workers is a corrective to this counter-productive characteristic of the top-down authority structure and complex division of labor of the traditional bureaucracy: "Workers who have only a concrete knowledge of their jobs, who are expected to carry out routine functions, and who know little of the broader objectives of the organization are not in a strong position to make a contribution other than the narrow performance of their assigned tasks. Workers in HPWSs need better skills and knowledge across a broad front, including basic skills, technical and occupationally specific skills, and leadership and social skills" (Appelbaum et al 2000: 40-41). In their empirical research, Appelbaum et al (2000: 174-202) demonstrate that policies to guarantee adequate skills—as measured by the provision of formal and informal training—tend to increase trust, intrinsic work rewards, and organizational commitment.

The third HPWS organizational practice is "incentives" that motivate "employees to use their imagination, creativity, enthusiasm, and intimate knowledge of their particular jobs" (Appelbaum et al 2000: 42). Three types of incentives are a) financial incentives that are linked to work group or company performance; b) intrinsic incentives that make the work itself more challenging for workers; and c) treating employees as stakeholders, in which employees have a vested interest in the long term performance of the organization (Appelbaum et al 2000: 42-44). In their empirical research, Appelbaum et al (2000: 174-202) demonstrate that HPWS incentives—as measured by pay for performance, employment security, company competitiveness, company information sharing, pay fairness, company helpfulness in work-family issues, and promotion opportunities — tend to increase trust, organizational commitment, and job satisfaction, and to modestly reduce stress.

HPWS theory suggests that MSP design groups that are structured as HPWSs are likely to realize IOC. In contrast, the more the formal bureaucratic context and structure of an MSP design group approaches that of the traditional bureaucracy, goes this theory, the lower is its likelihood of realizing IOC and the less productive it will be.

We may also infer that implementing HPWSs serves as a formal bureaucratic check on the suboptimal influences of informal bureaucratic organization on the realization of IOC. As an intervention that promotes worker involvement in the workplace, implementing HPWSs may effectively serve to counteract any exclusionary and segregating tendencies of socially diverse work teams in urban settings.

HPWS theory implies several hypotheses about the impact of formal bureaucratic structure on the realization of IOC by MSP design groups. For each hypothesis, I speculate how it relates to H_{1-5} and how HPWSs may maximize IOC while minimizing exclusionary and segregating tendencies that may emanate from the informal bureaucratic context.

H_{6-11} pertain to the "opportunity for substantive participation." HPWS theory implies that:

H_6: The more an MSP design group is structured to provide its members the opportunity to participate in decision making, the more IOC it will realize.

The opportunity to participate in decision making is not only determined by the informal interactions as suggested by homophily, network, and status construction theories, but also by the formal decision making structure of the MSP design group. MSP design groups that have no formal decision making rules are unequipped to regulate any suboptimal, exclusionary tendencies of MSP design groups mentioned in H_{1-5}. MSP design groups that have centralized, formal decision making structures are less likely to encourage participation in group decision making by all group members than decentralized MSP design groups. Therefore,

H_7: MSP design groups with formal decentralized group decision making structures are more likely to achieve IOC than MSP design groups with formal centralized decision making structures and MSP design groups that lack a formal decision making structure.

Attaining IOC also is challenged by the dual-employer staffing of MSP design groups. IOC is realized when <u>both</u> employers—the school district and the university—equally and strongly encourage, support, and incentivize their employees to participate in the MSP design group. Employers can facilitate participation by providing MSP design group participants with such resources as release time from regular responsibilities, supplementary pay incentives, training and mentoring support, career advancement opportunities, etc. This implies two hypotheses about the dual-employer impact on IOC:

H_8: *The level of IOC in an MSP design group will be greater, the <u>more resources</u> both employers provide to facilitate employee participation in the MSP design group.*

H_9: *The level of IOC in an MSP design group will be greater, the <u>more even and balanced</u> between the two employers is their allocation of resources for facilitating employee participation in the MSP design group.*

Unionization may vary across the two employers of an MSP design group and thereby influence IOC. Only one of the employers may be unionized. Also, regardless of the number of unionized employers staffing an MSP design group, the history of labor-management relations at a specific unionized work site (school district, university) may be more or less cooperative or conflictual (Cornfield & McCammon 2003; Peterson 1987). What is more, a single union at an MSP site that consists of only one unionized employer can produce cooperation or conflict, and thereby lower IOC by encouraging over- or under-participation of the unionized members compared to the non-union members of an MSP design group. Therefore,

H_{10}: *The level of IOC will be greater in MSP design groups in which neither or both employers are unionized than in MSP design groups in which only one employer is unionized.*

H_{11}: *The level of IOC in an MSP design group will be greater, the more the recent history of labor-management relations at either or both employers is characterized by cooperation rather than conflict.*

H_{12} addresses the impact of "policies to guarantee adequate skills," the second HPWS organizational practice discussed above, on the realization of IOC in MSP design groups. MSP design group members bring their professional expertise to the MSP design table, but they do not necessarily bring expertise in inter-disciplinary team decision making. What is more, status construction theory suggests that prevailing status value beliefs effectively empower white males to dominate small group decision making processes (see H_5 above).

HPWS theory suggests that work skills need to be diffused widely among work team members in order to maximize the participation of work team members in group decision making. This implies that MSP design group members should be trained in participatory group decision making processes prior to the commencement of MSP design. Furthermore, the dual-employer staffing of MSP design groups, and any unevenness in unionization status of the participating employers, argue for the establishment of a joint (between both employers and unions) panel for training MSP design group members in the "art" of participatory group decision making.

H_{12}: *IOC will be greater in MSP design groups that have been trained in participatory group decision making prior to designing an MSP program than MSP design groups that have not received such training.*

$H_{13\text{-}18}$ address the impact of "incentives," the third HPWS organizational practice, on the realization of IOC by MSP design groups. Specifically, the following hypotheses address the impact on IOC of the three types of HPWS incentives, namely, financial incentives (e.g. compensation, release time), intrinsic incentives (e.g. "meaningful" creative work, recognition in the national profession), and treating employees as stakeholders (e.g. career advancement opportunities). In order to motivate MSP design group members to participate, they must be incentivized to participate in a work activity that falls outside of their regular sphere of work activities, and to collaborate with new colleagues with whom they ordinarily would not choose to collaborate. What is more, the dual-employer staffing of MSP design groups suggests that both employers must incentivize their employees to participate in the MSP design group in order for the group to realize IOC.

Regarding the impact of financial incentives on IOC,

H_{13}: The level of IOC in an MSP design group will be greater, the <u>more financial incentives</u> both employers provide to incentivize employee participation in the MSP design group.

H_{14}: The level of IOC in an MSP design group will be greater, the <u>more even and balanced</u> between the two employers is their provision of financial incentives for incentivizing employee participation in the MSP design group.

Turning to the impact of intrinsic incentives on IOC, participating employers can enhance the intrinsic value of MSP design work by maximizing work group responsibility and discretion over the work itself. Participating employers also can provide their employees with resources for disseminating their work in their respective national professions, such as conference travel. This suggests that:

H_{15}: The level of IOC in an MSP design group will be greater, the <u>more intrinsic incentives</u> both employers provide to incentivize employee participation in the MSP design group.

H_{16}: The level of IOC in an MSP design group will be greater, the <u>more even and balanced</u> between the two employers is their provision of intrinsic incentives for incentivizing employee participation in the MSP design group.

Participating employers also can influence the attainment of IOC by treating employees as stakeholders in their employing organizations. As status-anxious strategic actors, the professionals who comprise an MSP design group often seek to ascend the bureaucratic career hierarchy of their respective employers. This suggests that MSP design group participation is responsive to career advancement opportunities employers offer MSP design group members:

H_{17}: The level of IOC in an MSP design group will be greater, the <u>more career advancement opportunities</u> both employers provide to incentivize employee participation in the MSP design group.

H_{18}: The level of IOC in an MSP design group will be greater, the <u>more even and balanced</u> between the two employers is their provision of career advancement opportunities for incentivizing employee participation in the MSP design group.

In sum, H_{6-18} address the impact of a complex formal bureaucratic context on the realization of IOC by MSP design groups. The complexity of the formal bureaucratic context consists of the multiplicity of participating professional occupations, the dual-employer staffing of MSP design groups, variability in the number of labor unions, and the multiplicity of organizational decision making levels at which MSP design occurs. Generally, these hypotheses suggest that the more the formal bureaucratic context of an MSP design group approaches an HPWS, and the more evenly the participating employers and unions enable an MSP design group to operate as an HPWS, the more easily an MSP design group will attain IOC.

Conclusion

Sociologically, the hypotheses suggest that the attainment of IOC by multi-occupation teams of professionals is a synthesis of tension between the informal and formal bureaucratic context in which these teams operate. H_{1-5} suggest that the informal bureaucratic context, especially in socially diverse urban settings, can undermine the realization of IOC if the group is unable to integrate members of socially diverse backgrounds. These hypotheses suggest that socially homogeneous groups are most likely to realize IOC, but at the increased risk of not accomplishing affirmative action objectives and of generating conflicts of interest among group members.

H_{6-18} suggest that high performance work systems are interventions that increase IOC by modifying the formal bureaucratic context in which multi-occupation teams of professionals operate. High performance work systems modify the formal authority structure, division of labor, and reward system of a bureaucratic workplace in ways that increase employee participation and therefore IOC. As such, high performance work systems effectively serve as a formal bureaucratic check on any suboptimal and counterproductive influences of the informal bureaucratic context on the realization of IOC. These hypotheses suggest that instituting formally participatory work groups can integrate and harness the productive capacity of the socially diverse, inter-disciplinary group of professionals who comprise multi-occupation work teams in urban settings.

References

Appelbaum, Eileen, Thomas Bailey, Peter Berg and Arne Kalleberg (2000) *Manufacturing Advantage: Why High-Performance Work Systems Pay Off.* Ithaca: Cornell University Press.

Barley, Stephen (2005) "What We Know (and Mostly Don't Know) about Technical Work." in S. Ackroyd, R. Batt, P. Thompson and P. Tolbert, eds., *The Oxford Handbook of Work & Organization*. Oxford: Oxford University Press. Pp. 376-403

Batt, Rosemary and Virginia Doellgast (2005) "Groups, Teams, and the Division of Labor." in S. Ackroyd, R. Batt, P. Thompson and P. Tolbert, eds., *The Oxford Handbook of Work & Organization*. Oxford: Oxford University Press. Pp. 138-161

Cassirer, Naomi and Barbara Reskin (2000) "High Hopes: Organizational Position, Employment Experiences, and Women's and Men's Promotion Aspirations" *Work and Occupations* 27 (November): 438-463.

Cornfield, Daniel (2005) "Tactics and the Social Context of Social Movement Unionism in the Service Economy" *Labor History* 46 (August): 347-355.

Cornfield, Daniel, and Angela Arzubiaga. 2004. "Immigrants and Education in the U.S. Interior: Integrating and Segmenting Tendencies in Nashville, Tennessee." *Peabody Journal of Education* 79 (2): 157-179.

Cornfield, Daniel, Karen Campbell and Holly McCamon, eds. (2001) *Working in Restructured Workplaces: Challenges and New Directions for the Sociology of Work*. Thousand Oaks: Sage Publications.

Cornfield, Daniel and Holly McCammon, eds. (2003) *Labor Revitalization: Global Perspectives and New Initiatives*. Amsterdam: Elsevier.

Freidson, Eliot (2001) *Professionalism: The Third Logic*. Chicago: University of Chicago Press.

Frenkel, Stephen, Marek Korczynski, Karen Shire, and May Tam (1999) *On the Front Line: Organization of Work in the Information Economy*. Ithaca: Cornell University Press.

Hinings, C.R. (2005) "The Nature of Professional Organizations" in S. Ackroyd, R. Batt, P. Thompson and P. Tolbert, eds., *The Oxford Handbook of Work & Organization*. Oxford: Oxford University Press. Pp. 404-424

Hoff, Timothy. 1999. "The Social Organization of Physician-Managers in a Changing HMO." *Work and Occupations* 26 (August): 324 - 351.

Hodson, Randy. 2001. *Dignity at Work*. New York: Cambridge University Press.

Jackson, Susan, and Marian Ruderman, eds. 1995. *Diversity in Work Teams: Research Paradigms for a Changing Workplace*. Washington, D.C.: American Psychological Association.

Kalleberg, Arne, and Ivar Berg, eds. 2001. *Sourcebook of Labor Markets*. New York: Plenum.

McCall, Leslie. 2005. "Gender, Race, and the Restructuring of Work: Organizational and Institutional Perspectives." Pp. 74-94 in Stephen Ackroyd, Rosemary Batt, Paul Thompson, and Pamela Tolbert, eds., *The Oxford Handbook of Work & Organization*. Oxford: Oxford University Press.

McGuire, Gail. 2000. "Gender, Race, Ethnicity, and Networks: The Factors Affecting the Status of Employees' Network Members." *Work and Occupations* 27 (November): 500-523.

Mueller, Charles, Ashley Finley, Roderick Iverson, and James Price. 1999. "The Effects of Group Racial Composition on Job Satisfaction, Organizational Commitment, and Career Commitment: The Case of Teachers." *Work and Occupations* 1999 26 (May): 187-219.

Osterman, Paul and Diane Burton (2005) "Ports and Ladders: The Nature and Relevance of Internal Labor Markets in a Changing World" in S. Ackroyd, R. Batt, P. Thompson and P. Tolbert, eds., *The Oxford Handbook of Work & Organization*. Oxford: Oxford University Press. Pp. 425-445

Peterson, Kent (1987) "Computerized Instruction, Information Systems, and School Teachers: Labor Relations in Education" in Daniel Cornfield, ed., *Workers, Managers, and Technological Change: Emerging Patterns of Labor Relations*. New York: Plenum Press. Pp. 135-151

Robinson, C., T. Taylor, D. Tomaskovic-Devey, C. Zimmer and M. Irvin (2005) "Studying Race or Ethnic and Sex Segregation at the Establishment Level: Methodological Issues and Substantive Opportunities Using EEO-1 Reports" *Work and Occupations* 32 (February): 5-38.

Ruderman, Marian, Martha Hughes-James and Susan Jackson, eds. (1996) *Selected Research on Work Team Diversity*. Washington, D.C.: American Psychological Association and Greensboro: Center for Creative Leadership.

Ruef, Martin, Howard Aldrich and Nancy Carter (2003) "The Structure of Founding Teams: Homophily, Strong Ties, and Isolation among U.S. Entrepreneurs" *American Sociological Review* 68 (April): 195-222.

Sallaz, Jeffrey (2002) "The House Rules: Autonomy and Interests among Service Workers in the Contemporary Casino Industry" *Work and Occupations* 29 (November): 394-427.

Tang, Joyce (2000) *Doing Engineering: The Career Attainment and Mobility of Caucasian, Black, and Asian-American Engineers*. Lanham: Rowman & Littlefield Publ.

Tang, Joyce and Earl Smith, eds. (1996) *Women and Minorities in American Professions*. Albany: State University of New York Press.

Thomas, Robert (1994) *What Machines Can't Do: Politics and Technology in the Industrial Enterprise*. Berkeley: University of California Press.

Tsui, Anne and Jing-Lih Larry Farh (1997) "Where *Guanxi* Matters: Relational Demography and *Guanxi* in the Chinese Context" *Work and Occupations* 24 (February): 56-79.

Vallas, Steven (2003ª) "Rediscovering the Color Line within Work Organizations: The 'Knitting of Racial Groups' Revisited" *Work and Occupations* 30 (November): 379-400.

Vallas, Steven (2003b) "Why Teamwork Fails: Obstacles to Workplace Change in Four Manufacturing Plants" *American Sociological Review* 68 (April): 223-250.