

# SOCIAL CAPITAL IN HIGH PERFORMANCE WORK ORGANIZATIONS

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*The advocates of "High Performance Work Organizations" (HPWOs)<sup>1</sup> argue that the labor management strategies in the newly developed workplace have promoted team- work and employee participation and thereby enhanced "organizational social capital." This study covers the arguments of both advocates and opponents of HPWOs and attempt to substantiate whether the labor management practices in HPWOs have been an "investment in social capital" or not. Elaborating on the theories HPWOs and social capital, the paper covers two types of flexibilities practiced in HPWOs— functional and numerical. Several hypotheses proposed, reflecting the arguments of both sides that labor management in HPWOs have simultaneously produced opportunities and barriers for the development of social capital. The findings support that HPWOs, both directly and indirectly through functional flexibility, have contributed to the development of two types of social capital—the workplace trust and networking capital. The data, however, do not entirely substantiate the theoretically expected outcomes of numerical flexibility. The strategy of relying on numerical flexibility undermines the development of trust among coworkers while enhances trust in management.*

## Introduction

Social capital has gained the status of a popular concept and a potentially promising theory in the social sciences during the last several decades, from criminology (e.g., May 2008) to national development (e.g., Fukuyama 1995). Fulkerson and Thompson's (2008) study reveals a total of 178, 714 social capital articles published only in sociology journals from 1988 through 2006. Despite its promising popularity, the meaning and the theory of social capital have remained the subject of ongoing debate among experts. For example, two sets of discussion depict the meaning of social capital in most sociological studies, social capital as a *networking resource* and social capital as a *mutual trust* embedded in social or organizational structures. Bourdieu, one of the pioneers of

social capital, defines it as "...the aggregate of the actual or potential resources which are linked... [to] a durable network of more or less institutionalized relationships" and provides the members or the community/organization with collectively owned returns (1983: 248-49). Coleman, another pioneer of social capital, also says social capital "... is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors -whether person or corporate actors- within the structure." (1988: 598). Putnam's definition, on the other hand, puts more emphasis on "collective norms and trusts," culturally embedded in the fabric of a society or social associations (2002). Fukuyama's (1995) assessment is closer to Putnam's definition and puts more emphasis on the "norms of trust and reciprocity" when he explains the higher trust (social capital) in Germany's and Japan's workplaces, causing higher productivity and job satisfaction. Despite their differences, both groups acknowledge social capital as a major *resource*, either as a form of mutual trust or networking, embedded in social structures or in the fabric of voluntary associations and have potential returns for individuals or collectivities. In a social structure or a network, resources can be in different forms, such as physical, cultural, human, or structural capital. Mutual trust and networking are structural resources since their participants take actions to promote their interests by gaining and maintaining the positions within which opportunities for resources are embedded. Social capital may be culturally embedded in social structure or organizational positions. Fukuyama (1995) reported that the higher levels of workplace outcomes in Japan and Germany resulted from their "high-trust" culture. Their high-trust cultures have in turn facilitated their organizational investments in the apprenticeship programs in Germany and "team-oriented" labor management systems in Japan. Social capital can also be developed and invested by social or organizational agents. For example, a government, as a social agent, can enhance social capital by *supporting* voluntary organizations, *enforcing* generalized trust through *encouraging* "social deliberation," and *exercising* transparency and accountability (Herreros 2004). Human resource managers can also invest or enhance social capital in the workplace by providing

structural opportunities for teamwork, participative decision-making, and designing multi-skilled jobs.

Thus, whether one puts more emphasis on cultural or structural sources of social capital, or distinguishes its individual from its collective level, or detects networking social capital from mutual trust, social capital is a major resource embedded or invested in social structures, including workplace organizations, and, like financial and human capital, has positive outcomes for the structural participants (members), that is, employers and employees in this study.

### **High Performance Work Organizations (HPWO)**

Like the paradigm of social capital, HPWO has captured the attention of scholars in sociology, psychology, and economics during the last several decades when workplace restructuring started in response to the perception of “economic man” proposed and practiced in the “scientific management” (Appelbaum, Eileen and R. Batt 1994; Fukuyama 1995).<sup>1</sup> While the new organizations are still a small proportion of the workplace systems in the United States their various forms have significantly expanded during the last decades. According to Osterman (1994), nearly 37% of private organizations with more than fifty workers had adopted the HPWO system for at least fifty percent of their core employees by 1992. Lawler, Mohrman, and Ledford (1992) found that the percentage of all Fortune 1,000 firms’ employees covered by the new work system increased from 20 to 43% between 1987 and 1993. Vallas (1999), reviewing the corresponding literature, concludes that “there seems little doubt concerning the increasing diffusion” of corporate efforts to restructure their workplace organizations.

Literature reviews on the outcomes of HPWO practices reveal mixed results. For example, Godard, dividing the HPWO systems into “lean” and “team” paradigms, made a robust review of the corresponding studies and concluded that the “claims that these systems yield superior performance outcomes may be unwarranted and their implication for both workers and unions are at best uncertain” (2004: 349). This conclusion, to some degree, reflects the *variation* of HPWO practices. Osterman refers to HPWO as “a summary term that stands for the introduction of range of practices, including self-management teams, quality programs, and job

rotation" (2006: 188). Appelbaum and Batt's (1994) study traces the development of various HPWO practices in the United States to the 1970s when the US firms and unions increasingly borrowed the ideas and techniques of HPWO from Japanese lean production and quality control, from Swedish socio-technical self-managed teams, and from Germany's codetermination and training systems. In addition to the variation of HPWO practices and consequently their different outcomes, the advocates of HPWO have mostly focused on the positive outcomes of the new systems while underestimating their disadvantages. For example, Appelbaum, Bailey, Berg, and Kalleberg argue that the core of HPWO is "work organized to permit front-line workers to participate in decisions that alter organizational routines." The purpose of workplace organizational restructuring is "to elicit effort from employees that does not normally result from" traditional Taylorism. The new system motivates "employees to use their imagination, creativity, enthusiasm, and intimate knowledge of their particular jobs for the benefit of the organization" (2000: 42-43).

MacDuffie, following Braverman's (1974) criticism of Taylor's "scientific management" in which a worker's "conception" is separated from his/her "execution," suggests that under the HPWO practices, workers have "conceptual grasp of the production process and their analytical skills to identify the root cause of the problems" (1995: 201). Cappelli (1999) called the new workplace practices the "new deal" in which the flexibility of market-based mechanisms and solutions are mostly substituted for the rigidity of the bureaucratic and hierarchical "scientifically management" workplace. Vallas reviewed three major factors underlying the development of new workplace systems-internationalization of trade, the diffusion of information technology, and the increasing demand for quality goods and services. Under these conditions, the management began "to converge on a new technological paradigm -flexible specialization-which provides a powerful yet flexible engine of growth that is optimally suited to the new economic conditions" (1999: 73). Wright's thesis of "positive class compromise," elaborating upon a neo-Marxist theory, also suggests that the new labor management is no longer a zero-sum game; but are new practices in which "...capitalists have interests in being able to unilaterally control the labor process...and elicit cooperation, initiative, and responsibility

from workers" (2000: 981). Overall, advocates of the HPWO system, mostly focusing on the development of functionally flexible jobs (called, functional flexibility, Kalleberg 2003; Kashefi 2007; Osterman 2000), claim that the new systems fostered the best workplace practices on the grounds that they offer greater cooperation and team work in the workplace, contrasted with individualism inherited from Taylor's "scientific management." They assess the HPWO practices as progress in "democratic capitalist" societies.

### **HPWO and Social Capital**

Previous studies, following the optimistic scenario of the HPWO systems, have mostly focused on functionally flexible jobs and their intrinsic or extrinsic rewards, while the system, at least theoretically, is a major source of social capital. The cooperative nature of functional flexibility is a *resource*, promoting organizational trust and social capital by encouraging the employees to participate in networking and teamwork. The studies covering workplace trust have mostly been on the traditional work organizations, not exclusively on the newly developed HPWO systems. Appelbaum and her colleagues' (2000) work is one of the few studies covering workplace trust in HPWO. Their findings support higher trust among workers of steel and medical companies but lower trust among apparel workers. The focus of their study, however, is on trust and networking within the HPWO system, not networking with outside voluntary associations. Erickson, on the other hand, argues networking with outside associations is "a form of social capital valuable to both employers and employees ...[since] all forms of capital yield returns in the form of greater employee productivity...employers can convert individual social capital into organizational social capital by hiring the individual and mobilizing his or her contacts for organizational goals." Erickson's study, however, is only focused on good network as the measure of social capital among the managerial positions, "since social capital is a job qualification for many higher level jobs, but not for lower level ones (2001: 127). Nichols, Danford, and Tasiran's work focused on "length of services and employment trust" and they found that employees with longer service develop higher trust only if they have "more chance to move into supervisory positions" (2009: 151). Lin, Cook, and Burt (2001) have

authored several articles covering management's role in "social networking" which facilitates organizational access to external resources. Previous studies have mostly ignored the work-to-community spillover effects of practicing functional flexibility on establishing networks with outside associations as a resource. Following the HPWO advocates' arguments, the following section elaborates on the theoretical connections between functional flexibility and social capital and proposes the hypotheses deduced from the optimist viewpoints.

The rationale connecting functional flexibility with social capital in general and the workplace trust in particular comes from different theoretical backgrounds. Following Coleman's (1988, 1990) theory, the HPWO systems have developed a set of *normative* features that lead to collective action in order to deliver mutual benefits for both management and employees. In this view, social capital is the product of functional flexibility within which the norms of trust, reciprocity, and solidarity are deliberately promoted. From Warren's (1990) viewpoint, the cooperative nature of HPWO fosters robust relations of trust and social capital since it affords fewer regulations and greater freedoms, taps the energy and ingenuity of its employees, and limits the efficiencies of rule-based means of cooperation. Fukuyama, more than the other scholars, puts emphasis on the relationship between social capital and trusts with the newly developed workplace organizations. He argues that the HPWO structures "reduce the transaction costs associated with formal coordination mechanisms like contracts, hierarchies, bureaucratic rules, and the like" (2001: 10). For Fukuyama, it is possible to achieve coordinated action among employees and management without social trust, but these would "presumably entail additional costs of monitoring, negotiating, and enforcing formal agreement" (2001:10). He also adds that a "healthy capitalist economy is one in which there will be a sufficient social capital in the underlying society to permit businesses, corporations, networks, and the like to be self-organizing" (1995: 356). Criticizing Taylor's "Scientific management," he says for Taylor, "the average workers was compatible to...a passive, rational, and isolated individual who would respond primarily to the stimulus of narrow self interests...All other human attributes – creativity, initiative, innovativeness, and the like - were the province of a specialist

somewhere else in the enterprise's organization" (1995: 226). The important point in Fukuyama's discussion is the positive work-to-community and community-to-workplace spillover effects between the HPWO practices and the United States society. He adds that the alternative high-trust workplace organizations are growing in the United States since they are culturally more embraced in the United States' "high degree of communal solidarity" (1995: 272). Finally, Hobfoll's (1989) "conservation of resources" theory in social psychology clearly displays the rationale between social capital and the HPWO structure. The HPWO system offers major *resources*, such as management's and coworker's trust, opportunities to participate in decision making, higher autonomy, and learning multiple skills. These resources, in turn, "motivate" workers to develop positive work attitudes, to increase organizational commitment, and to improve their work performance (the employers' gains). "Support or perceived support" of the resources in HPWO is expected to bring higher trust and social capital, which in turn, are associated with higher organizational commitment and productivity. Briefly and following the optimists' scenario, the HPWO structure, both directly and indirectly through functional flexibility, generates resources in the workplace by creating opportunities to learn and execute multiple skills, participate in the decision-making processes, and engage in self-directed teamwork.

*Hypothesis 1: The HPWO structure is expected to display directly a significant and positive coefficient with the measures of social capital, net of the control variables.*

*Hypothesis 2: Management in HPWOs has invested in establishing functional flexible jobs, a significantly positive coefficient between the measure of HPWO and the measure of functionally flexible jobs is expected, net of the control variables.*

*Hypothesis 3: Positive and significant coefficient between functional flexibility and the degree of social capital is expected, either as organizational trust or networking social capital, net of control variables.*

## **The Opponents of HPWO and Social Capital**

Some experts have raised several concerns about HPWO outcomes. For example, Graham's research (1995) noted that teamwork has in fact served as a new control system in the workplace. Barker (1993) called the new arrangement a "concertive control" system for further working-class exploitation. Osterman, analyzing data from 1992 and 1997 surveys of the workplace establishments in the



United States, makes conclusions which are more consistent with the opponents of the HPWO systems— high-performance practices using functionally flexible jobs and team work “have not delivered on the promise of mutual gains...Hence, if anything, this check on the robustness of the results leads to even slightly more pessimistic conclusion” (2000: 177).

Danford and his colleagues studied six manufacturing and service organizations that “adopted a high number” of HPWO practices in the UK and concluded that the HPWO systems “have little impact on employees’ job satisfaction or sense of attachment, it does, however, have a negative impact on both workplace stress and employee evaluations of union performance” (2008:151). White, Hill, McGovern, Mills, and Smeaton, using British employee surveys from 1992 and 2000 to analyze work-life balance in high-performance workplaces, concluded that high-performance practices “have become more strongly related to negative spillover during this period” (2003: 175). Furthermore, some studies have argued and reported both positive and negative outcomes of the HPWO practices. For example, Kashefi (2009) reported both higher job satisfaction *and* job stress as outcomes of functionally flexible jobs in the United States’ HPWO practices. Such mixed results were also reported in several other studies (e.g., Godard 2004; Vidal 2007a; Nichols *et al.*, 2009). Finally and more critically, along with the team and lean or functionally flexible jobs, the HPWO opponents reported a growing employment in “non-standard” jobs to contain the labor costs caused by implementing functional flexibility. This strategy, called “numerical flexibility” (Kalleberg 2000),<sup>2</sup> reflects the employers ability to adjust the size of work organization to the changing economy by using contingent, temporary, part-time, or any other types of non-standard work, contrasted with the full-time regular employees (functionally flexible job-holders) who are categorized under “standard” employees (Smith 2001). The labor unions have been strongly against this strategy since numerical flexibility threatens the workplace resources, especially job security, workplace trust, and job rewards (e.g., Davis-Blake and Uzzi 1993; Olsen and Kalleberg 2004).

Since the early 1970s, when Bluestone (1970) published his “Dual Labor Market” and the subsequent studies of the labor-



market segmentation (Doeringer and Piore 1971; Harrison 1994), the idea of “primary” versus “secondary” labor markets has been a dominant theme in sociology of work and occupations. The primary labor markets offer various job rewards for workers and thus higher social capital for the workplace organizations, while the job-holders in the secondary labor market do not have the same opportunities and rewards. Embracing the numerical flexibility within HPWO has structured a kind of secondary labor market in which a growing number of “contingent” workers have been recruited (Kalleberg, Reskin, and Hudson 2000) and thereby the workplace social capital has been undermined. Davis-Blake and Uzzi note that numerical flexibility is the key factor to understanding the workplace inequality since “it actually increases inequality in distribution of job rewards, which can have many important consequences, including lower productivity and increase conflict inside organizations” (1993:195). The increasing conflicts within the HPWO system is expected to undermine the reciprocity, networking, and eventually the workplace trust among the employees and between them and management too. Smith’s conclusion is also consistent with Davis-Blake and Uzzi’s finding that a “restrictive approach [numerical flexibility]...leads to comparative degrading of labor processes...contrasts sharply with enabling approach: It curtails fixed costs associated with a permanent workforce...deskills the labor process...discourages commitment and attachment, and limits job security by hiring and firing depending on fluctuation in demands.” (1994: 286). Following Hobfoll’s (1989) “conservation of resources” theory, the numerical flexibility is a “threat,” or at least, a “perceived threat” to organizational “resources,” including social capital. Following the rationale behind the numerical flexibility, the following hypotheses are proposed.

*Hypothesis 4: The HPWO structure is expected to display directly a negative or no significant coefficient with the measures of social capital, net of the control variables.*

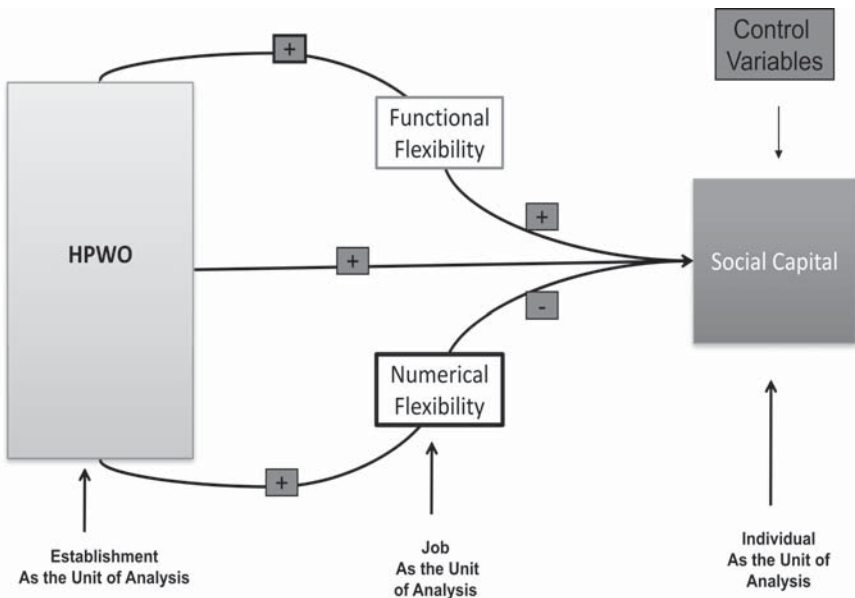
*Hypothesis 5: Management has adopted numerical flexibility and thereby a significantly positive coefficient between the measures of HPWO and the measure of numerical flexibility is expected, net of the control variables.*

*Hypothesis 6: Higher degree of numerical flexibility, in turn, is expected to undermine the development of social capital, a negative and significant coefficient is expected between numerical flexibility and social capital, net of the control variables.*

## Research Design and Methods

Figure 1 displays the six hypotheses developed in previous theoretical discussions. Following the advocates of HPWOs, the labor-management relationships within HPWOs are established based on cooperation and higher trust, and thereby a positive coefficient between the HPWO measure and social capital is *directly* expected. Second, the HPWO structure has fostered both the functional and numerical flexibilities and, thus, positive coefficients between HPWO and their measures of these flexibilities are awaited. Finally, functional flexibility was identified as an organizational resource, producing higher social capital, including workplace trust (positive coefficient) while numerical flexibility undermines the organizational trust and is dysfunctional for the development of social capital (negative coefficient). To estimate the theoretically established coefficients, multiple regression equations and structural path analyses have been conducted, since the assumptions to apply these techniques have been met.<sup>3</sup>

**Figure 1: High Performance Work Organizations (HPWO) and Social Capital**



## Data and Unit of Analysis

General Social Survey data (GSS 2002), reflecting the employees' assessment of HPWOs, is chosen as an appropriate data source. The data include both the dependent and explanatory variables needed to measure the concepts related to the hypotheses. The 2002 GSS is a representative sample of 2765 valid cases, between 18 and 89 years of age, from the US. For more information on GSS data, which is a multi-topic survey conducted almost annually by the National Opinion Research Center (NORC), see Davis and Smith (1992).<sup>4</sup> The 2006 GSS survey was specifically focused on the characteristics of the workplace and contain many questions measuring the workers' assessment of their workplace.

Some experts suggest using National Organizations Surveys (NOS) data to analyze the outcomes of HPWOs since they consider an establishment as the appropriate unit of analysis (e.g., Kalleberg *et al.*, 2006; Olsen and Kalleberg 2004). Indeed, an establishment is the appropriate unit when one intends to measure, for example, the degree of implemented functional or numerical flexibilities within a HPWO system. An establishment as the unit of analysis, in fact, reflects the *employers'* viewpoints while undermining the research designed to explore the *workers'* assessment of the situation. Other studies have used the workers' views in HPWOs (an employee as unit of analysis). For example, Godard (2001), using an employee's view of HPWO, notes previous studies have shown little interest in possible implications of HPWOs for workers. The outcomes of HPWO assessed by employers do not necessarily reflect the perception and assessment of their employees. Davis-Blake and Uzzi (1993) used both job and organization as the unit of analysis to contrast the purpose of using temporary and independent contractors. White *et al.* (2003) also used "employed and self-employed British workers" as the unit of their analysis to explore the effects of HPWO on "work-life balance." Kashefi (2007) argues that identification of an appropriate unit of analysis depends on the goals of a study; an individual, an establishment, or a network can all be a useful unit of analysis, depending on the purpose of a study. For example, a firm can be an appropriate unit of analysis when one attempts to analyze the strategy of an organization on recruiting standard versus non-standard employees. Network, as Kalleberg (2001) suggested, can also be an appropriate unit of analysis if the

purpose of a study is to understand the structure and dynamics of workplace flexibility. This study is designed to analyze the degree of social capital, including the *employees' trust* in coworkers and management, as well as their networking capital. While the unit of analysis for the dependent variable is an employee, the units of analyses for the explanatory variables should be an "establishment" for HPWO and a "job" for measuring the job characteristics for functional and for numerical flexibility.

The unit of analysis in GSS 2002 is a worker and his/her job. Therefore, the respondent's assessments of the HPWO characteristics are used to measure the explanatory variables. Such a reduction in the unit of analysis from an establishment (an employer's view) to a worker's view has often been done and justified by many scholars (see, for example, Godard, 2001; Kashefi, 2007; White *et al.*, 2003). It is the perception of the workplace opportunity, rather than the workplace itself, that affects workers' attitudes and behaviors (Hall, 1994).<sup>5</sup>

### *Definitions and Measurements*

Following Lin's general definition, social capital is an "*investment in social relations with expected return*" (2001: 6; emphasis original). Therefore, managements make investment in the HPWO structure to make higher returns (profits, employee satisfaction, productivity, etc.), and workers participate in the system in order to have their own higher returns, such as higher income, more job satisfaction, and higher empowerment. Social capital in the HPWO system is comprised of two types of resources, the workplace trust and active networking. A broad-ranging review of the studies on trust by Korczynski defined trust "as the confidence that the other party to an exchange will not exploit one's vulnerabilities" (2000: 2). Applying this definition to the workplace, trust is the attitudes of workers toward their coworkers and/or toward their managers. Network capital, on the other hand, can be either internal or external network (Burt 2001). By internal network, sometimes called closed network, the emphasis is on the internal cohesion among the HPWO employees, while the external or open network contains ties and activities with outside associations. The internal network reflects the degree of functional flexibility and is used as a measure of doing team work and cooperation in high-performance

workplaces (Appelbaum *et al.*, 2000). On the other hand, engagement in internal or closed network may have spillover effects and make the HPWO members as active participants in external or open networks. The definition of “network capital” in this study is the degree of involvement in an external network; this is viewed as the work-community spillover effect of working in the HPWO systems which can be transformed into workplace resources.

Appendix 1 reveals the questions which have been applied to measure all the dependent and explanatory variables. The GSS 2002 data contain several questions that directly tap the workers’ assessment of social capital, including workplace trust and networking capital. Workplace trust was operationalized by combining the measures of “trust in management” and “trust in coworkers,” by five theoretically related variables after conducting an exploratory factor analysis with oblique rotation (see Appendix 1 for the variables and their Cronbach alphas). Following the definition of networking capital, it is measured by the degrees of involvement in activities outside of the workplace. The measure is the average of combined degree of participation in the following voluntary associations: political parties, churches, sport groups, charity organizations, trade unions, neighborhood, and other associations (Appendix 1). Finally, to operationalize the overall social capital, the measures of workplace trust and networking capital are combined. All the variables were recoded in a way that the higher code reflects higher degree of social capital.

To measure the explanatory variables, the workers’ assessment of the HPWO characteristics have been observed. The HPWO structure was preferably measured by degrees of several variables since different organizations have adopted different degrees of the HPWO characteristics. Kalleberg (2003) notes that 36% of US establishments have adopted HPWO labor-management using two or more criteria of functional flexibility (such as team work, multi-skilling and so on) whereas about half of the US establishments have adopted HPWO using at least one criterion of functional flexibility. Therefore, the structure of HPWO is measured by the *degree* of HPWO characteristics adopted in the workplace organizations. Unlike the “scientifically” organized workplace, the HPWO systems are identified with “cooperation” between

management and employees on one hand and among the workers themselves on the other. Therefore, ten questions measuring the relationship between management and employees were selected and subjected to an exploratory factor analysis with oblique rotation. Five questions, such as "management and employees work together," "relations between management and employees," etc., (see Appendix 1) showing the highest loadings ( $\alpha \leq 0.65$ ) were selected and recoded in a way that the highest value show the highest cooperation between management and employees.

GSS 2002 also contains several questions that tap the workers assessment of the three components of functional flexibility—multi-skilling, team work, and participative decision making. After a careful examination of the questions measuring these three constructs, ten items were selected and subjected to another exploratory factor analysis. Four items, reflecting job opportunity for doing multi-skills, exhibited high loadings ( $\alpha \geq 0.714$ ) on what was theoretically referred to as "multiple skill opportunity" factor. Three items, showing the job opportunity for decision-making, indicated high loadings ( $\alpha \geq 0.868$ ) on what was theoretically labeled the "decision-making opportunity" factor. And the last three items, reflecting the opportunity in doing team work, showed high loadings ( $\alpha \geq 0.677$ ) on what was theoretically identified as the "team work opportunity" factor. The measures of these three constructs are combined to measure the overall "functional flexibility."

Finally, GSS 2002 contains one question that directly measures the numerical flexibility, the proportion of various contingent/non-standard workers. Non-standard workers were measured by the title of respondents' jobs (a nominal variable). The item taps into work arrangements at one's main job, which contains the following groups: "Independent contractor/ consultant/ freelance worker" (13.8%); "on-call workers" who work only when they are called (2.3%); "paid by temporary agency" (0.8%); "work for contractor who provides workers/ services" (2.4 percent); and "regular, permanent employees" (11.7% part-time, 68.5% full-time, and a total of 80.2%). This measure is consistent with the Current Population Survey's (CPS) measure of contingent or non-standard jobs. The answers have been regrouped into two categories – non-standard workers (combination of the first four categories plus part

time regular employment, code=1) and standard workers (the last category minus the part-time regular employees, code=0). Non-standard jobs are also occasionally divided into a few categories (independent contractors and the other non-standard job-holders) to reveal *within*-group variation and compare them with standard jobs. The latter is done based on the argument that independent contractors, because of their self-determined work pace and autonomy (Rebitzer, 1995), are growing faster than the other arrangements among professional and semi-professional jobs.

In addition to the explanatory variables, three variables were included in the analyses to control for aspects of individual characteristics that could affect the variation of social capital, the respondents' education, income, and age. Previous studies on social capital (trust) reveal a curvilinear correlation between age and trust for management (Nichols *et al.*, 2009). Networking social capital more likely happens among people with similar socio-economic characteristics (Lin 2001). Thus, the respondents' income was included to control for the effect of their socio-economic status. Finally, education as the measure of human capital, is to be controlled, since higher human capital displays higher workplace positions with possible higher resources (Erickson 2001)<sup>6</sup>.

## Findings

Table 1 reveals the zero-order correlations between the measures of social capital and its components with different measures of HPWO. This *preliminary* data analysis indicates that both the measures of HPWO and the functional flexibility have significant and positive correlations with the measures of social capital. Consistent with the expectation of the proponent of HPWO, the findings suggest that the structure of HPWO has directly and indirectly, through the development of functionally flexible jobs, significantly increased social capital, either organizational trust or networking capital. However and unexpectedly, the numerical flexibility also exhibits positive correlations with the measures of social capital, suggesting that both types of workplace flexibilities have contributed to the development of social capital. The zero-order correlations, however, are only preliminary analyses and do not control for the effects of the other variables. Therefore, further statistical analyses are imperative and may reveal different results.



Table 1  
Zero-order Correlation Matrix: HPWO and Social Capital

Y1	Y2	Y3	Y4	Y5	X1	X2	X3	X4	X5	X6
Y1	1									
Y2	0.828***	1								
Y3	0.625***	0.080**	1							
Y4	0.753***	0.897***	0.077**	1						
Y5	0.408***	0.404***	0.153***	0.416***	1					
X1	0.565***	0.666***	0.101***	0.740***	0.515***	1				
X2	0.432	0.391***	0.195***	0.385***	0.385***	0.457***	1			
X3	+ 0.131***	+0.171***	+ 0.008	+ 0.192***	+0.081***	+ 0.172***	+ 0.024	1		
X4	0.309***	0.275***	0.168***	0.266***	0.262***	0.354***	0.752***	- 0.003	1	
X5	0.216***	0.193***	0.119***	0.183***	0.272***	0.262***	0.696***	0.139***	0.293***	1
X6	0.424***	0.379***	0.143***	0.376***	0.304***	0.381***	0.738***	-0.143***	0.367***	0.229***
Mean	8.743	6.947	1.789	3.027	3.340	15.305	22.89	0.64	9.47	6.48
S.D.	1.197	0.975	0.678	0.841	0.652	3.195	4.700	0.480	2.083	2.168
N	741	1737	1140	1765	1749	1730	1752	1879	1770	1773
										1761

\* P-value <0.05

\*\* P-value <0.01

\*\*\* P-value <0.001

Y1= Total Social Capital

Y2= Organizational Trust

Y3= Networking Social Capital

Y4= Trust on Management

Y5= Trust in Co-Workers

X1= Measure of HPWO

X2= Internal Flexibility

X3= External Flexibility

X4= Multi-skilling

X5= Team Work

X6= Participation in Decision Making

Table 2 reveals the coefficients of the explanatory and control variables on the combined measure of social capital, as well as on its two components, the workplace trust and the networking capital. The findings in Table 2 are displayed in Figure 2 as well. First, as suggested by the HPWO advocates, the HPWO system has significantly enhanced (+0.462\*\*\*) functionally flexible jobs which, in turn, increased (+0.208\*\*\*) the level of social capital. Second, HPWO displays a direct and significant association (+0.467\*\*\*) with the measure of social capital, suggesting that "High Performance Work Organizations" not only promote social capital indirectly, through functional flexibility, but also it is, in fact, a significant source of social capital. Furthermore, the positive and significant coefficient of HPWO (+0.151\*\*\*) with numerical flexibility suggests that the HPWO systems have simultaneously adopted numerical flexibility, that is, relying on recruiting non-standard employees as well. The directions of the coefficients and their significance are consistent with the expectation of the HPWO opponents and substantiate their hypothesis. However, and unlike the theoretical expectation of the HPWO opponents, the coefficient between the numerical flexibility and social capital (-0.015) is not significant, suggesting that the numerical flexibility is not a significant factor on the development of social capital. To explore and justify this unexpected coefficient, further regression analyses are separately conducted for the two components of social capital, i.e., the workplace trust and the networking capital; the second and third columns in Table 2 display the results.

Column 2 shows the coefficients of the same explanatory and control variables on the workplace trust. HPWO directly (+0.601\*\*\*) and indirectly, through the functional flexibility (+0.122\*\*\*), increases the levels of the workplace trust, since the cooperative structure of HPWO demands trust and reciprocity not only among the coworkers but also between workers and management. However, the indirect effect of HPWO on workplace trust, through the numerical flexibility, is not in the expected direction (+0.045\*). The positive coefficient suggests that, unlike the expectation of the HPWO opponents, nonstandard workers have also contributed to the level of workplace trust. Furthermore, column 3 in Table 2 displays the coefficients of the same explanatory and control variables on networking capital. The feature of the column is again

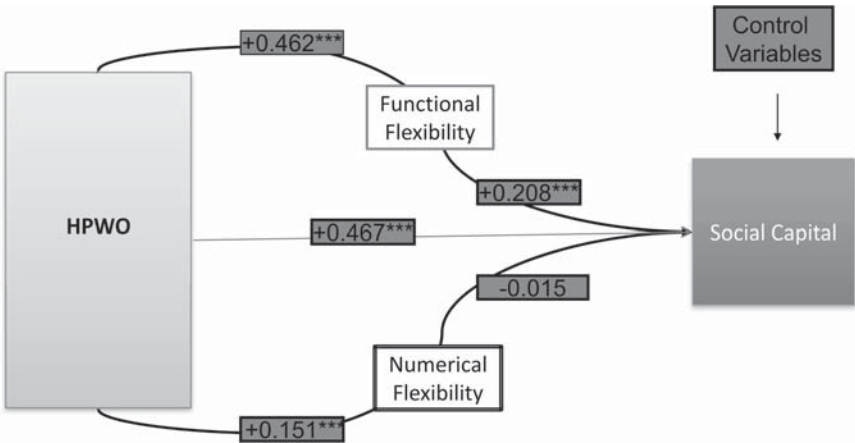
**Table 2**  
**Direct & Indirect Effects (β) of HPWO on Social Capital**

	Y1	Y2	Y3
Direct Effect	+0.467***	+0.601***	+0.035
Indirect Effects:			
Internal Flexibility	+0.208***	+0.122***	+0.157***
External Flexibility	- 0.015	+0.045*	-0.030
Control Variables:			
Education	+0.130***	+0.007	+0.224***
Income	- 0.059	- 0.029	- 0.038
Age	+0.093**	+0.010	+0.099**
R-Squared	0.399***	0.459***	0.107***
N	670	1549	674

\* = P-value <0.05  
\*\* = P-value <0.01  
\*\*\* = P-value <0.001

Y1 = Total Social Capital  
Y2 = Organizational Trust  
Y3 = Net-Working Social Capital

**Figure 2: High Performance Work Organizations (HPWO) and Social Capital**



a non-significant direct effect of HPWO (+0.035) on networking capital, suggesting that the involvement of employees in voluntary associations (networking) are not directly the result of the HPWO structure; rather, it is basically the product of the functional flexibility adopted within HPWO. The findings in the second and

the third columns are not consistent with the proposition of the numerical flexibility. Further and detailed analyses of workplace trust and its components, that is, trust in management and trust in co-workers, may explain the unexpected positive coefficient between the numerical flexibility and social capital.

Table 3 has three columns; the first displays the same coefficients already discussed for the workplace trust, but the other two reveal the coefficients for trust in managements and trust in coworkers. First, in the second column, all three coefficients, the direct effect of HPWO (+0.700\*\*), the effect of functional flexibility (+0.070\*\*), and the effect of numerical flexibility (+0.043\*) on trust in management are significant and positive, confirming the previous discussion and the unexpected coefficient between numerical flexibility and social capital. However, the same coefficients for “trust in coworkers” are not exactly the same. The coefficient for numerical flexibility turns out to be significant but negative (-0.064\*\*), which is consistent with the theoretical expectation. These two conflicting effects of numerical flexibility on workplace trust, the positive effect of trust in management and the negative one on trust in coworkers, resolve the unexpected non-significant coefficient between numerical flexibility and the overall

**Table 3**  
**Direct & Indirect Effects (β) of HPWO on Organizational Trust**

	Y2	Y4	Y5
Direct Effect	+0.601***	+0.700***	+0.418***
Indirect Effects:			
Internal Flexibility	+0.122***	+0.070***	+0.222***
External Flexibility	+0.045*	+0.043*	-0.064**
Control Variables:			
Education	+0.007	+0.013	+0.011
Income	- 0.029	- 0.036*	- 0.093***
Age	+0.010	+0.016	+0.060**
R-Squared	0.459***	0.559***	0.310***
N	1549	1559	1554

\* = P-value <0.05

\*\* = P-value <0.01

\*\*\* = P-value <0.001

Y2 = Organizational Trust

Y4 = Trust in Management

Y5 = Trust in Co-workers

measure of social capital. The numerical flexibility, while increasing the trust level between management and non-standard workers has significantly decreased the level of trust among the coworkers as well, consequently the aggregated effects on the overall measure of social capital becomes statistically nonsignificant.<sup>7</sup>

## Conclusion

The frontiers of social capital cast it as one of the most important elements of "efficient functioning of modern economy." It constitutes the major "resource" for modern workplace organizations. As Fukuyama (2001) reported, social capital reduces the costs associated with official control mechanisms embedded in workplace hierarchies and bureaucratic rules. This paper covered the arguments of the workplace experts who assert or deny that the newly developed workplace organizations (HPWO) are major resources, including social capital for the employers and employees. The advocates of the new workplace systems argue that labor management in modern economy has realized that the old systems, structures based on the principles of "scientific management," no longer are efficient within the globalized economy. Studying the characteristics of new workplaces in other countries, such as "quality control" in Japan and "team work" in Sweden, some labor managers in the United States have initiated restructuring their workplace organizations in a way that values "good relationships among the workers and between them and management" as a resource which ultimately leads to a higher productivity and better outcomes for both employers and employees. The opponents challenge the new systems and highlight their negative outcomes, including numerical flexibility, the strategy of recruiting contingent employees which undermines the interests of employees. They argue that while the functional flexibility encourages teamwork, multi-skilling, and participative decision-making opportunities for standard workers, which in turn elevate social capital, the numerical flexibility, on the other hand, undermines social capital by putting more emphasis on recruiting non-standard employees whose organizational commitment are discouraged.

The findings have substantiated the following propositions: The HPWO structure directly has significant and positive effects on

the development of social capital, both organizational trusts and the networking capital. Second, the HPWO systems have significant and positive coefficients with the measures of functional flexibility and the numerical flexibility, that is, more emphasis on functional flexibility and recruiting more non-standard employees as well. Third, the findings substantiated that higher functional flexibility produces higher social capital, both organizational trust and networking capital, suggesting that the cooperative structure of HPWO has significantly increased trust among workers and between them and management. Fourth, unlike the theoretical expectation, the numerical flexibility does not display a significant and negative coefficient with social capital. Further analysis of the latter relationship shows a few interesting points. The contingent or nonstandard employees display significantly more trust in their management but significantly lower trust in their coworkers when they are contrasted with the standard employees. The finding supports Davis-Blake and Uzzi's (1993) point that numerical flexibility has undesirable outcomes, including conflicts and lack of trust among the coworkers. Finally, the higher trust of non-standard employees in management is basically attributed to the independent contractors, not to all non-standard employees. The independent contractors, unlike the other non-standard employees, have autonomous jobs with their own managerial authority (Kashefi 2007). Overall, the findings have substantiated the theoretical discussions with a few exceptions. Unlike the theoretical expectation, "non-standard" jobs at the aggregated level do not necessarily undermine social capital. Among the non-standard jobs, independent contractors, like the other "non-standard" jobs, undermine trust among coworkers, but unlike the other "non-standard" jobs, enhance the trust in management. The finding suggests that classification of some occupations as "non-standard" under the "numerically flexible jobs" and contrasting them with standard jobs under the title of "functionally flexible jobs" needs to be refined probably to three or more categories.

The implications of the findings for policy makers who are in charge of labor management are significant too. Adopting the numerical flexibility and recruiting more non-standard workers may be economically functional, especially during economic hardship. However, "saving financial capital" may "cost social

capital," especially trust among the coworkers, which is a major organizational resource. Following the logic of "conservation of the resources" theory (Hobfoll 1989), "saving financial capital" can become a "threat to organizational resources," and dysfunctional for organizational efficiency and productivity.

The final point refers to the limitations of the paper which are mainly associated with the source of data and how to transform the external networking capital into workplace resources. A sample in which the unit of analysis for the dependent variable is an employee but the unit of analysis for the HPWO is an organization would provide stronger and maybe different results. Second, a larger sample which allows for including more control variables, including industries and occupations would perhaps make our findings more robust and reliable. Thus, the generalization from the findings of this research must be made with significant caution. Furthermore, future research projects may expand the definition and measure of external networking capital to include what Lin and Erickson called "name generators, not just being members of voluntary associations, but asking the respondents to name people whom "they feel closest to," "the people with whom they discuss important points," and "the people they call on for important kind of social support." These people can be "potential resources" for the workplace organizations (2008: 11). Finally, and related to the latter point, the paper only measured the spillover effect of HPWO on being active in community and voluntary associations, but did not cover how membership in these types of voluntary associations can be transformed into "resources" of the HPWO systems which socialized their employees to be more active in communal activities.

### *Notes*

1. High Performance Workplace Organization (HPWO) has been analyzed under different names. For example, "Lean and Mean" workplace relations (Harrison 1994); "High Performance Paradigm" (Godard, 2001 and 2004); "Employee Involvement," "Worker Empowerment," and "Lean Production" (Vidal, 2007), etc.
2. Numerical flexibility has been labeled with other names too; for example, "alternative jobs" (CPS Supplement 1995-2001), "bad jobs" (Kalleberg, Reskin, and Hudson (2000), etc.
3. To use path analysis, the residuals should display low correlations with the independent variables. This assumption is confirmed. The Tolerance statistics



for the independent variables were lower than 0.40, indicating no multicollinearity (Allison, 1999).

4. For other information, such as the sampling techniques, definitions of the variables, and the coding system, see: [www.norc.org/GSS+Website](http://www.norc.org/GSS+Website).
5. National Organizational Survey (NOS) does not include any question measuring the degree of social capital, but does include questions that measure HPWO and functional flexibility. Only for the sake of comparing a few coefficients using both GSS 2002 and NOS 2002 data, a few regression coefficients have been calculated. The results are very consistent. The coefficient between HPWO and the functional flexibility using NOS data is 0.222\*\*\* while the same coefficient comes to 0.208\*\*\* when we use the GSS data, net of the control variables.
6. Other control variables such as industry and occupation have been included in previous studies and may affect the degree of social capital. Because of the sample size limitation, we did not include further control variables.
7. Further analysis has been conducted to explore why the coefficient between the numerical flexibility and the "networking capital" in Table 3, column 3, is not significant (-0.030). The non-standard employees have been divided into two groups (independent contractors and the other non-standard employees), then contrasted with the standard employees. The findings show that the average measure of networking capital for the independent contractors (1.88) is higher than both the standard (1.81) and the other non-standard employees (1.70). The average measure of the combined social capital also displays the same result (9.30 versus 8.67 and 8.62). The findings are not unusual when one looks at the nature of independent contractors' jobs. Despite having "non-standard" job titles, independent contractors are not employees in traditional terms; they are self-employed workers enjoying their jobs and participating in networking activities (e.g., Rebitzer 1995). The United States Census reveals that 83.4% of them prefer their jobs, contrasted with 44.5% for the other job categories (US Census, CPS 2001). The labor market in Silicon Valley also displays a growing number of highly educated employees who prefer their work as independent contractors (DiTomaso 2001).

## *Appendix 1*

### **Dependent variables: Social Capital**

- I. Organizational trust: (Recoded: 1= the lowest, 5 = the highest)
  - Trust in Management: (Cronbach  $\alpha \geq 0.608$ )
    1. Trust in management
    2. Relationship between management and employees
    3. R [respondent] proud to work for employer
  - Trust in Coworkers: ( $\alpha \geq 0.639$ )
    1. Coworkers can be relied on when R [Respondent] needs help
    2. Coworkers take a personal interest in R.

- II. Networking Social capital: ( $\alpha \geq 0.530$ )
    - 1. Participated in activity of political party
    - 2. Participated in activity of trade unions
    - 3. Participated in activity of church, past 12 months
    - 4. Participated in activity of sports groups, past 12 months
    - 5. Participated in charitable organizations, past 12 months
    - 6. Participated in neighbors associations, past 12 months
    - 7. Participated in other associations, past 12 months
  - III. Overall measure of social capital= (part I + part II)
- Explanatory variables:** (Variables recoded: 1= the lowest, 5 = the highest)
- I. High Performance Work Organization (combination of 4 variables:  $\alpha \geq 0.712$ )
    - 1. Management and workers work together.
    - 2. Work condition allows productivity
    - 3. Workplace run smooth manner
    - 4. Relationship between management.
  - II. Functional flexibility (combination of the following three flexibilities)
    - 1. Task-flexibility (combination of 4 variables:  $\alpha \geq 0.714$ )
      - Job requires R to learn new things.
      - R does numerous things on job
      - Job allows R use of skills
      - Opportunity to develop my ability
    - 2. Team flexibility (combination of 3 variables :  $\alpha \geq 0.677$ )
      - R works part of team
      - How often R take part in decisions
      - How often R set way things done
    - 3. Decision flexibility (combination of 3 variables:  $\alpha \geq 0.868$ )
      - How often R allows change schedule
      - R has a lot to say in job
      - A lot of freedom to decide how to do job
  - III Numerical flexibility: One variable: Work arrangement.
    - 1. Full-time regular standard work (code=1)
    - 2. All other contingent categories (code=0)

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