

THE EFFECTS OF CORPORATE RESTRUCTURING ON WORKERS' HEALTH IN KOREA*

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Considering that Korean society was recently forced to adapt IMF-led adjustment structuring programs, and to implement corporate restructuring, this paper explores the relationships between corporate restructuring, job insecurity, and changes in workers' health in Korea. This study finds that corporate restructuring significantly increased workers' job insecurity, cigarette smoking and alcohol consumption, and consequently deteriorated their physical and psychological health. However, variables specified in corporate restructuring are not robust in explaining the workers' different health behavior and health outcomes. Meanwhile, job insecurity consistently has a significant effect on workers' health behavior and health states. From these findings, I conclude that corporate restructuring indirectly has a significant effect on workers' health via ensuing job insecurity. Finally, this study considers a few alternative policies, such as a corporate restructuring strategy and a government welfare policy that can protect socially disadvantaged workers.

INTRODUCTION

To escape its financial crisis in 1997, the Korean government was forced to ask the IMF for emergency assistance, and to adopt its structural adjustment programs with the IMF-led bailout fund. The IMF-led programs were welcomed at first. It was recognized that they would contribute to eliminating Korean economic problems such as the political-business nexus, the state's excessive intervention in financial management, dishonesty and corruption, and moral hazard of the corporation. These programs were also needed to increase labor productivity and the transparency of corporate management. However, it has been recently evaluated that corporate reforms were not successful due to the avoidance or delay of the *chaebols*, Korean conglomerates, and to careless government supervision (Chang, 2001). That is, with the institutionalization of the personnel shake-up system, the corporation began to strengthen numerical labor flexibility. Workers who were excluded from the corporate restructuring process had to hold themselves liable for the cost of this process. Given this critical transformation of working conditions after the Korean financial crisis, the daily lives of the workers have

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deteriorated considerably (Kim and Park, 2001; Park Dong, 2001; Park J., 2001; Lee Jieyeon, 2001).

As corporate neo liberal restructuring primarily focused on institutionalizing personnel shake-ups, such as massive lay-offs and honorary retirement of workers, it resulted in unprecedented unemployment and job insecurity. Before the 1997 Korean financial crisis, Korean society maintained more or less full employment, with an unemployment rate of approximately 2 to 4%. However, corporate neo liberal structuring and corporate bankruptcy dramatically increased unemployment. The unemployment rate continued to climb after the Korean financial crisis, and reached a new high (8.4 %) in early 1999. Thereafter, it declined to 3.53% in the second quarter of 2001 (Korean National Statistical Office, 2001).

Although the Korean government officially announced that the unemployment rate had dramatically reduced, serious problems remained. Corporate personnel shake-ups and ensuing job insecurity are critically affecting workers and their family members (Chung K., 2000; Lim, 2000; Park J., 2001). For example, those who were fired in corporate restructuring have to be employed in atypical jobs, or become discouraged workers who resign themselves to seek work under the serious depression of the Korean labor market (Park, 2002). On the other hand, the workers who survived the corporate neo liberal restructuring experienced an increase in numerical labor flexibility and lost the existing belief in the 'guarantee of retirement age.' Given these altered conditions, workers were suffering heavily from the anxiety of job loss. According to empirical studies, the workers' pains and stresses were never slight, as compared with those of the unemployed (Cobb and Casl, 1977; Depolo and Sarchielli, 1986; McLeod and Kessler, 1990; Vosler, 1996).

As unemployment has a significant effect on the physical and socio-psychological health of workers, there have been many studies on unemployed workers' pains. According to these studies, unemployment contributed to various diseases among the unemployed, and also weakened their social networks (Brenner, 1987; Brenner and Levi, 1987; Frese and Mohr, 1988; Hall and Johnson, 1988; Karasek, 1991). Similarly, according to recent studies on the unemployed in Korea, their mental health has consistently deteriorated, as compared with before the financial crisis (Lee Mee-sook, 1998; Ham, 1999; Chung K., 2000; Lim, 2000).

Although there are many empirical studies on the relationship between the unemployed and their health, it is difficult to find research on the physical and psychological health issues of workers who survived corporate restructuring. In this context, this study examines whether there are any dif-

ferences in the physical and psychological health of the workers in terms of their experiences of corporate restructuring and the ensuing job insecurity. The purposes of this study are 1) to examine the extent to which workers have experienced numerical labor flexibility and labor intensification, and ensuing job insecurity; 2) to determine the extent to which there are significant changes in workers' physical and psychological health; and 3) to consider alternative policies for the workers' health.

CORPORATE NEOLIBERAL STRUCTURING AND HEALTH ISSUES

Economic Crisis and Neoliberalism

Korean society achieved unprecedented economic development and socio-political advancement by virtue of export-industrialization, which was driven by its developmental state from the 1960s to the 1980s. This compressed growth of the Korean economy has resulted in the rapid growth of the *chaebols* and civil society. However, the *chaebols* and civil society rejected the violence and coercion of the authoritarian developmental state, and demanded its transformation into a free market economy. The compressed growth of the Korean economy has also included many vulnerable structures, such as a political-business nexus, the state's excessive intervention in financial institutes, dishonesty and corruption, and moral hazard (Board of Audit and Inspection of Korea, 1998). Given this critical situation, the core countries began to shift their foreign policy principles from a political ideology alliance to 'economic interests' pursuit, and exerted pressure on Korea to open its domestic market. However, Korean society did not appropriately understand the nature of globalization or internationalization, as driven by the core countries and the transnational capital. Instead, it hastened its transition to a neoliberal economic system and to financial liberalization in order to draw foreign capital (Park, 1998). As a result, Korean financial and capital markets were rapidly transformed into the capital market system from the state's control of the financial system. This transition not only weakened the supervision and control capability of the state on the financial system, but also resulted in drawing large foreign capital and leading to the over- or duplicate investment of the *chaebols* (Park, 1998; Lee Byung-chun, 2001).

Unfortunately, the introduction of large foreign capital aggravated Korea's current account deficits by accelerating internal consumption, over-devaluation and trade deficits (Lee Y., 1998; Choi, 1999). In addition, because most foreign capital was short-term speculative capital rather than long-term investment capital, it led to the pressure of short-term over-deval-

uation and to the bubble economy. Thailand's financial crisis accelerated the withdrawal of short-term foreign capital from Korea, and the Korean foreign exchange market was paralyzed. The Korean government reluctantly asked the IMF for emergency assistance. In return for the IMF-led bailout fund, IMF and the United States forced the Korean government to adopt IMF structural programs that were intended to transform the Korean economy into a free market or neoliberal regime (Cho, 1999; Chung J., 2000).

The IMF structural adjustment programs, based on neo-liberal economic reforms, restricted the reform strategy and choices of the Korean government. These programs include higher interests, tight monetary policy, government's welfare expenditure cuts, the end of price controls, the liberalization of trade and foreign exchange, and privatization of public enterprises. They eventually aim at restructuring state-capital-labor relations, and particularly corporate restructuring, by institutionalizing labor market flexibility. Before the financial crisis, the transnational capital believed that the Korean labor market was inflexible, and that this was a strong factor blocking access to the Korean market. Therefore, in return for the IMF-led bailout fund, the Korean government had to adopt measures granting easier access to financial and capital markets, relieving the M&A regulations, and strengthening the transparency of Korean *chaebols'* management.

Corporate Restructuring and Workers' Health

Given the IMF-led structural adjustment programs, the Korean government set up the reform plan for four sectors (finance, corporate, public, and labor). In order to successfully implement the reform programs, the government hastily organized the 'labor-business-government committee,' and took out the tripartite agreements, described in the 'labor-business-government committee co-declaration' of February 6, 1998. The tripartite agreements include 1) corporations' obligation to pursue active structural adjustment, reform managerial practices, and avoid indiscreet lay-offs and unfair labor practices, 2) labor unions' obligation to cooperate with corporations in improving productivity, and under urgent managerial circumstances, adjusting wages and working hours, and 3) the cooperation among labor, corporations, and the government to create an attractive environment for foreign capital (Labor-Business-Government Committee, 1998).

At first, labor unions strongly resisted accepting personnel shake-ups (or lay-offs). In the tripartite agreements, however, they finally accepted the plan for these lay-offs, as the latter was already stated as an indispensable condition for the IMF-led bailout fund. When personnel shake-ups were institutionalized in 1998, the *chaebols* began to strengthen the numerical flex-

ibility of the labor market through managerial control of lay-offs and employment, working hours, and wages. In particular, the *chaebols* not only enforced a unilateral structural adjustment of lay-offs, but also continued with unfair labor practices. In the structural adjustment of the financial sector, for example, the government and employers discharged about 23% of total employees in lay-offs (Park Dong, 2001). These massive lay-offs also occurred in the structural adjustment of private corporations and public enterprise sectors (Rhee and Park, 2000; Lee Jong-sun, 2001). In return for the introduction of personnel shake-ups, labor unions strongly demanded *chaebol* reforms and managerial transparency, guarantee of labor rights, and stabilization measures for workers' employment and living. They succeeded in including these in the tripartite agreements. The Kim Daejung government also set up the five basic reform subjects (corporate managerial transparency, prohibition of mutual payment guarantee, improvement of corporate financial structures, establishment of corporate core industrial sectors, and strengthening of the responsibility of dominant stockholders and executives).

Nevertheless, it has been recently evaluated that corporate reforms were not successful because of the avoidance or delay of the *chaebols*, and careless supervision by the government (Chang, 2001). Instead, these reforms may have contributed to increasing the victimization of workers. For example, the workers who survived the corporate restructuring process experienced increasing job insecurity and serious deterioration of their physical and psychological health, similar to the unemployed (Cobb and Casl, 1977; Kick, 1985; Aneshensel, 1992; Thoits, 1995). Therefore, I assume that the workers surviving corporate neoliberal restructuring did experience significant job insecurity, which had a negative effect on their health behaviors (smoking, alcohol, dietary, etc.) and health (physical and psychological state). Moreover, workers' physical and socio-psychological health state is differently influenced by individual characteristics such as sex, age, education, social class, and health behaviors. For example, female workers with infants tend to be dejected because they had hardship by childbirth and are not free from their charge in housework or child caring (Brown and Harris, 1978; Park, 2003). And worker's education and social class also have positive effects on their health. That is, the workers who are less educated and belong to lower class are likely to be exposed to the disease or death (Dahlgren and Diderichsen, 1992; Reed, 1990). With the exception of general research on health issues, however, it is hard to find a research on the direct relationship between the corporate restructuring and the workers' health trouble.

Although people are interested in their health, it is difficult to measure the level of a population's health due to the multi-dimensionality of health, the absence of any widely accepted, standard definition of health, and a wide range of social and cultural variations in the meaning of the health. For example, some conditions defined as illnesses in some settings are accepted as 'natural' in others (Lerner, 1975). A sociological view of health/illness began with its criticism of the biomedical model. In the biomedical model, health is described as a "condition in which we neither suffer pain nor are hindered in the functions of daily life, when we are able to take part in government, bathe, drink, and eat, and do other things we want (Kosa and Robertson, 1975; Nettleton, 1995)." This biomedical model is useful because professionals, such as doctors, can objectively diagnose health or illness of the body and amend dysfunctions. However, it has increasingly been challenged by critiques emerging from both popular and academic sources. The biomedical model treats the mind and body as separate, and ignores socio-economic causes of disease. It also rejects the subjective interpretations and meanings of health and illness by seeking explanations of dysfunction in variant biological structures and processes, at the expense of social, cultural, and biographical explanations (Nettleton, 1995). This model defines health and disease as dysfunctions in biological structures and processes, and underestimates the links between people's material circumstances and illness.

On the other hand, the sociological or socio-cultural model defines health not only as the absence of disease, but also as the totality of physical, psychological and social well-being. According to the World Health Organization, "Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity (World Health Organization, 1948)." It is useful to deal with the many facets of health because they locate illness and health in a social context in which not only the sick person, but also his whole environment, and particularly those significant persons who try to heal him, find their places. It also regards the issues of health as elements of a dynamic interaction process, views illness in its relativity, and assumes that the extent and meaning of any illness can be understood only in relation to other healthy and sick people (Kosa and Robertson, 1985; Lee M., 1998). In this model, the concept of health is defined as self-diagnosis subjectively evaluated under the interaction between people and their external environments (social, economic, political, and cultural environments).

Although the subjective diagnosis of disease as defined in the patients' terms raises the issue of validity, the importance of a subjectively diagnosed

disease should not be underestimated, as it brings attention to personal feelings that lead the patient to the doctor and initiates medical actions. It can also be a meaningful measure of future health and the change of health because it simultaneously considers the patient's perceptions and surrounding environments (Averyt, et al., 1987). Given these contexts, this study examines the effects of corporate restructuring and ensuing job insecurity on changes in workers' physical and socio-psychological health, as evaluated by their subjective diagnosis.

DATA AND METHODOLOGY

Sample and Resources

To explore the assumption of significant differences between changes in workers' physical and psychological health and their experience of numerical labor flexibility and labor intensification, and job insecurity, this study uses data collected by the Social Science Research Institute of Chonbuk National University. They are based on 907 workers selected from Jeonbuk, Seoul, and Kyonggi, and interviewed with a closed-ended questionnaire from April 2001 to May 2001.

Measures and Analysis

In this study, the independent variable, corporate restructuring, was designed to tap two components: numerical labor flexibility and labor intensification. These were measured by the workers' experiences on a series of measures introduced by the corporation. First, numerical labor flexibility was measured by seven items. These are: 1) they are involved in the worker's lay-off, 2) honorary retirement, 3) employment of part-time workers to replace fired workers, 4) worker's lay-off by the corporation alone, 5) restriction of new employment, 6) the change of the workers' own affairs, and 7) replacement after the massive lay-off. The items were coded as "no experience" (0) or "experience" (1), and then were totaled for a possible range from 0 to 7 ($\alpha = .714$). Labor intensification was measured by changes in working conditions, such as work tasks, work hours, work speed, workers' influence on the working process, and corporate supervision. For example, "to what extent have you experienced a change of working tasks since the Korean financial crisis in 1997?" Responses range from "largely decreased" (1) to "largely increased" (5). Coefficient alpha for this scale was .892.

Next, the dependent variable, job insecurity, was measured by six items. The items measure to what extent the workers acknowledge their job inse-

curities are from 1) corporate financial difficulties, 2) the introduction of new technologies, 3) out-sourcing, 4) factory displacement, 5) their own early retirement, and 6) the disappearance of their tasks in the workplace. For example, "to what extent do you believe more lay-offs in your corporation are likely to occur in terms of corporate financial difficulties?" Responses range from "very high" (1) to "very low" (5). Coefficient alpha for this scale was .901.

Finally, a second dependent variable, changes in workers' health, was measured by the individual worker's subjective evaluation of her/his physical and psychological state. The respondents were asked to evaluate their own current state of health in comparison with their state of health three years ago. For example, "to what extent do you feel sicker at the stomach than before the 1997 Korean financial crisis?" Responses range from "not at all likely" (1) to "very likely" (5). The respondents' evaluations of their health statuses were analyzed by maximum likelihood factor analysis. The screen plot indicated a sharp drop in eigenvalues after five factors, indicating that a five-factor solution explaining 64.59% of the variance was the best fit.

Table 1 shows the rotated factor structure. I considered items that loaded at or above .05 on one factor and below on the other factors to define the factor on which they had high loading. I retained these in the scales formed from the factors. The first factor explained 16.98% of the variation and had an eigenvalue of 3.81. It represented one aspect of the workers' physical health symptoms. The scale created from the five items loading on this factor was labeled 'digestive-circulative organ trouble' ($\alpha = .901$). The second factor explained an additional 9.92% of the total variation and had an eigenvalue of 1.25. This factor reflected another aspect of the workers' physical health symptoms. The scale created from the four items loading on this factor was labeled 'eye trouble' ($\alpha = .908$). The third factor explained an additional 9.23% of the total variation and had an eigenvalue of 1.14. This factor represented another aspect of the workers' physical health symptoms. The scale created from the three items loading on this factor was labeled 'respiratory organ trouble' ($\alpha = .789$). The fourth factor explained an additional 14.65% of the total variation and had an eigenvalue of 2.68. This factor represented one aspect of the workers' socio-psychological health symptoms. The scale created from the five items loading on this factor was labeled 'future uncertainty' ($\alpha = .898$). The final factor explained an additional 13.81% of the total variation and had an eigenvalue of 1.66. This factor represented another aspect of the workers' socio-psychological health symptoms. The scale created from the three items loading on this factor was

TABLE 1. RESULTS OF FACTOR ANALYSIS AND RELIABILITY TESTS

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Feel sick at the stomach	.711	.146	.226	.219	.196
Difficult digestion after meal	.722	.061	.150	.168	.181
Have a headache	.534	.448	.067	.132	.392
Rapid beating of the heart	.674	.179	.156	.296	.139
Have swollen ankles and legs	.675	.167	.260	.186	.188
Difficulty reading	.312	.558	.400	.201	.106
Have sore eyes and sweep	.381	.595	.270	.085	.156
My eyes are often blood-shot	.266	.744	.245	.103	.213
My eyes are severely gummy	.011	.760	-.025	.084	.127
My nose is stopped up or runs	.243	.048	.664	.265	.144
Have a bad cough	.096	.141	.541	.494	.225
Have a hoarse throat	.239	.203	.645	.300	.181
Frequently thirsty	.259	.207	.526	.218	.193
Lost confidence in ability	.357	.067	.281	.552	.334
Feel life not worth living	.283	.026	.261	.696	.294
Feel uneasy about my life	.326	.059	.238	.505	.462
There is no hope for my future	.052	.265	.089	.704	.332
Feel ready to give up my life	.134	.158	.046	.614	.334
Failure to sleep	.355	.036	.388	.352	.528
Feel exhausted	.231	.259	.028	.257	.695
Lost my appetite	.471	-.078	.197	.311	.504
Hope the world would change	.207	.186	.195	.186	.735
Feel I am alone	.189	.263	.031	.299	.737
Eigenvalues	3.81	1.25	1.14	2.68	1.66
Percent of variation explained	16.98	9.92	9.23	14.65	13.81
Cronbach's alpha	.901	.908	.789	.898	.890

Note: Loadings shown in boldface type were retained in the scales formed from the factors.

labeled 'being socially lonely' ($\alpha = .890$).

According to previous studies (Brown and Harris, 1978; Park, 2003; Reed, 1990), several variables are significantly related to human health. Therefore, this study adopts some control variables such as age, sex, social class, cigarette and alcohol consumption, and medical cost. With the exception of the age and medical cost variables, other variables were transformed into dummy variables. For example, cigarette and alcohol consumption variables are grouped as the "increase of cigarette smoking" and "alcohol con-

sumption" (1), and the "decrease" or "no change" (0). On the other hand, the age variable is interval and medical cost burdens are ordinal, from "very light (1) to "very heavy" (5).

DATA ANALYSIS AND RESULTS

Corporate Restructuring and Workers' Job Insecurity

As stated, numerical labor flexibility from corporate restructuring is measured by seven questions. In this analysis, among the total respondents, 12.9% experienced all seven events of labor flexibility, 57.9% experienced more than four events, 88.7% experienced at least one event, and 11.3% had no experience. The workers' experience of labor intensification was measured by five questions. Among the total respondents, 42.2% reported that labor intensification had deteriorated since the financial crisis, while 26.1% and 31.7% reported that their corporations had not increased labor intensification, and had maintained similar or the same level of labor intensification as before the crisis, respectively. From these findings, it can be concluded that most Korean workers have experienced corporate restructuring (specifically, numerical labor flexibility) in their workplace.

According to the analysis of job insecurity, the workers' job insecurity also increased. For example, about 40% of the total respondents reported that they were likely to be fired by changing corporate conditions, while about 25% and 35% responded that their job insecurity did increase slightly and was similar to job insecurity before the crisis.

On the other hand, examining the relationship between corporate restructuring and job insecurity, corporate restructuring has a negative effect on workers' job insecurity. In Table 4, both numerical labor flexibility and labor intensification are negatively correlated with workers' job insecurity ($r = -.633$ and $r = -.449$, respectively).

Determinants of Workers' Health Behaviors

As corporate restructuring proceeded, many workers experienced job insecurity. The workers' job insecurity may have a negative effect on their health behaviors. This study examines workers' health behaviors, such as cigarette smoking and alcohol consumption.

Table 2 presents the determinants of the increase in cigarette smoking. According to Model 1, corporate restructuring has a significant effect on increasing cigarette smoking among workers. Workers experiencing low or medium labor flexibility and labor intensification score lower on increase in cigarette smoking than those experiencing strong labor flexibility and inten-

sification. That is, the workers experiencing low or medium labor flexibility and intensification score about one-third and one-half lower on increase in cigarette smoking than those experiencing strong labor flexibility and intensification, respectively. According to Model 2, however, these two variables have no significant effects on the increase in workers' cigarette smoking, while job insecurity has a significant effect on it. Workers experiencing higher job insecurity score about four times higher on increase in cigarette smoking than those experiencing lower job insecurity ($\text{Exp}(B) = 4.205$). Finally, according to Model 3, while controlling for other variables, the workers experiencing higher job insecurity score four times higher on increase in cigarette smoking than those experiencing lower job insecurity, while corporate restructuring has no significant effect on it. Among the control variables,

TABLE 2. LOGISTIC ANALYSIS ON THE DETERMINANTS OF THE INCREASE OF CIGARETTE SMOKING

Selected independent Variables	Model 1		Model 2		Model 3	
	B	Exp(B)	B	Exp(B)	B	Exp(B)
Constant		.024		-1.304***		-2.947***
Weak labor flexibility	-.676**	.509	-.151	.860	.089	1.094
Med-labor flexibility	-.512**	.599	-.506*	.603	-.363	.695
Strong labor flexibility	-	-	-	-	-	-
Weak labor	-.946**	.388	-.012	.988	-.077	.926
Medium labor	-.980***	.375	-.166	.847	-.441	.643
Strong labor intensification	-	-	-	-	-	-
Strong job insecurity			1.436***	4.205	1.401***	4.058
Medium job insecurity			.202	1.223	.209	1.233
Weak job insecurity			-	-	-	-
Less than 49 years					.095	1.099
More than 50 years					-	-
Male					1.464***	4.322
Female					-	-
Mid-upper class					.443	1.557
Middle class					-.321	.725
Mid-lower class					-.421	1.557
Low class					-	-
Increase of alcohol					1.416***	4.119
Same or decrease of alcohol					-	-
-2 Log-likelihood		752.605		720.921		615.135
Cox and Snell R-square		.088		.127		.257

* $p < .05$, ** $p < .01$, *** $p < .001$

age and alcohol consumption have significant effects on increase in cigarette smoking. Male workers experiencing increase in alcohol consumption score four times higher on increase in cigarette smoking than female workers with decreasing or no change in alcohol consumption.

Table 3 presents the determinants of the increase in alcohol consumption. In Model 1, corporate restructuring has a significant effect on workers' increase in alcohol consumption. Workers experiencing low or medium labor flexibility and intensification score lower on increase in alcohol consumption than those experiencing high labor flexibility and intensification. That is, the workers experiencing low labor flexibility and weak or medium labor intensification score about one-fourth and one-half lower on the increase in alcohol consumption than those experiencing higher flexibility and intensification, respectively. According to Model 2, however, these two variables have no significant effects on increase in workers' alcohol con-

TABLE 3. LOGISTIC ANALYSIS ON THE DETERMINANTS OF THE INCREASE OF ALCOHOL CONSUMPTION

Selected independent Variables	Model 1		Model 2		Model 3	
	B	Exp (B)	B	Exp (B)	B	Exp (B)
Constant		-.385**		-1.161***		.013
Weak labor flexibility	-1.306***	.279	-.786	.455	-.657	.518
Med-labor flexibility	-.713***	.490	-.370	.691	-.249	.779
Strong labor flexibility	-	-	-	-	-	-
Weak labor	-.698**	.388	-.221	.802	-.262	.769
Medium labor	.005	1.005	.301	1.351	.163	1.177
Strong labor intensification	-	-	-	-	-	-
Strong job insecurity			.861**	2.365	.434	1.543
Medium job insecurity			-.257	.773	.399	.671
Weak job insecurity			-	-	-	-
Less than 49 years					-.864**	.422
More than 50 years					-	-
Male					.496*	1.642
Female					-	-
Mid-upper class					-.960*	.383
Middle class					-1.013**	.363
Mid-lower class					-.550	.577
Low class					-	-
-2 Log likelihood		722.983		702.822		670.304
Cox and Snell R square		.069		.095		.139

*p<.05, **p<.01, ***p<.001

sumption, while job insecurity is significant. That is, workers experiencing higher job insecurity score about two and one-half times higher on increase in alcohol consumption than those experiencing lower job insecurity ($\text{Exp}(B) = 2.365$). Finally, in Model 3, corporate restructuring and the ensuing job insecurity have no significant effects on the increase in alcohol consumption, while the workers' age, sex, and social class have significant effects on alcohol consumption. Younger workers score about one-half lower on increase in alcohol consumption than older workers, male workers score about one and one-half times higher than female workers. Higher class workers score about one-half or one-third lower on the increase in alcohol consumption than lower class workers. These findings suggest that the workers' alcohol consumption habits, unlike cigarette smoking habits, are strongly influenced by their individual characteristics rather than by corporate restructuring.

Determinants of Changes in Workers' Health

Table 4 gives summary statistics for and correlations between main variables. First, according to the means indicating changes in workers' health, their physical and socio-psychological health has generally deteriorated since the 1997 Korean financial crisis. Among the five health factors, the worst factor is "being socially lonely," while the least significant factor is "respiratory organ trouble." The health factors are all significantly interrelated. From these findings, this study examines the determinants of changes in workers' respiratory organ trouble and being socially lonely factors by using multiple regression analyses. Finally, I analyze the five health factors separately.

TABLE 4. SUMMARY STATISTICS AND CORRELATIONS

Variables	Mean	S.D.	2	3	4	5	6	7	8
1.	3.59	.765	.648**	.684**	.641**	.523**	.324**	.228**	-.331**
2.	3.71	.747		.736**	.491**	.577**	.251**	.237**	-.301**
3.	3.43	.851			.523**	.588**	.352**	.256**	-.410**
4.	3.65	.793				.455**	.267**	.245**	-.284**
5.	3.86	.765					.260**	.181**	-.311**
6.	7.37	1.079						.394**	-.633**
7.	2.98	.734							-.449**
8.	2.91	.923							

** $p < .01$

1. Digestive-circulative, 2. Eye trouble, 3. Respiratory, 4. Future uncertainty, 5. Being socially lonely, 6. Labor flexibility, 7. Labor intensification, 8. Job insecurity

Table 5 presents the results of regression analyses on the determinants of changes in workers' respiratory organ trouble and being socially lonely. First, in Model 1, corporate restructuring has a significant effect on changes in worker's health. The workers' experiences of numerical labor flexibility and labor intensification considerably deteriorated their respiratory organ trouble ($\beta = .295$, $p < .001$ and $\beta = .141$, $p < .001$). According to Model 2, the effect of corporate restructuring on the workers' health is changed. Numerical labor flexibility still has a significant effect on workers' respiratory organ trouble, while labor intensification is not significant. On the other hand, worker's job insecurity has a negative effect on the change in workers' respiratory organ trouble ($\beta = -.293$, $p < .001$).

Next, according to Model 3, corporate restructuring also has a significant effect on the change in workers being socially lonely. The workers who experienced numerical labor flexibility and labor intensification felt being socially lonely more strongly ($\beta = .219$, $p < .001$ and $\beta = .102$, $p < .05$). In Model 4, the results are very similar to those of Model 2. While numerical labor flexibility still has a significant effect on workers' health, labor intensification is not significant. On the other hand, worker's job insecurity has a negative effect on the change in workers being socially lonely ($\beta = -.229$, $p < .001$).

Table 6 presents the results of the separate analysis of the determinants of the five health factors. As examined in Table 5, corporate restructuring partially has a significant effect on workers' health. That is, numerical labor flexibility relatively has a significant effect on workers' health, while labor

TABLE 5. MULTIPLE REGRESSION ANALYSIS ON THE CHANGE OF WORKERS' HEALTH

Selected independent variables	Health			
	Respiratory organ trouble		Being socially lonely	
	Model 1	Model 2	Model 3	Model 4
	β	β	β	β
Constant	1.654***	1.777***	2.684***	2.771***
Labor flexibility	.016***	.141**	.219***	.099*
Labor intensification	.046***	.070	.102*	.047
Job insecurity		-.293***		-.229***
Adjusted R square	.137	.189	.073	.102
Adjusted R square change	/	+.052	/	+.031

* $p < .05$, ** $p < .01$, *** $p < .001$

intensification is not significant, with the exception of workers' future uncertainty. For example, numerical labor flexibility has a significant effect on the worker's digestive-circulative, respiratory organ trouble and future uncertainty. These results mean that corporate numerical labor flexibility deteriorated the worker's physical and socio-psychological health. And corporate labor intensification just increased the worker's future uncertainty. From these findings, we can conclude that corporate restructuring considerably increased the worker's future uncertainty. This conclusion is supported by the fact that workers' job insecurity consistently has a negative effect on the change of the worker's health.

And workers' medical cost and social class variables also have significant effects on the change of their physical and socio-psychological health. That is, the workers who were under heavier medical cost burden experienced the deterioration of physical and socio-psychological health. Workers who belong to lower class also experienced the deterioration of their physical health and being socially lonely, with the exception of future uncertainty.

TABLE 6. MULTIPLE REGRESSION ANALYSIS ON THE CHANGE OF WORKERS' HEALTH

Selected independent variables	Health				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	β	β	β	β	β
Constant	2.524**	2.509**	1.992**	2.514**	3.249**
Labor flexibility	.134**	.052	.100*	.094*	.054
Labor intensification	.067	.057	.051	.088*	.048
Job insecurity	-.144*	-.143**	-.271***	-.105*	-.149**
Age	-.136*	-.103**	-.094*	-.028	.038
Above middle class	-.136*	-.048	-.078*	-.055	-.126*
Low class	-	-	-	-	-
Female	.099*	.059	-.044	-.071	.018
Male	-	-	-	-	-
Increase of alcohol	.083*	.045	.067	.082*	.036
Same or decrease of alcohol	-	-	-	-	-
Increase of cigarette smoking	.104**	.038***	.144***	.003	-.039
Same or decrease of smoking	-	-	-	-	-
Medical cost burdens	.106***	.153***	.088*	.090*	.148***
Adjusted R square	.246	.142	.292	.121	.134

*p < .05, **p < .01, ***p < .001

*Factor1 = Digestive- circulative, Factor2 = Eye trouble, Factor3 = Respiratory, Factor4 = Future uncertainty, Factor5 = Being socially lonely

These findings also confirm that workers' economic status has a significant effect on their health.

On the other hand, workers' age and cigarette smoking have significant effects on their physical health. Workers who are younger and smoked more cigarettes experienced worsening of their digestive-circulative, eye, and respiratory organ troubles. However, these two variables have no significant effect on workers' socio-psychological health. However, workers' alcohol consumption has a significant effect on the change of workers' digestive-circulative organ trouble and future uncertainty. This finding is also consistent with previous studies that overdrinking has a negative effect on human's digestive-circulative organ trouble. Finally, the workers' sex has little effect on health changes, with the exception of digestive-circulative organ trouble. For example, female workers experienced the increase of digestive-circulative organ troubles, while male workers did that of future uncertainty. For male workers, the increase of future uncertainty probably results from their stress and responsibility for family breadwinner under economic crisis.

DISCUSSION

The main findings from this study are as follows. First, corporate restructuring has a significant effect on workers' job insecurity, health behaviors and health problems. Corporate restructuring increased job insecurity, cigarette smoking and alcohol consumption, and deteriorated their physical and socio-psychological health.

Next, I analyzed the relationships between changes in workers' health, corporate restructuring and ensuing job insecurity, and other control variables. However, variables specified in corporate restructuring are not robust in explaining workers' different health behaviors and health outcomes. For example, numerical labor flexibility partially played a significant role in the increase in cigarette smoking and alcohol consumption, and in the deterioration of health, while labor intensification was not significant. However, job insecurity consistently has a significant effect on workers' health behaviors and health states.

From these findings, I can conclude that corporate restructuring has a significant effect on workers' job insecurity, but is indirectly significant to changes in workers' health through ensuing job insecurity. These results suggest that Korean society should rethink the current strategy of corporate restructuring that has been forced by the core countries. Although corporate restructuring through lay-offs is useful in reducing production costs in the short-term, it will eventually exert a considerable burden on its long-term

development and survival. As corporate restructuring increases workers' job insecurity and deteriorates their health, it decreases corporate productivity and weakens social integration in Korea. These negative circumstances increase the social costs defrayed by Korean society, including Korean corporations and the government. Therefore, the corporate chaebols should be careful in implementing the current corporate restructuring strategy. Although perhaps inevitable, it is reasonable for them to negotiate with the labor unions. This negotiation easily produces the better alternative for corporate survival, and also contributes to reducing the shock or stress that workers will receive from corporate restructuring. In addition, the Korean government should prevent corporate restructuring from further deteriorating conditions for socially disadvantaged workers. In order to alleviate the relative deprivation and suffering that workers would undergo under corporate restructuring, the Korean government should firmly seek structural reforms of the chaebols.

Finally, this study also shows that social class, medical costs, and cigarette smoking, among various control variables, consistently have significant effects on changes in workers' health. Therefore, the government should prepare welfare policy measures for the protection of workers. Considering the currently fragile welfare system for the social disadvantaged, it is very urgent to rebuild the Korean welfare system.

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