

Influence of the Municipal Merger on Local Government Employees' Stress Response in Japan

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Abstract: In Japan, mergers of cities, towns, and villages have occurred rapidly as a result of the Special Law on the Merger of Municipalities, enacted in 2005. These mergers may impact civil servants' psychological adjustment. We developed the Municipal Merger Stress Questionnaire (MMSQ) to measure the impact of the municipal mergers and collected responses from 570 employees who had experienced a municipal merger (Study 1). We examined the relationships among the impact of municipal merger, Stress Responses, Self-concept (self-esteem and interpersonal dependency), and Social Support (Study 2). Two factors (Increased Workload and Worthlessness) were derived from the MMSQ in Study 1. Additionally, a structural equation model showed that the impact of the loss of value of their job (Worthlessness) related to the psychological stress responses, while job discretion did not differentiate an entire stress situation in Study 2. The result implies that psychological aspects of interventions focused on worthlessness are required to maintain good mental health of public servants at workplaces.

Key words: Municipal merger, Job stress, Job discretion, Self-concept, Social support

Introduction

The negative influences of organizational change resulted from company mergers and acquisitions have been warned over the 30 yr¹⁾. For this three decades, there has been an increasing amount of research to explore the effect of company mergers. Siu, Cooper, and Donald²⁾ investigated stress of TV company acquisition and found that the company merger was related to increasing job pressure, decreasing job satisfaction, and mental and physical illness. Terry, Callan, and Sartori³⁾ explored the relationships between workers' merger stress, coping strategies, and social support. They found that employees could maintain their job satisfaction by evaluating their situations posi-

tively through coping strategies. Recently, some researchers have investigated the influences of mergers using longitudinal design. According to the results of research on before-and-after merger, risk of psychiatric issues has been increased such as depression, anxiety disorder, and suicide^{4,5)}.

In Japan, organizational structure, an example of a potential occupational stressor⁶⁾, was dramatically changed by the rapid elimination and consolidation of municipalities under the Special Law on the Merger of Municipalities, implemented on April 1, 2005. This merger may have most strongly affected local government employees. Workers' negative perception of changes in organizational structure can cause serious problems in terms of not only their mental health but also organizational productivity^{7,8)}. Even though municipal merger has been implemented nationwide and a number of local government employees may

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have been influenced by the change, no scale to gauge stress from merger change is yet to be identified. Therefore, the first purpose of this study is to develop a tool for measuring the impact of municipal mergers.

It is highly likely that each worker's allocated workload increased, because the municipal merger was implemented with an aim to promote work efficiency and trim down expenses. Handling a heavy workload is not an easy task per se, but it is not always the cause of problematic work situation. This point is demonstrated by Karasek's⁹⁾ job demand-control (JD-C) model. The JD-C model is based on the notion that environmental factors, which include workload and the amount of worker discretion in work, affect the occurrence of stress responses and occupational satisfaction. In this model, occupational stress is considered to be having two separate dimensions: job "demand" and job "control". Karasek⁹⁾ defined "demand" as the extent to which a person's job is demanding and "control" as the extent to which the person has control over his assigned tasks. This model assumes two main hypotheses: (1) the combination of high job demand and low job control precipitates psychological and physical strain (a "high strain" job) and (2) the combination of high job demand and high job control produces psychological well being, learning experience, and personal growth (an "active" job)¹⁰⁾. Thus, with regard to maintaining good mental health, the question that needs to be answered is how much discretion the workers are given in their jobs after the municipal merger that has brought them an increased workload¹¹⁾. If they are no longer given as much discretion as they used to be given earlier, the job strain experienced by them is likely to increase as a result of the large-scale organizational changes.

The JD-C model has been now modified into the job demand-control-support model with an added dimension of social support to the demand and control dimensions^{8, 12-15)}. Workers who reported having relatively high levels of social support experienced fewer psychological and physical symptoms of stress^{16, 17)}. In this model, some of the workers with high levels of social support showed low stress responses despite holding highly demanding jobs in which they had little control. On the other hand, workers who reported having highly demanding job, little control and social support, faced more psychological distress than did other workers¹⁸⁾. Job transfer due to the municipal merger means deprivation of the social support that workers once received in the previous workplaces. Workers can build new social support networks in their new environments, but this would require enormous psychological adjustment and may result in great stress responses if the loss is more

than the workers can handle.

An individual's personality is another buffering agent that influences occupational stress. Personality plays an important role in the stress process in which stressors, stress response, or both can be affected¹⁹⁾. In regard to the relationship between JD-C model and personality, Karasek⁹⁾ said that "It is certainly possible that worker's personality affects his perception of decision latitude (p290)." There are some literature that explored the relationship between JD-C model and personality factors such as locus of control and self-esteem²⁰⁻²²⁾. However, there is no certain conclusion their relationships²³⁾. Although it is considered there are several personality factors which could influence the occupational stress, positive factors such as self-esteem and negative factors such as interpersonal dependency have been focused among many researchers^{19, 24-27)}. Self-esteem reflects a person's overall evaluation or appraisal of his or her own worth²⁸⁾. Interpersonal dependency is characterized by an over-reliance on other people for emotional needs²⁹⁾. It is unlikely that the personality of a worker changes with a municipal merger; however, a worker's personality type plays a crucial role in his or her adjustment to a new work environment. Therefore, in this study, concepts of self-esteem and interpersonal dependency are included in the model as two important aspects of self-concept.

Few studies have been conducted on public servants in the field of stress research, and relationships between social support or self-concept and stressors are yet to be clearly identified among local government employees³⁰⁾. For these reasons, this study aims to develop a scale (Municipal Merger Stress Questionnaire: MMSQ) for the assessment of stressors derived from recent municipal mergers in Japan (Study 1) and to discuss the oft-mentioned occupational stressor stress response model using path analysis, including municipal merger stressors (Study 2).

Study 1 Subjects and Methods

Participants

Questionnaires were distributed to 645 public servants of the city of Uki in January 2007. Under the Special Law on the Merger of Municipalities, Uki was formed by the incorporation of five neighboring municipalities with the purpose of improving for an increasingly serious financial condition. The total number of questionnaires collected was 614 (attrition rate 4.8%). Questionnaires that were not completely filled were considered unusable. Usable

questionnaires were collected from 570 participants: 328 men (57.4%) and 242 women (42.6%), with a mean age of 43.8 (SD=10.9) yr. Of these 570 individuals, 385 (67.9%) were clerical workers while 102 (18.0%) were non-clerical workers. 83 (14.3%) did not answer. Fifty-two people (9.2%) held managerial positions and 211 (37.1%) held non-managerial positions; 307 (53.8%) did not provide any information about their job position.

Measurements

Municipal Merger Stress: Due to the lack of prior research on municipal mergers, a new questionnaire, the Municipal Merger Stress Questionnaire (MMSQ), was designed for the present study. First, the author conducted detailed interviews with three local government employees who were willing to talk about their new working environment, and information on occupational strain or changes brought about by the merger was carefully collected. The three workers provided similar information, which led to the conclusion that their anecdotes about job stress were representative of the viewpoints of other local government employees. This resulted in an original 21-item questionnaire. Each item was scored on a four-point scale, from 1="completely agree" to 4="completely disagree". The following are examples of test items: "The variety of work that I do has increased", "I cannot learn a new job", and "My longstanding way of approaching my work no longer applies". Internal consistency ($\alpha=0.83$) was demonstrated in the population of this study ($n=570$).

Job Strain: Based on Karasek's⁹⁾ JD-C model, Steptoe, Cropley and Joeke's³¹⁾ developed the Job Strain Questionnaire (JSQ) and administered it to 162 teachers. The JSQ includes 15 items on a four-point scale, from 1="strongly disagree" to 4="strongly agree". These 15 items are divided into four subscales: three items for Job Demand (e.g., "My job is hectic"), three items for Job Control (e.g., "I have freedom to decide what I do in my job"), four items related to Skill Utilization (e.g., "My job involves me in learning new things"), and five items for Social Support (e.g., "I have a good relationship with my supervisors"). The original English version was translated into Japanese by third author with permission from the original author (Dr. Steptoe). The Japanese version of JSQ was translated back into English by a person who was blind to the original English version to check that the translation was correspondent with the meaning of the original instrument. That was verified by the original author in order to confirm its face validity. In the present study, however, we used only three subscales: Job Demand, Job Control, and Skill

Utilization. According to Steptoe *et al.*³¹⁾, job strain index is calculated using the following equation:

$$\text{Job strain index} = \frac{\text{Job Demands}}{(\text{Job Control} + \text{Skill Utilization})/2} \times 10.$$

Stress responses: The Hopkins Symptom Checklist (HSCL)³²⁾ is a reliable and valid instrument that evaluates psychological and somatic symptoms. It consists of 54 self-rated items that cover five symptomatic areas: Somatization (14 items; Heavy feeling in your arms or legs, $\alpha=0.87$), Obsessive-Compulsiveness (9 items; Your mind going blank, $\alpha=0.87$), Interpersonal Sensitivity (10 items; Feeling critical of others, $\alpha=0.85$), Anxiety (8 items; Heart pounding or racing, $\alpha=0.84$), and Depression (13 items; Thought of ending your life, $\alpha=0.86$). This study used the Japanese version of the checklist³³⁾.

Procedure

All the questionnaires were distributed, answered, and collected anonymously at their workplace. A declaration that participation in the study would not create any disadvantages at work was provided on the front page of the questionnaire.

This study project was approved by the Ethical Committee of the Kumamoto University Graduate School of Medical Sciences (equivalent to the Institutional Review Board).

Statistical analyses

First, means and SDs of all the MMSQ items were calculated, and subjects were randomly assigned to two groups. A series of exploratory factor analyses (EFA) was conducted on the first group ($n=235$), and MMSQ items whose means had been lower than 1.4 were excluded from the factor analyses because items with a low base rate could distort the factor structure. The remaining items were subjected to factor analysis using the maximum likelihood extraction method, followed by a promax rotation. The number of factors was determined by Kaiser's criterion (eigenvalues greater than unity). Items that cross over more than two factors to show factor loadings and those that show lower than 0.40 of factor loadings were excluded from the subsequent factor analyses.

Second, confirmatory factor analyses (CFA) were conducted on the other group ($n=235$) based on the results of EFA above to confirm the stability of the factor structure. The fit of each model with the data was examined in terms of chi-squared (CMIN), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit

Table 1. Factor analysis of the Municipal Merger Stress Questionnaire

Factor	I Increased Workload	II Worthlessness
1. My workload has increased.	0.74	0.31
14. The system has made it hard to take a day off.	0.50	0.39
18. The variety of work that I do has increased.	0.63	0.34
21. I am required to work even on holidays.	0.69	0.32
3. I have not been able to demonstrate my individuality.	0.30	0.59
4. My longstanding way of approaching my work no longer applies.	0.39	0.49
9. My job rank decreased.	0.23	0.44
10. Performing my job is not worthwhile.	0.24	0.66
11. I now work at a position in which I cannot utilize my abilities.	0.25	0.69
12. I cannot learn a new job.	0.33	0.59
15. I have lost co-workers and supervisors with whom I can consult.	0.33	0.59
16. I cannot accomplish tasks that I desire to accomplish.	0.30	0.52
19. I am unable to get used to the atmosphere at work.	0.36	0.67
Cronbach's alpha	0.74	0.82
Variance explained	4.48	1.56
Proportion of variance explained (%)	35	12
Factor correlation	0.50	

Factor loading of 0.4 or more is in bold.

index (CFI), and root mean square error of approximation (RMSEA). According to conventional criteria, a good fit is indicated by $CMIN/df < 2$, $GFI > 0.95$, $AGFI > 0.85$, $CFI > 0.95$, and $RMSEA < 0.08^{34}$.

Third, the two factors of MMSQ were examined for correlations with Daily Job Strain (JSQ) and Stress Response (HSCL) to confirm concurrent validity and construct validity.

All statistical analyses were conducted using the Statistical Package for Social Science (SPSS) version 12.0 and AMOS 5.0.

Results

In an exploratory factor structure of the MMSQ, five factors emerged in the initial run; however, eight items (Items 2, 5, 6, 7, 8, 13, 17, and 20) either failed to load substantially on all factors (i.e., factor loading less than 0.40) or loaded concurrently and strongly on two or more factors. After deleting these eight items, a factor analysis of the remaining 13 items resulted in a clear two-factor solution (Table 1). The first factor included items reflecting prolonged work hours and mandatory working holidays, such as “My workload has increased”. Thus, this factor was named Increased Workload. The second factor consisted of items such as “I have not been able to demonstrate my individuality” and “My longstanding way of

Table 2. Intercorrelations between two factors of MMSQ and JSQ, and HSCL

	Factor 1 Increased Workload	Factor 2 Worthlessness
Daily Job Strain (JSQ)	0.401***	0.302***
Stress Response (HSCL)	0.213***	0.429***

MMSQ=Municipal Merger Stress Questionnaire; JSQ=Job Strain Questionnaire; HSCL=Hopkins Symptom Checklist. *** $p < 0.001$.

approaching my work no longer applies”, and it was thus named Worthlessness. The two factors were moderately correlated ($r=0.50$). Cronbach’s alpha reliability coefficient was 0.74 and 0.82, respectively.

Based on the result of EFA, CFA was conducted on the remaining 13 items with the second group ($n=235$). Good model fit was indicated ($\chi^2/df = 1.90$, $GFI=0.927$, $AGF = 0.896$, $CFI=0.918$, and $RMSEA=0.062$).

Table 2 shows the correlations between the two factors of the MMSQ and Daily Job Strain (JSQ), and Stress Response (HSCL). As expected, both Increased Workload and Worthlessness factors were significantly and positively correlated with JSQ, meaning that the MMSQ can measure occupational burden or severity of working conditions. Furthermore, both Increased Workload and Worthlessness were significantly and positively correlated with HSCL. The MMSQ was developed to measure occupational

stressors and thus these positive correlations confirmed the construct validity of the MMSQ.

Discussion

Factor analyses of municipal merger stress in this population yielded two factors: Increased Workload and Worthlessness. The municipal merger was implemented for the purpose of cutting down the local government budget, which in turn has added to the employees' workload and has further complicated their work. Some employees may have been forced to transfer to a different department or location or to leave their work unfinished. They may have lost contact with former colleagues or supervisors who would have been able to provide mental and physical support during the transition. In the new workplace, it may have been difficult for the employees to acquire the necessary new skills, and the skills that they already possessed may have been useless. Thus, employees may have felt that they could not fully utilize their existing capacities. These issues are not necessarily related to the increased workload and could happen regardless of the workload amount.

Eight items were excluded from the MMSQ factor structure. All the items used in this study were based on the stress theory and the interviews, and therefore, they were considered to potentially have some association with the experiences of public servants. On this point, the finding that the items crossed over two or more factors with factor loading is understandable; however, the items with low factor loading (lower than 0.40) need to be explained. Item 2 "City residents' expectation for local government workers increased" and Item 13 "City residents' evaluations of local government workers' performances became tough" did not show loading high enough for any of the factors, and thus, they were excluded. The two items represent external pressure by the citizens, not by people within the organization. As previously mentioned, public services cover many fields of work. Some services that local government employees provide may require direct interaction with the citizens and others may not. Thus, only the workers involved in the former type of services may have identified themselves with Items 2 and 13 which, therefore, were excluded from the MMSQ structure. It should be noted, however, that external pressure as a form of evaluation from others should never be considered less important^{35, 36}, and further research is needed to clarify its effects.

In the past, stress studies on company merger tended to

explore stressful situation in general. However, as the factor structure of MMSQ showed, we can suggest that there are two aspects of stress from organizational changes; 1. A visible factor is increased workload that one has to endure, 2. An invisible factor is worthlessness that one experiences. In other words, some workers may not necessarily experience increased workload and responsibilities, but may possibly feel burdened as a result of merger change. In this aspect, there is room for further research into stress management.

Study 2

In Study 1, the scale to measure the effect of municipal merger was developed and confirmed its factor structure and validity. Taking the results of Study 1 into consideration, Study 2 used a path analysis to investigate how the municipal merger stressors operate on the working environments of local government employees as a whole. A path model was built based on the theory of the moderator effects model³⁷, which includes moderator factors such as personality and social support in stressor-stress response relationships. The moderator effects model has been widely used in research on occupational stress³⁸. Among the various studies, the most representative is the one conducted by the National Institute for Occupational Safety and Health (NIOSH)³⁷.

Subjects and Methods

Participants

The questionnaires collected in Study 1 were used for a path analysis in Study 2. The survey procedure, method of data collection, and participants' demographic backgrounds were the same as those in Study 1.

This study project was approved by the Ethical Committee of the Kumamoto University Graduate School of Medical Sciences (equivalent to the Institutional Review Board).

Measurements

Stressor: The study used MMSQ, factor structure and validity of which had been confirmed in Study 1. The two subscales are Increased Workload and Worthlessness.

Job control: The subscale of Control in Job Strain Questionnaire (JSQ)³¹ was used to measure workers' discretion over their work. Control consisted of three items ($\alpha=0.65$).

Social Support: Occupational social support was measured by five items in the JSQ that reflect expected social

Table 3. Means, SDs, and intercorrelations of the variables used in this study

	Mean	SD	1	2	3	4	5	6
1 Increased Workload	10.4	2.9	–					
2 Worthlessness	18.1	4.5	0.454***	–				
3 Control	8.3	1.6	–0.022	–0.218***	–			
4 Social Support	14.7	2.3	–0.166***	–0.401***	0.273***	–		
5 Self-esteem	33.7	5.8	–0.079	–0.256***	0.220***	0.193***	–	
6 Interpersonal Dependency	42.8	6.8	0.083*	0.272***	–0.169***	–0.202***	–0.438***	–
7 Stress Response	91.1	21.1	0.213***	0.429***	–0.201***	–0.312***	–0.473***	0.481***

* $p < 0.05$ *** $p < 0.001$.

support³⁹).

Self-Esteem: Overall feeling of self-worth was measured by the Self-esteem Scale (SES)⁴⁰, a 10-item Likert scale with items answered on a four-point scale from 4=“strongly agree” to 1=“strongly disagree”. An example of the items is “I feel that I have a number of good qualities”. The Japanese SES⁴¹ adopts a five-point scale. Cronbach’s alpha reliability coefficient was 0.82.

Interpersonal Dependency: The Interpersonal Dependency Inventory (IDI)⁴² was used to measure each participant’s degree of interpersonal dependency. This scale includes 23 items designed to quantify three aspects of dependency: Emotional Reliance on Others, Lack of Social Self-confidence, and Difficulties Asserting Autonomy. Items were rated on a four-point scale from 1=“not characteristic of me” to 4=“very characteristic of me”. Higher scores indicate more problems in that area. The IDI was translated into Japanese by McDonald-Scott⁴³. Cronbach’s alpha reliability coefficient was 0.79.

Stress responses: The Hopkins Symptom Checklist (HSCL)³² used in Study 1 was used to measure stress response.

Statistical analyses

Statistical analyses were conducted in two steps. First, after the effects of different attributes (e.g., sex and job position) on each variable were analyzed using Student’s *t*-test, structural equation modeling (SEM) was constructed based on the theory of the moderator effects model. This was followed by path analysis. Increased Workload and Worthlessness are composed of the total scores of each item that makes up each factor of MMSQ. The latent factor Self-concept consists of Self-esteem and Interpersonal Dependency. On this basis, we posited the premises that (1) there would be a positive correlation between Stressor and Stress Response, (2) there would be a negative correlation between Self-concept and Stressor-Stress Response. Simi-

larly, Social Support would also be a negative correlation between Self-concept and Stressor-Stress Response, and (3) Social Support and Self-concept would share a covariance.

Second, simultaneous multiple-group analysis was conducted to further examine the differences between the high control group and low control group in the path diagram. All participants were divided into high and low control groups, defined as the highest and the lowest first quartiles of the Control scores.

The fit of each model with the data was examined in terms of chi-squared (CMIN), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). According to conventional criteria, a good fit would be indicated by CMIN/df < 2, GFI > 0.95, AGFI > 0.85, CFI > 0.95, and RMSEA < 0.08³⁴. Akaike Information Criterion (AIC) was used to compare different models. A model with an AIC at least two points lower than a second model is regarded as superior.

All statistical analyses were conducted using the Statistical Package for Social Science (SPSS) version 12.0 and AMOS 5.0.

Results

Bivariate statistics

All variables were significantly correlated with each other except Increased Workload, Self-esteem, and Control (Table 3). As expected, the two stressor variables of municipal mergers were highly and positively correlated with Interpersonal Dependency and Stress Response and negatively correlated with Self-esteem and Social Support, except for the relationship between Increased Workload and Self-esteem.

A significant gender difference was found only in Stress Response, which was greater among men, [$t(566) = -2.531$, $p = 0.012$]. No significant difference in job categories (office

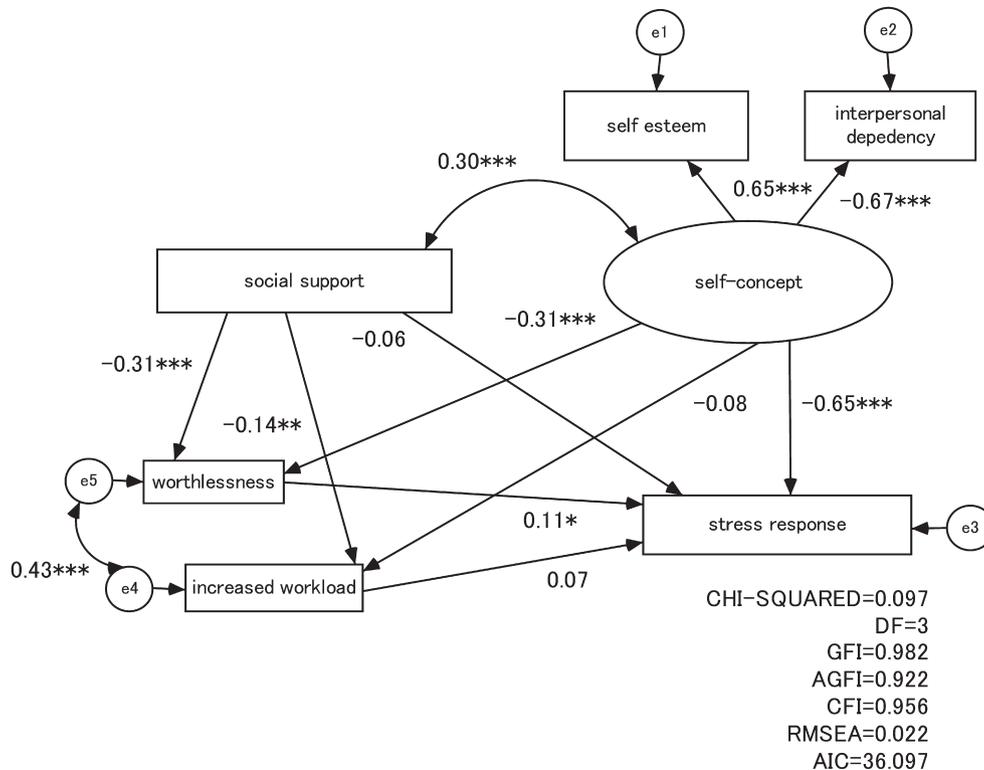


Fig. 1. Municipal merger stress model.

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

or non-office work) or job position (managerial or non-managerial position) was seen among the variables. For this reason, the data from men and women were regarded as one group for the following SEM analyses without dividing them by gender.

Structural equation model (SEM)

As shown in Fig. 1, all the paths were significant except the ones from Social Support to Stress Response, from Self-concept to Increased Workload, and from Increased Workload to Stress Response. The GFI, AGFI, CFI, and RMSEA indicated that the models fit the present data very well.

Simultaneous multiple-group analysis

In order to further examine the means by which Control influenced the relationship between all variables, all participants were divided into the high control group ($n=176$) or low control group ($n=152$). Results of a one-way ANOVA demonstrated significant differences between the high control group and low control group in terms of Increased Workload, Worthlessness, Self-esteem, Interpersonal Dependency, Social Support, and Stress Response [$F(1,$

$326) = 13.528, p < 0.001, F(1, 326) = 30.217, p < 0.001, F(1, 326) = 11.063, p < 0.01, F(1, 326) = 10.565, p < 0.01, F(1, 326) = 20.272, p < 0.001, F(1, 326) = 18.150, p < 0.01$, respectively]. However, a multiple-group analysis showed that the model in which every parameter was restricted to be the same across the two corresponding groups demonstrated a better fit than the one in which there was no restraint for every parameter (GFI=0.994, AGFI=0.962, RMSEA=0.000, AIC=73.185 and GFI=0.991, AGFI=0.957, RMSEA=0.031, AIC=78.165, respectively). Given the results of simultaneous multiple-group analysis, we could not find any difference between the high and low control groups.

Discussion

This study focused on local government employees who had experienced a municipal merger and examined how the social support that they receive and the self-concept that they possess had influenced the relationship between the municipal merger stressors and their stress response. The study also examined whether the interaction between the Stressor and the Stress Response changed with varying

levels of their job discretion.

The stressors of municipal mergers consist of Increased Workload and Worthlessness, however, the influencing factor for Stress Response in this study was not Increased Workload but Worthlessness. This implies that the employees were more influenced by invisible psychological burdens than by visible external pressures such as increased workload caused by the merger. When a major change occurs in an organizational structure, the first issue that the workers face may be whether their workload will increase. Results of this study, however, suggest that higher attention should be paid to workers' psychological anxiety and concerns in order to maintain their mental health.

Self-concept, which is another psychological aspect in this study, had a negative relation with Worthlessness but did not have any relationships with Increased Workload. This fact indicates that the degree of self-esteem and interpersonal dependency is associated with the occupational values that workers have but not with their workload and thus the results have theoretical consistency. In addition, healthy self-concept has been shown to provide a stress-reduction effect^{44, 45)}, which was also implied in this study. Also, as path coefficient indicated, we found that Self-concept was a more influential factor than merger stressor. In other words, if people have positive self-concept about themselves, merger stressor would not cause serious problems. The results of organizational changes will not change one's personality per se. Thus, ways to pursue personal growth of employees should be considered in their daily work, even though they may need special attention after organization changes. It should be pointed out, however, that keeping good relations at work is absolutely necessary to maintain healthy self-concept, considering the covariance with Social Support.

On the other hand, Social Support was indicated to have negative correlations with both Increased Workload and Worthlessness. Even if Increased Workload does not lead to a Stress Response such as Worthlessness, workload should not exceed a moderate level, as implied by the covariance between Increased Workload and Worthlessness. Therefore, the negative relation between Social Support and Increased Workload is significant in that aspect, and the importance of social support was reaffirmed in stress management in the workplace.

Job control was found not to be a key determinant of the whole stress structure, regardless of its different levels. As the correlations showed, however, Control was associated with Worthlessness, while it was not related with Increased Workload. Although causal relationships cannot be posited

in the present design, it was implied that there is, at least, a tendency for Control to reduce as Worthlessness increases. Hence, the focus should be put on quality of work, not on amount of work in order to maintain good mental health of public servants who experience municipal merger.

Limitations of this study should be noted. First, a cross-sectional approach was taken and therefore careful interpretation is required for identifying causal relationships. Unless longitudinal studies are conducted, it cannot be clear whether specific findings related to Stress Responses, Self-concept, Social Support, and Job Control are indeed the results of a municipal merger. Second, data collection relied solely on participants' self-reporting, and hence, the associations found in this study may be biased. Given that Uki provides just one example of a municipal merger in Japan, we should be careful in determining whether the sample represents other populations as well. Third, although Japanese version of JSQ has been translated thoroughly, it should be noted that the scale needs further researches to examine its factor structure, reliability, and validity.

Conclusion

It is important to regard increased workload and worthlessness as stressors due to a municipal merger. Moreover, psychological aspects of interventions focused on worthlessness are required for maintaining good mental health at workplace of public servants.

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