# Challenges for Workplace regarding the Autonomy of Working Hours 

Perspective for the Prevention of Overwork



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This paper discusses issues of time management in Japanese companies. In particular, it reveals the fact that even workers who are employed under "discretionary working system," having much freedom to decide their working hours as a formality, could become overworked as they are unable to control their daily work and hours as they would wish. The analysis shows that, firstly, when their specific work contents (volumes and deadlines) are decided (unilaterally) by a company or a manager, working hours could increase even though workers have freedom to decide their working hours. However, this is not the only case in which workers could become overworked. Even if workers have some autonomy in the relationship with their company or manager, it is difficult to prevent overwork caused by excessive attention to the client convenience when the detail of their work is determined by the relationship with clients. With a view to preventing overwork, appropriate work management is strongly required to prevent employees from succumbing to a situation in which they have scarce control over their working hours.
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## I. Introduction

This paper discusses issues of workplace management with regard to working hours. In particular, it examines situations in which even workers who are employed under "discretionary working system," having much freedom to decide their working hours, could actually become overworked as they are unable to control their daily work and hours as they would wish, depending on the nature of the job and the workplace. Then, appropriate management for employees who are given working time autonomy as a formality will also be considered for the purpose of preventing overwork.

On the subject of working hours, reducing working hours remains an important policy issue. Previous research has discussed issues of working hours from the standpoint of workers' health or work-family balance, etc., often appearing as a problem of long working hours. The characteristics of jobs and workplaces have also been discussed as factors lying behind long working hours, in addition to individual attributes. ${ }^{1}$ Needless to say, a research concern over long working hours will continue to be important in
future, and reducing working hours is undoubtedly an important task in terms of labor policy as well.
It is worth noting, on the other hand, that if too much focus is placed on the "length" of working hours, certain other aspects tend to be overlooked. On this point, it has also identified problems that are not necessarily caused by the quantitative "length" of working hours. Problems such as "nonstandard" work schedules are an example of this, a characteristic of these problems affected by "when" the work is done. Specifically, as working styles involving evening and night work, weekend work and shift work have proliferated due to the increasingly service- and data-oriented nature of the economy, the adverse impact of these on family life and health has been studied. ${ }^{2}$

On this point, if workers can decide for themselves "when (or how) to work," it may be great advantage even though working the same length of hours. The effects of this "self-decision" of working hours have been verified in many studies. ${ }^{3}$ On the other hand, it has also been pointed out that self-decision of working time sometimes makes it difficult to separate working time from non-working time, making it harder to be freed from work. ${ }^{4}$ To put it briefly, people who enjoy autonomy of working hours could fall into a state of "working whenever and wherever," leading to the risk of overwork that eats into time for family life. Previous research regards overwork of IT engineers and other specialist technical professionals as particularly problematic, and states that these working styles, even if motivating, could carry "hazards" such as the risk of health impairment. ${ }^{5}$

Based on this kind of previous research, it is not enough to look simply at the length (quantity) of working hours when discussing the risk of overwork in self-decision of working hours. To be exact, consideration should also be given to the qualitative aspects of working hours, or the "significance of time," in the sense of what kind of working hours (e.g. worker's experience of working hours) they are. For example, even though working the same length of time, problems might be fewer if workers could clearly separate work and private life, according to their own convenience. Conversely, it would be a problem if a lack of control over time made it more difficult to secure time to be freed from work, causing a constant state of alertness. In other words, it would seem that the problem must lie in the very state of "overwork," in which working hours could be controlled as one would wish. Based on this research concern, this paper will examine the overwork of people who are given working time autonomy as a formality, which is a state as they are unable to control their daily workload or time as they would wish.

## II. Autonomy in relation to working hours: Previous research

In previous research, the key to securing substantial autonomy of daily working hours (i.e. when and how long to work) is seen to lie in the degree of discretion over work tasks. Even if there is outwardly autonomy of time, that autonomy will not function in a form that provides advantage to the worker if there is too little discretion over work tasks.

Task discretion refers to worker's control over decisions related to their jobs. ${ }^{6}$ The relationship between this discretion and working hours would be a particular point of contention for workers who are given working time autonomy as a formality. This is because, when it is difficult for the employer to control or monitor the way the work is carried out, the actual working style will differ greatly depending on what sort of task discretion individual employees have. ${ }^{7}$

On this point, one would again draw attention to the studies that distinguish "discretion over work volume" from "discretion over work processes." ${ }^{\circ}$ Specifically, in relation to white collar workers in Japan, it has been said as problematic that discretion over work volume is often poor, even if there is a certain degree of discretion over work processes. As a result, work targets decided by the company or manager are often at levels that could only be attained by working long hours; even if working hours are decided by the worker in a nominal sense, there may be cases in which there is no option but to work long hours. Previous research suggests that having discretion over the work volume in the relationship with the employer (company or manager) holds the key to securing workers' control over their working hours.

So, will the problem go away as long as discretion can be secured in the relationship with the company or manager? In the previous study, certainly, workers' autonomy has often been conceptualized as lying diametrically opposed to strict (rigid) employment management. With the conspicuous progress of information and services in recent times, however, there are some phenomena that cannot be explained by that framework. For example, even if workers enjoy autonomy in the relationship with their company or manager, there may be cases whereby, in relationships with clients, they are unable to control the pace of daily work due to the demands of tight deadlines or unexpected work requests, which leads to overwork. One may think that the smaller the involvement of the company or manager in the work, the more freely the workers can control their working hours, but that may not necessarily be the case. Rather, the company or manager could serve to make working easier by properly monitoring and managing the work situation of individual employees, thus forming a certain brake (barrier) against "client convenience." ${ }^{9}$ The overwork characterized by these working styles formed around client convenience may be contemporary issues.

Thus, it will probably be necessary to focus on two elements that could limit workers' control of daily hours. That is, a lack of discretion over work volume in the relationship with the employer is one thing, and working styles too closely formed around client convenience is another. From the next section, some analytical hypotheses will first be presented, followed by analysis of data.

## III. Focus and method of analysis

## 1. Focus of analysis

White collar workers, especially who have high level of expertise or skill, could relatively be free from employer's constant monitoring or control. On these workers, to be able to control "when and how to work" without succumbing to overwork, discretion over daily work tasks, particularly descretion over work volume, is said to be an important element. As examined in the previous section, however, it is not sufficient merely to examine the relationship with the company or manager. In this paper, the focus will be on how work contents (volumes and deadlines) are decided, and two hypothetical cases will be presented in which control of daily working hours does not go as originally hoped.

The first is a case in which there is little discretion over the work volume in the relationship with the company or manager, in that work contents that should be met are determined unilaterally by the company or manager. In this case, although the worker may decide the work processes for themselves, they are often saddled with quotas that cannot be met without working long hours, and they risk succumbing to a situation in which control of working hours becomes difficult. ${ }^{10}$ This could be seen as a case in which the problem lies in "a surfeit of management."

The other case is a contrasting one, in a sense. That is, although there is a high level of discretion over work in the relationship with the company or manager, the worker tends to fall into a working style of "working whenever and wherever" owing to an excessive requirement for immediate response to demands from clients; self-decision of working time merely ends up overwork. In this case, the problem becomes more acute, if anything, if there is too little attempt by the company or manager to monitor or manage the work process. This is a case where the problem lies "a deficiency of management."

Moreover, as stated above, "overwork" for people who are given working time autonomy as a formality has aspects that cannot be fully grasped in terms of the length of working hours. On this point, the analysis in this paper will focus on the degree to which this involves working at night or at weekends, working at home, work-related contact outside the workplace, etc., as elements that constitute the state of overwork in addition to the length of working hours. Overwork as felt by working people has occasionally been broached as a subject for discussion in previous research. ${ }^{11}$ In those explanations, however, the argument has often put so much focus on the situations such as work-life balance for women in the childrearing phase, the heavy workload on dual-income households ${ }^{12}$ that they are relatively poor in implications for the nature of work and workplace management. ${ }^{13}$ The aim in this paper is to focus on how work contents are
decided, and to analyze cases in which control of working hours is limited and there is a risk of succumbing to overwork. Specifically, these are cases where decisions are made unilaterally by the employer, as well as cases where workers are expected to respond immediately to clients' demands, despite having a high level of task discretion in their relationship with the managers.

## 2. Method of analysis

The data used for analysis are taken from the "Survey on discretionary work and other working hour systems" (office survey and employee survey, 2013), but mainly from the employee survey. ${ }^{14}$ The analysis will be aimed at non-management workers employed under a discretionary working system. ${ }^{15}$

Discretionary working systems are applied whenever it is necessary, due to the nature of the work in question, to largely entrust the method of performing the work to the discretion of workers who are engaged in the work. The workers in question are then regarded as having worked a fixed number of hours agreed in advance between labor and management, regardless of the actual hours worked. There are two types of this system - the "discretionary working system for professional work" and the "discretionary working system for planning work" - depending on the type of work it applies to. ${ }^{16}$

Within the purport of discretionary working systems, workers employed under such systems could be said to be those who apply a high degree of discretion to the progression of their work (the method of work performance and the allocation of time), in a relationship with their employers. Even for these workers, however, the degree of control over daily work volumes and working hours will differ depending on the nature of the work and workplace. In the analysis below, factors that constrain daily time control which may lead to overwork will be examined, and appropriate ways of managing these employees will be considered.

## IV. Analysis

## 1. How work contents are decided: the nature of work and workplace

First, let us start by confirming the types in which work contents assigned to workers (i.e. "what must be done by when") are decided ${ }^{17}$ (Table 1). For workers employed under discretionary working systems, cases in which the company or manager has (unilateral) authority to decide, such as those "decided by the company or manager," are relatively rare. Cases in which these are "decided by myself in consultation with the manager" are numerous among planning-type workers. In other cases, although the worker has the freedom to decide, they are ultimately "decided by myself in consultation with the clients" or "decided by myself in consultation with other team members" rather than being decided alone. These cases are particularly common among professional workers employed under discretionary working systems. ${ }^{18}$ Caution is required in connection with the workload decisions of specialist professionals, in that there are occasionally cases in which the relationship with clients also has to be taken into account, even if there is autonomy in the relationship with the workplace.

These types of deciding work contents are strongly linked to the degree to which managers are involved in (or instruct) the content of the work. If we look at the levels of work instruction by managers for the different types of deciding work contents ${ }^{19}$ (Table 2), "instructions only on basic matters concerning work objectives, etc." accounts for the majority in every case. But when work contents are decided by the company or manager, some are given "instructions on the specific content of work," which means that the work progression is not infrequently accompanied by specific instructions from managers. Against this, the ratio of "no instructions" from managers is relatively high when work contents are "decided by myself alone" or "decided by myself in consultation with the clients." In other words, when work contents are decided in the relationship with clients, it is quite common for no work instructions at all to be received from managers, and in a sense, these workers are enjoying work autonomy in their relationship with managers and the workplace.

Table 1. Types of deciding work contents - by applied working hour system
(\%)

|  | Decided by <br> the company <br> or manager | Decided by <br> the manager <br> based on my <br> own opinion | Decided by <br> myselfin <br> consultation <br> with the <br> manager | Decided by <br> myself in <br> consultation <br> with the <br> client | Decided by <br> myself in <br> consultation <br> with other <br> team <br> members | Decided by <br> myself alone | N |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Note: Total of each row $100 \%$.

Table 2. Degree of work instruction by managers - by types of deciding work contents (volumes and deadlines) (Workers under a discretionary working system)
\(\left.$$
\begin{array}{lcccc}\hline & \text { No instructions } & \begin{array}{c}\text { Instructions only } \\
\text { on basic matters } \\
\text { concerning work } \\
\text { objectives, etc. }\end{array}
$$ \& \begin{array}{c}Instructions <br>
on the specific <br>

content of work\end{array} \& \mathrm{N}\end{array}\right]\)|  |  |  |  |
| :--- | :--- | :--- | :--- |
| Decided by the company or manager | 7.2 | 66.7 | 26.1 |
| Decided by the manager based on my own opinion | 3.7 | 70.7 | 25.5 |

Note: Total of each row $100 \%$.

## 2. Working styles and working hours

Next, let us see how working styles differ depending on how work contents are decided. The first is differences in the nature of the work (Table 3). When work contents are decided by the company or manager, responses of "the range and targets of the work are clear," "I can change the pace and process of the work" and "I can do a lot of the work on my own" are less common, suggesting that the worker has relatively little leeway for discretion. Other characteristics of this kind of work are that "the work volume is heavy" and "deadline and delivery times are tight." On the other hand, when workers decide the work content themselves in consultation with clients, discretion over work is higher than when the company or manager has the authority to decide work contents. However, as well as the characteristics that "there are many demands from clients," this kind of work also produces responses that "the work volume is heavy" and "deadline and delivery times are tight." 20

Next, working hours and degree of overwork will be considered. As stated above, when examining workloads of workers who are given working time autonomy as a formality, it is not enough to look only at the length of working hours. This is because workers sometimes find it difficult to be freed from work not only because working hours are longer but also because of other aspects that cannot be measured with the length of time alone. Judging from Table $4,{ }^{21}$ monthly actual working hours are longest when work contents are "decided by the company or manager." The frequency of night work, weekend work, work-related contact outside working hours is particularly high when the work content is decided in consultation with clients. ${ }^{22}$ Finally, in terms of the degree of overwork (subjective measure), workers tend to be in a state of overwork when continuing this working style, in the sense that they have scarce control of working hours. ${ }^{23}$

Table 3. Nature of the work (score) - by types of deciding work contents (volumes and deadlines) (Workers under a discretionary working system)
(point(s))

|  | The range and targets of the work are clear | I can change the pace and sequence of the work | I can do a lot of the work on my own | There are many demands from clients | The work volume is heavy | Deadline and delivery times are tight | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Decided by the company or manager | 3.05 | 2.72 | 2.76 | 2.54 | 2.93 | 3.16 | (348) |
| Decided by the manager based on my own opinion | 3.21 | 3.07 | 2.83 | 2.43 | 2.85 | 3.01 | (458) |
| Decided by myself in consultation with the manager | 3.30 | 3.28 | 2.87 | 2.43 | 2.71 | 2.87 | (694) |
| Decided by myself in consultation with the client | 3.14 | 3.09 | 2.86 | 3.18 | 3.01 | 3.32 | (197) |
| Decided by myself in consultation with other team members | 3.24 | 3.28 | 2.88 | 2.41 | 2.77 | 2.90 | (256) |
| Decided by myself alone | 2.97 | 3.72 | 3.49 | 2.11 | 2.76 | 2.72 | (71) |

Note: The survey used a 4-point system from "Applies" to "Does not apply," but the format adopted here is based on a comparison of points (i.e. "Applies" = 4 points, "Does not apply" = 1 point).

Table 4. Working styles and working hours - by types of deciding work contents (volumes and deadlines) (Workers under a discretionary working system)
(hours, point(s))

|  | Monthly <br> actual <br> working hours (average) | Frequency of night work (score) | Frequency of weekend work (score) | Frequency of working at home (score) | Frequency of work-related contact outside working hours (score) | Degree of overwork (score) | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Decided by the company or manager | 204.94 | 2.23 | 2.57 | 1.95 | 2.36 | 8.76 | (348) |
| Decided by the manager based on my own opinion | 200.65 | 2.16 | 2.48 | 1.89 | 2.26 | 8.37 | (458) |
| Decided by myself in consultation with the manager | 197.67 | 1.99 | 2.39 | 1.91 | 2.36 | 8.13 | (694) |
| Decided by myself in consultation with the client | 201.27 | 2.42 | 2.71 | 1.88 | 2.54 | 8.86 | (197) |
| Decided by myself in consultation with other team members | 198.70 | 2.07 | 2.52 | 2.02 | 2.40 | 8.24 | (256) |
| Decided by myself alone | 200.07 | 1.92 | 2.82 | 2.82 | 2.96 | 8.39 | (71) |

Note: The frequency of night work, weekend work, working at home, and work-related contact outside working hours was scored on a 4-point scale from "Often" to "Never," these being converted to scores in the same way as in Table 3. Indicators for degree of overwork (subjective measure) were scored on the respective frequency of "Find it difficult to divide up my daily work," "Feel pressurized by time" and "Cannot find enough time to do things for myself or my family because of my work" (4-point scale), and the total of the three was used (312 points). Reliability coefficient (Cronbach $a$ ) $=0.741$.

## 3. The problem of overwork and management

How, then, are these working styles problematic? As seen above, the autonomous working styles of specialist professionals and others may well come with a sense of greater motivation, but they also carry "hazards" along with the risk of health impairment. According to Table 5, ${ }^{24}$ job satisfaction among workers employed under discretionary working system appears to be slightly higher than among those under normal working hour system. Nevertheless, the section on "anxiety over continuing the same working style" in the same Table reveals that many of these workers feel anxiety, particularly those in professional work.

If we see this in terms of how work contents are decided, the problem becomes clearer. Judging from Table 6, where the scope is limited to workers employed under a discretionary working system, there is
strong anxiety over continuing the same working style when the company or manager has the authority to decide work contents, and also when work is carried out in a relationship with clients. For workers who are given working time autonomy as a formality, the problem of overwork is recognized by workers themselves as "a hazard of continuing that working style."

Finally, what would be an appropriate management aimed at preventing overwork? About the case that work contents are decided by the company or manager, optimization of the work volume is an obvious requirement. But if work contents are decided in a relationship with clients, where does the role of management lie? As seen in Table 2, work instructions by managers are relatively few in this case, and the individual worker undertakes the work autonomously in a relationship with their manager. However, the very fact that time management is difficult means that it should be an important role for manager to actively monitor the state of work progress - i.e. what sort of work their employees are undertaking, with what volumes and deadlines, and what working style they are using. To look at it from the opposite angle, if the employee's situation is only passively monitored, one might expect the employee to be governed by the client convenience, unbeknown to the company or manager, leading to an increased risk of overwork. On this point, the analysis for this paper examined differences in working styles depending on the activeness of the company or manager in monitoring work progress of individual workers, limited to cases when the work content was "decided by myself in consultation with the clients" (Table 7). ${ }^{25}$ The results show, not only are the actual hours worked longer when the "company or manager is passive about monitoring progress" than when these are "active," but the degree of overwork is also higher and anxiety over continuing the same working style is stronger. ${ }^{26}$

## 4. Quantitative analysis for actual working hours

Based on the examination so far, quantitative analysis with controlled variables will now be used to verify how, for people who are given working time autonomy as a formality, working styles differ depending on the type of deciding work contents, and in what sort of cases these people would become

Table 5. Job satisfaction and anxiety over continuation - by types of working hour system

|  | Job satisfaction |  |  |  |  | Anxiety over continuing the same working style |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Satisfied | Somewhat satisfied | Neither | Somewhat dissatisfied | Dissatisfied | Often | Sometimes | Rarely | Never |  |
| Discretionary working system for professional work | 21.2 | 42.5 | 14.4 | 17.6 | 4.3 | 18.3 | 38.6 | 34.3 | 8.8 | $(1,436)$ |
| Discretionary working system for planning work | 24.7 | 45.7 | 14.6 | 11.6 | 3.4 | 8.8 | 34.9 | 41.8 | 14.5 | (588) |
| Normal working hour system | 20.2 | 40.5 | 18.9 | 14.9 | 5.4 | 14.7 | 36.9 | 33.9 | 14.5 | $(1,469)$ |

Note: Total of each row $100 \%$.

Table 6. Anxiety over continuing the same working style - by types of deciding work contents (volumes and deadlines) (Workers under a discretionary working system)
(\%)

|  | Often | Sometimes | Rarely | Never | N |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Decided by the company or manager | 21.3 | 44.8 | 26.4 | 7.5 | $(348)$ |
| Decided by the manager based on my own opinion | 17.2 | 36.5 | 36.2 | 10.0 | $(458)$ |
| Decided by myself in consultation with the manager | 10.8 | 35.3 | 41.5 | 12.4 | $(694)$ |
| Decided by myself in consultation with the client | 23.9 | 38.6 | 28.4 | 9.1 | $(197)$ |
| Decided by myself in consultation with other team members | 12.9 | 36.3 | 41.0 | 9.8 | $(256)$ |
| Decided by myself alone | 9.9 | 31.0 | 45.1 | 14.1 | $(71)$ |

Note: Total of each row $100 \%$.

Table 7. Difference in working styles depending on the activeness of company or manager in monitoring progress (Workers under a discretionary working system, with work contents "Decided by myself in consultation with the client") (hours, point(s))

|  | Monthly actual <br> working hours <br> (average) | Degree of <br> overwork <br> (score) | Anxiety over <br> continuing the <br> same working style <br> (score) | N |
| :--- | :---: | :---: | :---: | :---: |

Note: Here, "Anxiety over continuing the same working style" was scored "Often" $=4$ points, "Never" $=1$ point, and the averages were compared.
overworked. First, determinant factors related to the length of working hours will be analyzed.
In terms of decisions on work contents, two cases with regard to overwork were stated earlier, where the situation of daily work volume imposed by manager is one thing, and "client convenient" time autonomy is another. In the latter case, it was suggested that problems are particularly prone to arise when managers do not sufficiently monitor the work progress. This point will now be examined.

The method of analysis was OLS (ordinary least squares) regression, using monthly actual working hours (logarithm) as explained variables. Explanatory variables were the worker's age, gender, whether there were children up to elementary school age, the academic background, employer's industry, regular employee scale of the business, job type, whether a titled position or not, years of service, income, and the types of deciding work contents. In addition to these, variables for "passiveness in monitoring progress by the company or manager" and interaction terms between "passiveness in monitoring progress" and "types of deciding work contents" were also input. This was due to a research concern that working styles could differ depending on the manager's activeness in monitoring the situation, particularly when the work involves a relationship with the clients.

The results are shown in Table 8. As well as differences in relation to age, gender, children or not, industry, job type, and job title or not, the coefficient value (B) is significantly positive when work contents are "decided by the company or manager." Futhermore, when they are both "decided by myself in consultation with the clients" and the "company or manager is passive about monitoring progress," working hours become longer. This would indicate that working hours tend to increase when decisions of daily work contents are made in this way.

## 5. Quantitative analysis for degree of overwork

Next, determinants of overwork will be examined. Although one indicator of overwork is the length of working hours, as noted above, it should be noticed that the problematic nature of situations in which a person who is given working time autonomy as a formality ends up "working whenever and wherever" cannot be characterized only by the length (number) of working hours alone. Based on this research concern, how overwork occurs depending on types of deciding work contents will now be verified.

The method of analysis was OLS regression, with "degree of overwork," used as the explained variable with a value between 3 and 12 (points). Control variables are same as in Table 8. The analysis first verified the direct impact of the way of deciding work contents (Model 1), then examined changes in the result after additionally inputting variables related to working styles and working hours (Model 2). This was based on the research concern that working styles and working hours differ according to how work contents are decided and how work progress is monitored, and that such working styles or working hours would directly forms the sense of overwork.

The results are shown in Table 9. Starting with the results of Model 1, females with children up to elementary school age have a higher likelihood of succumbing to overwork. Differences are also seen

Table 8. Quantitative analysis for actual working hours (logarithm) (OLS)

| Targets of analysis | Workers under a discretionary working system (nonmanagerial posts) |  |
| :---: | :---: | :---: |
|  | B | Standard error |
| Constant | 5.395 | .026** |
| Age | -. 004 | .001** |
| Gender / Whether have children up to elementary school age (benchmark: male / no children) |  |  |
| Male / children | -. 026 | .008** |
| Female / no children | -. 034 | .010** |
| Female / children | -. 113 | .026** |
| Academic background (benchmark: junior high or senior high school graduate) |  |  |
| Vocational school / junior college / kosen graduate | . 012 | . 014 |
| University graduate | . 006 | . 012 |
| Graduate school graduate | . 006 | . 014 |
| Industry (benchmark: manufacturing) |  |  |
| Information and communications | -. 037 | .010** |
| Finance, insurance, and real estate | . 025 | . 017 |
| Scientific research, professional and technical services | . 008 | . 010 |
| Education, learning support | . 025 | . 018 |
| Miscellaneous services | -. 010 | . 012 |
| Regular employee scale of business (benchmark: 300 employees or more) |  |  |
| Fewer than 30 employees | . 000 | . 011 |
| 30-99 employees | -. 008 | . 010 |
| 100-299 employees | . 000 | . 010 |
| Job type (benchmark: clerical) |  |  |
| Sales / marketing, services | . 013 | . 014 |
| Specialist professional | . 030 | .010** |
| Skilled work / labor | . 060 | .022** |
| Other | . 081 | .015** |
| With job title | . 032 | .007** |
| Years of service | . 000 | . 001 |
| Annual income (benchmark: less than 5 mln yen) |  |  |
| 5-6.99 mln yen | . 001 | . 009 |
| 7-8.99 mln yen | . 002 | . 011 |
| 9 mln yen or more | . 018 | . 016 |
| Types of deciding work contents (benchmark: Decided by myself in consultation with the manager) |  |  |
| Decided by the company or manager | . 037 | .013** |
| Decided by the manager based on my own opinion | . 017 | . 012 |
| Decided by myself in consultation with the client | -. 021 | . 017 |
| Decided by myself in consultation with other team members | . 003 | . 016 |
| Decided by myself alone | . 006 | . 026 |
| Company or manager is passive about monitoring progress | -. 011 | . 011 |
| Interaction terms: passive about monitoring progress $\times$ Types of deciding work contents |  |  |
| Decided by the company or manager | -. 015 | . 019 |
| Decided by the manager based on my own opinion | -. 013 | . 017 |
| Decided by myself in consultation with the client | . 064 | .023** |
| Decided by myself in consultation with other team members | -. 004 | . 021 |
| Decided by myself alone | . 006 | . 036 |
| F value |  | 5.252** |
| Adjusted $\mathrm{R}^{2}$ |  | 0.069 |
| N |  | 2,024 |

[^0]Table 9. Quantitative analysis for degree of overwork (OLS)

| Targets of analysis | Workers under a discretionary working system (non-managerial posts) |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Model | Model 1 |  | Model 2 |  |
|  | B | Standard error | B | Standard error |
| Constant | 8.173 | . 335 ** | 2.595 | .404** |
| Age | -. 025 | .008** | -. 005 | . 007 |
| Gender / Whether have children up to elementary school age (benchmark: male / no children) |  |  |  |  |
| Male / children | . 112 | . 105 | . 133 | . 093 |
| Female / no children | . 198 | . 124 | . 348 | .109** |
| Female / children | 1.059 | . $334 * *$ | 1.330 | .296** |
| Academic background (benchmark: junior high school or senior high school graduate) |  |  |  |  |
| Vocational school / junior college / kosen graduate | -. 117 | . 186 | -. 078 | . 163 |
| University graduate | . 141 | . 159 | . 062 | . 140 |
| Graduate school graduate | . 166 | . 185 | . 091 | . 163 |
| Industry (benchmark: manufacturing) |  |  |  |  |
| Information and communications | . 042 | . 132 | -. 084 | . 118 |
| Finance, insurance, and real estate | . 449 | .222* | . 446 | .196* |
| Scientific research, professional and technical services | . 001 | . 126 | -. 179 | . 111 |
| Education, learning support | . 193 | . 237 | -. 568 | .215** |
| Miscellaneous services | . 311 | .158* | . 169 | . 139 |
| Regular employee scale of business (benchmark: 300 employees or more) |  |  |  |  |
| Fewer than 30 employees | -. 202 | . 142 | -. 205 | . 125 |
| 30-99 employees | . 149 | . 127 | . 060 | . 112 |
| 100-299 employees | . 022 | . 127 | -. 013 | . 112 |
| Job type (benchmark: clerical) |  |  |  |  |
| Sales / marketing, services | . 239 | . 187 | -. 081 | . 166 |
| Specialist professional | . 431 | .129** | . 084 | . 114 |
| Skilled work / labor | . 401 | . 285 | -. 161 | . 252 |
| Other | . 781 | .199** | -. 073 | . 178 |
| With job title | . 211 | .093* | . 027 | . 082 |
| Years of service | . 001 | . 008 | . 005 | . 007 |
| Annual income (benchmark: less than 5 mln yen) |  |  |  |  |
| 5-6.9 mln yen | . 273 | .121* | . 172 | . 107 |
| 7-8.9 min yen | . 339 | .147* | . 213 | . 130 |
| 9 mln yen or more | . 199 | . 206 | -. 050 | . 182 |
| Types of deciding work contents (Benchmark: Decided by myself in consultation with the manager) |  |  |  |  |
| Decided by the company or manager | . 642 | .167** | . 489 | .147** |
| Decided by the manager based on my own opinion | . 160 | . 160 | . 158 | . 141 |
| Decided by myself in consultation with the client | . 357 | . 219 | . 334 | . 193 |
| Decided by myself in consultation with other team members | . 042 | . 206 | . 134 | . 181 |
| Decided by myself alone | -. 220 | . 331 | -. 390 | . 291 |
| Company or manager is passive about monitoring progress | -. 016 | . 143 | . 137 | . 126 |
| Interaction terms: Passive about monitoring progress $\times$ Types of deciding work contents |  |  |  |  |
| Decided by the company or manager | -. 028 | . 248 | -. 165 | . 218 |
| Decided by the manager based on my own opinion | . 125 | . 225 | . 004 | . 197 |
| Decided by myself in consultation with the client | . 624 | . 301 * | . 306 | . 265 |
| Decided by myself in consultation with other team members | . 007 | . 274 | -. 156 | . 241 |
| Decided by myself alone | . 679 | . 466 | . 553 | . 409 |
| Monthly actual working hours |  |  | . 016 | .001** |
| Frequency of night work |  |  | . 388 | .049** |
| Frequency of weekend work |  |  | . 183 | .053** |
| Frequency of working at home |  |  | . 281 | .046** |
| Frequency of work-related contact outside working hours |  |  | . 207 | .049** |
| F value |  | 3.825** |  | 19.335** |
| Adjusted R ${ }^{2}$ |  | 0.047 |  | 0.266 |
| N |  | 2,024 |  | 2,024 |

[^1]in age, industry, job type, job title or not, and annual income. A particularly notable point is that there is a positive significance when work contents are "Decided by the company or manager," and when they are "Decided by myself in consultation with the clients" and the "Company or manager is passive about monitoring progress." This indicates a greater tendency toward overwork in this model of work decisions.

In Model 2, changes were examined after additionally inputting variables related to working hours and working styles. As a result, workers tend to feel overworked when the monthly actual working hours were longer or when the frequency of night work, weekend work, working at home, work-related contact outside working hours was higher. This indicates that, firstly, the length of working hours is not the only element that leads to "overwork," as a state in which it is difficult to be freed from work. What should be noted in addition is that the coefficient value of interaction terms between "Decided by myself in consultation with the clients" and "Passive about monitoring progress," which showed a statistically significant effect in Model 1 , is close to 0 , meaning that the statistical significance has disappeared. The results show that, when work decisions are made in this way, not only do working hours become long but the frequency of night work, weekend work and work-related contact outside working hours become also high, and this all forms (the sense of) "overwork." ${ }^{27}$

## V. Conclusion

This paper has examined the working styles of people who are employed under discretionary working system, whose working hours under the system are decided autonomously in the relationship with the employer. It has also discussed the problem that, in some cases, they are unable to control their working hours as they would wish and they become overworked. The key points are summarized below.

First, when the work content is decided (unilaterally) by the company or manager, there is a risk that working hours will increase and overwork will occur. But it is not only in cases like this that workers become overworked. Even when they have much discretion over their work contents (volume and deadline) in their relationship with the company or manager, their working style could result in a state of overwork if they are required to respond immediately to the client convenience and their managers are passive about managing their progress.

Finally, let us consider the implications to be drawn from the results of analysis in this paper. When working hours are decided autonomously, the burden of the work volume sometimes becomes difficult to visualize in the form of overtime hours. For the purpose of preventing overwork, there is a strong need for appropriate work management so that employees do not succumb to a situation in which they could control their working hours. On this point, the first requirement should be to avoid setting work volumes that assume long working hours, and employees' opinions should be taken into account when deciding the work content in order to optimize work volumes.

But this is not the only thing to be wary of. When the specific work contents (volume, deadline, etc.) are decided in a relationship with clients and the work progression is entrusted to individual employees, the risk is that it could become harder to stop "overwork" arising from excessive attention to the client convenience. Overwork of workers who are given working time autonomy as a formality is caused not only by companies or managers setting excessive quotas, but also in part by pressure from clients. Although discretionary working systems are often combined with performance-based evaluation, it should be noted that merely waiting for the ultimate performance (results) is not sufficient as management designed to prevent overwork among employees. This is particularly true when client response is entrusted to individual employees. The role of managing work assignments to individual employees through close monitoring progress is important, and moreover, forming a barrier to apply a brake on overwork caused by client convenience must also be required.

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## Notes

1. Research on the relationship between job characteristics or individual characteristics and long working hours includes Ogura (2007), Yamamoto and Kuroda (2014) and JILPT (2005; 2011). For example, Ogura (2007) cites "a heavy workload" as the biggest reason why overtime occurs. From the angle of workplace management, Sato (2008) considers excessive workloads imposed on employees as a factor behind the increase in working hours. In this way, previous research has identified excessive workload as a problematic factor behind long overtime hours.
2. As problems caused by working at night and other times affecting family life, the impact on spousal and parent-child relations has been studied. See Presser (2003), Barnes et al. (2006), Craig and Powell (2011), etc.
3. In previous research, it has been argued that if workers can decide their own times of starting and finishing work, for example, it acts as a positive resource for work-life balance, such as by reducing conflicts between work and family life. See Jacobs and Gerson (2004), among others. Yamaguchi (2009) also verifies that deficiency of scheduling flexibility in the workplace has an impact on overwork (in which the actual working hours are longer than those preferred by the worker in question).
4. Schieman et al. (2009) argue that, for workers with high professional status such as those in high earning brackets, the boundary between work and non-work becomes blurred when there is control over the allocation of working hours, and this can easily lead to conflicts with family life. See also Schieman and Glavin (2008).
5. On the working styles of specialist professionals (IT engineers), Sharone (2004) argues that, since the self-management form that gives autonomy over working hours is operated under competitive principles, workers' anxieties and competitive instincts are aroused and they throw themselves (voluntarily) into overwork. Similarly, Kunda (1992) depicts a situation in which engineers become addicted to work as a result of management that encourages self-management, and constantly sense the risk of "burnout."
6. In the sociology of work, the focus in the concepts of autonomy of workers and discretion over work tasks has been on how the individual worker's margin for performing work freely is constrained by employer's labor control strategy. For example, problems have been seen in the situation whereby highly detailed management is imposed by the employer and the worker's individual discretion is constrained, as typified by Taylorist labor management ("Scientific Management"). See Wood (1982), Gallie et al. (1998), Choi et al. (2008), etc.
7. Under a system of normal working hours, conversely, employees' work burdens may be easy to see in the form of overtime hours, and partly because the hours themselves are managed and regulated, differences in overtime hours and other aspects of working styles due to the degree of discretion could be described as relatively small.
8. Imano (2001) makes a distinction, in the case of white collar labor, between discretion over work processes involved in "how to do the work" and discretion over work volume in "what work to do," and asserts that it is important to have both of these in order to prevent overwork. Sato (1997) also cites the appropriate quality and quantity of work, appropriate deadlines, clear work targets, and the degree of discretion over work among the conditions for greater flexibility of working hour systems to function properly.
9. In a number of empirical studies in recent years, it has been argued that working styles formed around client convenience cause overwork. See Perlow (1999), Blair-Loy (2009), Moen et al. (2013), etc. Blair-Loy (2009), for example, argues in connection with the working styles of stockbrokers that employees in workplaces with flexible time arrangement, compared to those in workplaces where time management is rigid, tend to be caught up in responding to clients' demands, and conflicts between work and family can easily occur.
10. Besides this, in cases where progress management is frequently carried out and many instructions are given by managers, real discretion over the progression of the work is limited and time control becomes difficult to achieve. This could also be called a problem of "surfeit of management."
11. Previous research has taken the state of overwork as a subjective measure for discussion under the concepts of "time pressure," "time squeeze," "time famine" and "time bind" (e.g. Van der Lippe 2007, Schor 1992, Perlow 1999, Hochschild 1997). Rather than the length of time, these focus on the meaning of time for the person in question. Under the concept of "time famine," for example, Perlow (1999) saw problems in the "perception that there are so many things to do and not enough time to do them" in the working styles of software engineers.
12. The "time squeeze" is of course related to the length of working hours (see Schor 1992). Besides this, it is also related to the increased family workload accompanying the increase in female workforce participation, the increase in dualincome households, and other factors (e.g. Jacobs and Gerson 2004). Hochschild (1997) also connects it with overwork accompanying women's work in the childrearing phase and the balance between housework and childcare.
13. As part of this, Van der Lippe (2007) argues that a format in which workers are given autonomy and output is managed through tight deadlines causes time pressure for working people.
14. In these surveys, offices and the employees who work for them were asked about the degree to which discretionary
working and other systems are applied, their working styles, etc. For details of the surveys, see JILPT (2014a and 2014b). The surveys targeted 5,414 offices selected at random from those that were very likely to have introduced a discretionary working system (abbreviated as "MHLW sample" in the JILPT survey reports above). In the analysis for this paper, the working styles of workers employed under a discretionary working system who responded to the survey distributed via their employers were studied. For each business targeted by the surveys, the analysis examined up to two workers engaged in professional work and two engaged in planning work.
15. Whenever appropriate, the results of comparative analysis targeting workers employed under a "normal working hour system (max. 40 hours per week, 8 hours per day)" with the same conditions will be shown.
16. The "discretionary working system for professional work" applies to workers engaged in specifically designated work in which it is difficult for the employer to give specific instructions on the method of performing the work and decisions on the allocation of time, such as R\&D technicians or IT engineers. The "discretionary working system for planning work" applies to white collar workers who perform planning, proposal drafting and other similar work at their own discretion in core divisions such as the head office of a company.
17. The data used here are the answers to "How are the targets, deadlines and content of your work normally decided?" (single response). The option "Other" has been removed from the analysis. The answers express how "what must be done by when" is decided for the respectively assigned work, and could be seen as an indicator for the type of deciding assigned work contents.
18. In these data, workers employed under a discretionary working system for professional work are broken down into the following types of work. "New product or new technology research and development work" (38.0\%) and "IT system analysis or design work" ( $24.4 \%$ ) are significantly numerous, followed by "Professorial research work at a university" (6.9\%), "Designer work" (6.2\%) and "Producer or director work" (5.3\%). In terms of different methods of deciding work volumes and deadlines, meanwhile, a characteristic of "IT system analysis or design work," "Article reporting or editing work," "Designer work" and "System consultant work" is that the work volumes and deadlines are "Decided by myself in consultation with the clients" in around $20 \%$ of cases. The response "Decided by myself alone" has a very exceptional character in that it is weighted toward "Professorial research at a university." Therefore, this working style will not be discussed here.
19. The data used here are the answers to "What sort of work instructions does your manager give?" The options are " 1 . No instructions," " 2 . Instructions only on basic matters concerning work objectives, targets and deadlines, etc.," " 3 . Instructions on the specific content of work," "4. Specific instructions including means of performing the work and decisions on the allocation of time" and " 5 . Other." Of these, 5 has been removed, and 3 has been combined with 4 to make three categories. In fact, partly due to the purpose of the legislation, very few workers covered by the discretionary working system come under option 4.
20. One-way analysis of variance revealed a statistically significant difference at the $1 \%$ level in all areas of the nature of the work shown in Table 3.
21. Monthly actual working hours were based on responses stating actual hours worked in the single month of October 2013 (answers of less than 140 hours and more than 320 hours were removed from the sample as outliers).
22. One-way analysis of variance revealed that the working styles and working hours shown in Table 4 have a statistically significant difference at the $5 \%$ level in connection with actual hours worked, and at the $1 \%$ level for other aspects. Even when these are "decided by myself alone," moreover, the frequency of weekend work, working at home and work-related contact outside working hours is high, but as stated in Note 18 above, this working style will not be especially discussed here owing to the strongly exceptional nature of the respondents.
23. Though omitted from the figures, a state of overwork has a strong correlation with actual hours worked as well as the frequency of night work, weekend work, working at home, work-related contact outside working hours.
24. For job satisfaction, answers to the question "Which of the following best describes your satisfaction with your current work?" were used. For "anxiety over continuing the same working style," the answers to "Do you ever feel anxious about whether you can continue this working style in future?" were used.
25. The business survey included the question, "How do managers or supervisors monitor progress in work of employees under a discretionary working system?" Answers of "We ask for regular reports" and "We ask for reports submitted a fixed time before the deadline for the work" to the question were taken as "Company or manager active about monitoring progress." Answers of "We monitor it irregularly (e.g. when there is additional work, or as appropriate in response to the employee's work attitude)" and "other" were taken as "Company or manager is passive about monitoring progress."
26. One-way analysis of variance revealed a significant difference at the $5 \%$ level for actual hours worked and overwork, and at the $10 \%$ level for anxiety over continuing the same working style.
27. In contrast to this, when work contents are "decided by the company or manager," there is a strongly direct impact on overwork even if working hours and working styles are controlled. This unilateral type of deciding work contents itself seem to place a psychological burden.

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[^0]:    Note: ** Significant at the $1 \%$ level, * Significant at the $5 \%$ level.

[^1]:    Note: ** Significant at the $1 \%$ level, * Significant at the $5 \%$ level.

