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## Workaholism and Mental and Physical Health

*Takashi Fujimoto*

*The Japan Institute for Labour Policy and Training*

In this paper, the author addresses the topic of workaholism as it pertains to the characteristics of long-hour workers and conducts an analysis that focuses primarily on workaholism's relationship with state of health. The analysis was conducted in line with three elements of workaholism that were posited by Spence and Robbins (1992); namely, "work enjoyment," "driven," and "work involvement." In looking at the relationship between these three elements of workaholism and working hours, the analysis showed that people who get more enjoyment from their work, feel more inner drive toward their work, or feel a stronger sense of involvement in their work tend to work longer hours. However, the correlation coefficients in this relationship were not very high. In looking at the correlations among the three elements, the analysis found that the relationship between "driven" and "work involvement" was relatively strong and can be viewed as a negative aspect of workaholism, while their relationship with "work enjoyment," which is a positive aspect, was weak. Furthermore, a multivariate analysis of the impact of the three elements that used state of mental and physical health as an explained variable showed that "driven" has a consistently negative impact on mental and physical health.

### I. Definition of "Workaholism" and Previous Research

From the perspective of "workaholism" as it pertains to the characteristics of long-hour workers, the purpose of this paper is to analyze how workaholism relates to mental and physical health. People who work long hours are often referred to as "workaholics." Just as the phrase "addicted to work" does, the term "workaholic" generally carries a negative connotation. Oates (1972, 10), who coined the word "workaholic," defined it as "a person whose need for work has become so excessive that it creates noticeable disturbance or interference with his bodily health, personal happiness, and interpersonal relationships, and with his smooth social functioning." This definition has become well known.

However, some see workaholism has having positive aspects, such as enjoyment of work or the acquirement of many benefits from work. For example, Machlowitz (1981, 161) states that, while there are undesirable aspects of workaholism, "the stereotype that all workaholics are worried, tired, and unhappy is simply not correct." Thus, "workaholism" is defined in various ways based on whether it is seen in terms of positive aspects or negative aspects" (Schaufeli, Taris, and Bakker 2006).

Moreover, a workaholic is often defined as a person who voluntarily works long hours or who is not bothered by working long hours. However, this voluntary aspect comes with two sides: one being a "healthy mental state in which the person is 'genuinely' unbothered by small amounts of overtime work," and the other a "slightly dangerous mental state in which the person 'is being made to think that he wants to work' by some kind of

pressure” (Ogura 2010). This is said to be the difference between being “pulled to work” (i.e., being attracted to work by the enjoyment it produces) and being “pushed to work” (i.e., being driven to work by one’s own obsession) (Taris, Schaufeli, and Shimazu 2010).

Various manipulation methods are available for analysis of workaholism. For example, Otake, and Okudaira (2008) defined workaholism as “addiction to long hours of work” and conducted analyses using “did you work more than 60 hours a week during the previous year or not” and “are you working more than 60 hours a week at the time of the survey or not” as dummy variables to determine the degree of addiction in working hours. In addition, they also used a dummy variable showing the characteristics of procrastinating behavior in the form of “as a child, did you wait until the end of summer vacation to do your summer homework assignments or not” in analyses as a coefficient for factors linked to long working hours.

Thus, the trend is toward research studies that primarily focus on psychological trends and behaviors related to addiction to work, particularly in the field of psychology, rather than toward analyses of workaholism that are based on actual working hours (Burke 2006; Schaufeli, Taris, and Bakker 2006). For example, Spence and Robbins (1992) establish three elements of workaholism: “work involvement,” “driven,” and “work enjoyment.”<sup>1</sup> They define a “workaholic” as a person who, compared to ordinary workers, (i) has high involvement in his/her work, (ii) is internally driven to do work, and (iii) cannot get enjoyment from work.

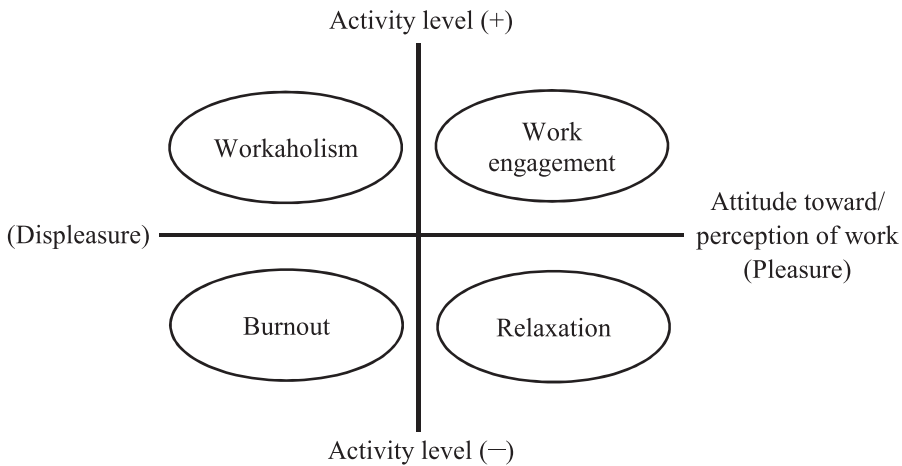
Schaufeli, Taris, and Bakker (2006) defined workaholism as an undesirable state that resembles addiction and conducted an analysis that separated the positive aspects of workaholism (i.e., “work engagement”<sup>2</sup>) from the negative aspects (i.e., “working hard compulsively” [workaholism]).<sup>3</sup> Stated in terms of the three aforementioned elements presented by Spence and Robbins, “work involvement” and “work enjoyment” are high in the former (positive aspects) while “driven” is low, and “work involvement” and “driven” are high in the latter (negative aspects) while “work enjoyment” is low. When arranged on the two axes “activity level” and “attitude toward/perception of work” as shown in Figure 1, “work engagement” shows a high activity level (+) and a positive attitude toward/perception of work (pleasure) (i.e., a feeling of “I want to work”). On the other hand, “workaholism” also shows a high activity level (+) but a negative attitude toward/perception of work (dis

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<sup>1</sup> Spence and Robbins prepared a Workaholism Battery comprised of three subscales for “work involvement” (7 items including “Between my job and other activities I’m involved in, I don’t have much free time”), “driven” (7 items including “I often find myself thinking about work, even when I want to get away from it for a while”), and “work enjoyment” (9 items including “my job is more like fun than work”).

<sup>2</sup> “Work engagement” is defined as a “positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, such as an emotion, engagement refers to a more persistent affective-motivational state that is not focused on any particular object, event or behavior” (Shimazu and Eguchi 2002, and others).

<sup>3</sup> From an Internet survey targeting Dutch workers and having a sample size of 2,164 people.



Source: Shimazu (2013).

Figure 1. Positioning of Concepts concerning “Work Engagement”

pleasure) (i.e., a feeling of “I have to work”) (Shimazu and Eguchi 2012).

The analysis conducted by Schaufeli, Taris, and Bakker (2006) used two measures to show workaholism; namely, “working excessively” and “working compulsively.”<sup>4</sup> The results showed that “working excessively” has characteristics of both positive workaholism and negative workaholism, while “working compulsively” is the classic form of negative workaholism. In addition, while “overwork” (working on weekends, bringing work home, working overtime) showed a positive correlation with all of the measures, its strongest relationship was with “working excessively.” On the other hand “well-being” (state of health, absence from work, happiness) displayed a negative association with workaholism for the most part and a positive association with work engagement.

Shimazu and Schaufeli (2009) conducted a survey of Japanese workers<sup>5</sup> to examine the relationships between work engagement and workaholism and psychological distress and physical complaints, job and family satisfaction, and job performance. The results showed that (i) work engagement and workaholism have a weak positive association; (ii) work engagement has a negative association with psychological distress and physical complaints but a positive association with job and family satisfaction and job performance; and (iii) workaholism has a positive correlation with psychological distress and physical complaints but a negative correlation with job and family satisfaction and job performance.

In addition, Shimazu et al. (2012) conducted a longitudinal survey of Japanese work-

<sup>4</sup> The measure was comprised of 9 items for “working excessively (including “I am always busy and take on many jobs at once,” etc.), 8 items for “working compulsively” (including “I sometimes feel like there is something inside me pushing me to work,” etc.), and 9 items for “work engagement” (including “I feel uplifted and energetic when I am at work,” etc.).

<sup>5</sup> Analysis focused on 776 people working for construction machinery companies in western Japan. Of these people, 728 (93.8%) were men.

ers<sup>6</sup> that examined work engagement and workaholism and psychological distress and physical complaints, job and family satisfaction, and job performance after six months. This survey found that work engagement leads to favorable conditions, while workaholism leads to unfavorable conditions.

The results of these analyses suggest that work engagement and workaholism are similar in that they have high work activity levels but involve different attitudes to and perceptions of work. This means they have different influences on psychological distress and physical complaints and so on (Shimazu and Eguchi 2012).

In this paper, the author analyzes relationships with workaholic working hours and their influences on mental and physical health based on research studies like those presented above (Spence and Robbins 1992; Schaufeli, Taris, and Bakker 2006, and others) that primarily involve analysis of psychological trends and behaviors toward addiction to work. Data used in this analysis are individual data (regular employees only) from a survey conducted by the Japan Institute for Labour Policy and Training (2011). For this survey, the selected respondents were divided into managerial and non-managerial personnel, in order to examine problems unique to managers. Moreover, managers accounted for a large percentage of the whole, and for these and other reasons, the analysis of this paper also aggregates and analyzes management samples and non-management samples separately.<sup>7</sup>

## II. The Three Elements of Workaholism

In previous research by Spence and Robbins (1992), Schaufeli, Taris, and Bakker (2006), and others, analysis was based on measures consisting of multiple items, including workaholism. However, because a similar analysis cannot be performed with the data used in this paper, the author elected to conduct the analysis using single question items thought to approximate the meanings of the measures of the three elements of workaholism, i.e., “work enjoyment,” “driven,” and “work involvement,” presented by Spence and Robbins (1992). It is thought that these questions also correspond to the measures of “work engagement,”<sup>8</sup> “working compulsively,” and “working excessively” presented by Schaufeli, Taris,

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<sup>6</sup> An Internet survey using people registered with a research company. The survey was conducted twice with a roughly six-month interval. The valid sample size for analysis after the second survey was 1,967 people.

<sup>7</sup> The survey was conducted in February 2010 using people registered with a private research company. Postal services were utilized. Respondents were follows: “manager”: 4,423 (88.5%); “non-manager”: 4,338 (86.8%); total: 8,761 (87.6%). However, those respondents used for analysis were 2,733 “manager” and 5,020 “non-manager” (total of 7,753) that were obtained after excluding 640 respondents who answered they were not “regular employees” at the time of the survey and 235 who stated that their current position is “executive.” For details on the survey method, see Japan Institute for Labour Policy and Training (2011).

<sup>8</sup> “Work engagement” is presented as a complex concept comprised of “vigor” (high levels of energy and mental resilience while working) “dedication” (being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge), and “absorption”

and Bakker (2006). Their analysis focused only on the negative aspects of workaholism, as it considered the positive aspects to be “work engagement”; however, this paper analyzes workaholism by bringing together both positive and negative aspects.

For “work enjoyment,” the author used a question item concerning “work/leisure balance (work-orientedness).” Here, responses were arranged in a five-point scale comprised of “I look for meaning in my work and put all my energies into it,” “I put energy into my work, but I sometimes enjoy free time,” “I think that work and free time are equally as important as one another,” “I work to a certain extent but enjoy my free time as much as possible,” and “I do not prioritize work, but rather look for meaning in my free time.”<sup>9</sup> This question, which includes the expression “look for meaning in my work,” was used because “work enjoyment” refers to liking work and feeling enthusiasm for it.

For “driven,” the analysis used question items concerning “Even if I leave work, I am always thinking about it and cannot get work out of my mind.” It is thought that this item approaches the meaning of “driven.” Available responses were arranged in a four-point scale comprised of “Always true,” “Often true,” “Sometimes true,” and “Almost never true.”<sup>10</sup>

And for “work involvement,” the analysis used the question item “Work just keeps coming, and I have to process so many things at once,” which shows a strong connection with work. For this item as well, available responses were arranged in a four-point scale comprised of “Always true,” “Often true,” “Sometimes true,” and “Almost never true.”<sup>11</sup>

The analysis of this paper seeks to verify the following two main hypotheses. The first is that people who get more enjoyment from their work, feel more inner drive toward their work, or feel a stronger sense of involvement in their work tend to work longer hours. This is based on the rationale that “work enjoyment,” “driven,” and “work involvement” are all elements that extend working hours. And the second is that people who enjoy their work tend not to experience problems with their own health, whereas people who feel inner drive toward their work or feel a stronger sense of involvement in their work tend to experience health problems. As was shown in research by Shimazu and others (Shimazu and Schaufeli 2009; Shimazu et al. 2012), even when the level of activity applied to work is high, differences in attitudes toward and perceptions of work can generate differences in state of health.

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(being fully concentrated and happily engrossed in one’s work) (Shimazu and Eguchi 2012).

<sup>9</sup> For analysis, values were assigned to each of the options as follows: “I look for meaning in my work and put all my energies into it” = +2; “I put energy into my work, but I sometimes enjoy free time” = +1; “I think that work and free time are equally as important as one another” = 0; “I work to a certain extent but enjoy my free time as much as possible” = -1; “I do not prioritize work, but rather look for meaning in my free time” = -2.

<sup>10</sup> For analysis, values were assigned to each of the options as follows: “Always true” = 3; “Often true” = 2; “Sometimes true” = 1; “Almost never true” = 0.

<sup>11</sup> Responses were processed in the same manner as those for “driven” for analysis.

Table 1. "Work Enjoyment" and Working Hours (Average Hours)

	I do not prioritize work, but rather look for meaning in my free time	I work to a certain extent but enjoy my free time as much as possible	I think that work and free time are equally as important as one another	I put energy into my work, but I sometimes enjoy free time	I look for meaning in my work and put all my energies into it
Non-managers					
Total monthly working hours	178.1 (194)	176.5 (680)	181.1 (2573)	190.6 (1179)	205.7 (98)
Monthly overtime hours	20.2	19.6	24.1	29.6	37.0
Managers					
Total monthly working hours	177.5 (29)	179.0 (178)	180.8 (1412)	193.0 (914)	213.0 (88)
Monthly overtime hours	23.7	26.7	28.5	36.3	50.7

Notes: 1. The item appearing in the questionnaire was "Please check one response that applies to you with regard to your work/leisure balance."

2. All of the results of analysis of variance are statistically significant at the 1% level.
3. Numbers in parentheses are the number of observations.

### III. Workaholism and Working Hours

To begin, this section confirms the relationship between working hours and the three elements of workaholism. Tables 1 to 3 show averages of total monthly working hours and overtime hours for each category of the three elements of workaholism. For "work enjoyment" (Table 1), it is apparent that, for both non-managers and managers, those who put greater priority on work tend to work longer hours, and that managers tend to work longer hours than non-managers.<sup>12</sup> For "work involvement" (Table 2), a trend is apparent whereby those feeling a stronger sense of involvement in their work tend to work longer hours. The same is true for "driven" (Table 3), which shows a trend whereby those who feel stronger drive toward their work tend to work longer hours. From these results, it was verified that the elements of workaholism are also elements behind longer working hours.

Table 4 shows correlation coefficients between total monthly working hours and the three elements of workaholism. For both non-managers and managers, total monthly working hours show a weak positive association with each of the three elements of workaholism.

<sup>12</sup> Working hours were longer for managers than non-managers because female non-managers work shorter hours. There was almost no difference between the working hours of male non-managers and managers. Looking at total monthly working hours, for non-managers, females worked 170.1 hours (n = 1,152) while males worked 187.5 hours (n = 3,581), and for managers, females worked 183.8 hours (n = 57) while males worked 186.0 (n = 2,566).

Table 2. “Work Involvement” and Working Hours (Average Hours)

	Almost never true	Sometimes true	Often true	Always true
Non-managers				
Total monthly working hours	172.8 (529)	175.8 (1397)	184.7 (1891)	198.6 (862)
Monthly overtime hours	12.4	17.7	27.4	39.1
Managers				
Total monthly working hours	166.1 (163)	173.3 (728)	188.6 (1202)	204.7 (503)
Monthly overtime hours	13.4	21.2	33.5	49.3

Notes: 1. The item appearing in the questionnaire was “I must simultaneously handle many duties that come up one after another.”

2. All of the results of analysis of variance are statistically significant at the 1% level.

3. Numbers in parentheses are the number of observations.

Table 3. “Driven” and Working Hours (Average Hours)

	Almost never true	Sometimes true	Often true	Always true
Non-managers				
Total monthly working hours	174.2 (1302)	179.9 (1941)	191.9 (1020)	206.6 (412)
Monthly overtime hours	16.8	22.7	32.4	43.2
Managers				
Total monthly working hours	174.6 (536)	182.0 (1161)	194.6 (644)	207.2 (251)
Monthly overtime hours	22.2	28.8	37.7	51.8

Notes: 1. The item appearing in the questionnaire was “I am always thinking about work and cannot get it out of my mind.”

2. All of the results of analysis of variance are statistically significant at the 1% level.

3. Numbers in parentheses are the number of observations.

Table 4. Correlation between Total Monthly Working Hours and the Elements of Workaholism

	Total monthly working hours	Work enjoyment	Driven
Non-managers			
Work enjoyment	0.127 (4724)		
Driven	0.226 (4675)	0.118 (4937)	
Work involvement	0.199 (4679)	0.041 (4941)	0.433 (4949)
Managers			
Work enjoyment	0.176 (2621)		
Driven	0.243 (2592)	0.145 (2688)	
Work involvement	0.295 (2596)	0.067 (2692)	0.444 (2689)

Note: All correlation coefficients are statistically significant at the 1% level.

In other words, although people who get more enjoyment from their work, feel more inner drive toward their work, or feel a stronger sense of involvement in their work tend to work longer hours, the correlation is not very high. In addition, “driven” and “work involvement” have a slightly higher correlation with working hours than “work enjoyment.”

Looking at the elements of workaholism, although the correlation coefficients between “work enjoyment” and “driven” and between “work enjoyment” and “work involvement” are statistically significant results, their coefficient values are less than 0.2. The correlation between “driven” and “work involvement” is relatively high with coefficient values of more than 0.4 for both non-managers and managers. In other words, the association between those aspects of workaholism considered positive (work enjoyment) and those considered negative (work involvement and driven) is low. This matches with the results and trends reported by Schaufeli, Taris, and Bakker (2006) indicating that work engagement and workaholism are two different things.

#### IV. Workaholism and Health

This section looks at the relationship between the elements of workaholism and mental and physical health. Various research studies have clearly shown that longer working hours have a detrimental effect on mental and physical health (one example is Japan Institute for Labour Policy and Training [2005]).

The mental and physical health variables used in the analysis are the combined scores<sup>13</sup> of 10 items<sup>14</sup> concerning the following question: “This question concerns your physical and mental condition during the past one week. To what degree have you experienced the following?” The items include “experienced loss of appetite” and “felt depressed.” Available answers were arranged in four-point scale comprised of “Almost every day,” “Frequently,” “Occasionally,” and “Not at all.”

Table 5 shows the correlation between the elements of workaholism and mental and physical health (total score). For both non-managers and managers, there was almost no relationship with “work enjoyment.” However, when “driven” and “work involvement” are compared, the value for driven is higher in both cases.

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<sup>13</sup> Total scores were calculated as follows: “Almost every day” = 3; “Frequently” = 2; “Occasionally” = 1; and “Not at all” = 0. Accordingly, a higher score indicates a poorer state of health and, conversely, a lower score indicates a better state of health. The minimum possible score was 0 and the maximum possible score was 30. The average for non-managers was 6.51 and that for managers was 5.47.

<sup>14</sup> The 10 items were “I felt annoyed by ordinary occurrences,” “I felt a loss of appetite,” “I didn’t have the energy to do anything,” “I found it difficult to concentrate on things,” “I didn’t feel like talking to people as much as usual,” “I felt glum even when encouraged by family or friends,” “I felt depressed,” “I felt lonesome,” “I felt sad,” and “I felt frightened for some reason.” The reliability coefficient (Cronbach’s coefficient alpha) for these items was 0.907. Items employed in CES-D (Center for Epidemiologic Studies Depression Scale), which is an index for measuring psychological depression, served as a reference here.



Table 5. Correlation between Mental and Physical Health and the Elements of Workaholism

	Work enjoyment	Driven	Work involvement
Non-managers	-0.069** (4968)	0.443** (4915)	0.242** (4919)
Managers	-0.012 (2704)	0.428** (2673)	0.263** (2677)

Note: \*\* indicates a statistical significance at the 1% level.

Table 6 shows the results of a multivariate analysis (OLS) using mental and physical health as an explained variable, which was conducted to verify the effects the three elements of workaholism have on health. Explanatory variables consisted of variables for the three factors of workaholism, and gender, age, academic background, annual salary, position, occupation, business category, company size, and total monthly working hours as control variables.

In the case of non-managers, all of the three elements of workaholism have a statistically significant impact on mental/physical health (deterioration). However, while “work enjoyment” has a negative association, “driven” and “work involvement” have a positive association. In other words, the analysis found that, for non-managers, the more a person feels he gets a sense of meaning from work, the better his mental/physical health tends to be; however, the stronger he feels driven to work or the more involved he is in work, the worse his mental/physical health becomes. The influence of “driven” is particularly large. It is thus apparent that pressure to do work (driven) has a larger influence on mental/physical health than the amount of work (work involvement).

In the case of managers, like non-managers, all of the three elements of workaholism have a statistically significant impact on mental/physical health (deterioration). “Work enjoyment” has a negative association, while “driven” and “work involvement” have a positive association. A tendency for “driven” to have the largest influence is apparent.

From these results, it is understood that, of the three elements of workaholism, the state of mental/physical health is better when “work enjoyment” is present, but is worse when there is strong “driven” or high “work involvement.” In particular, “driven” has a large influence when it comes to deteriorating mental/physical health. These tendencies match with the findings of Schaufeli, Taris, and Bakker (2006).

## V. Workaholic Types and Health

The above discussion provided an analysis of the three elements of workaholism and their relationships with health. However, when considering individual workers, it should be remembered that some people may have a strong tendency in one of the three elements, while others may have combinations of all three elements. The following presents an analysis that divides workaholics into types that are matched to the three elements.

Table 6. The Impact of the Elements of Workaholism on Mental and Physical Health

The explained variables are synthetic variables for 10 items concerning physical and mental condition during one week. OLS was the method used.	Non-managers		Managers	
	Standardized coefficient	t value	Standardized coefficient	t value
Gender (male = 1, female = 0)	-0.062	-3.602 **	-0.031	-1.656 *
Age (years)	0.008	0.484	0.048	2.448 **
Academic background				
[Junior high school/high school]				
Junor college/specialized training college	-0.008	-0.500	-0.006	-0.290
University	-0.007	-0.377	-0.016	-0.675
Graduate school	0.015	0.935	-0.012	-0.551
Annual salary (logarithm)	-0.088	-4.622 **	-0.126	-5.261 **
Position [Rank-and-file employee]				
Section chief/senior staff member	-0.031	-2.013 **		
Assistant division chief	-0.029	-1.875 *		
Position [Division chief]				
Division manager			-0.010	-0.534
Division director			-0.008	-0.441 *
Occupation [General office work]				
General affairs, personnel, accounting, etc.	-0.040	-2.285 **	0.041	1.101
Sales	-0.055	-2.514 **	0.047	1.049
Customer services	-0.026	-1.579	0.008	0.343
Administrative specialist	-0.006	-0.402	0.055	2.189 **
Technical specialist	-0.027	-1.185	0.028	0.676
Medical or educational specialist	-0.015	-0.739	0.047	1.992 **
Worksite management/supervision	-0.023	-1.242	0.048	1.401
Manufacturing/construction work	-0.027	-1.276	0.027	1.158
Transport/security	-0.018	-1.035	0.002	0.077
Other	-0.028	-1.716 *	0.011	0.426
Business category [Manufacturing]				
Construction	-0.016	-1.068	-0.001	-0.041
Communications/transport	0.002	0.128	0.015	0.759
Distribution/eating and drinking	0.017	1.009	-0.011	-0.501
Finance/real estate	0.032	2.044 **	0.031	1.505
Academics/education/medicine	0.023	1.165	0.022	1.022
Other services	0.009	0.535	0.055	2.696 **
Company size [99 employees or less]				
999 employees or less	0.020	1.201	0.056	2.331 **
1,000 employees or more	0.004	0.189	0.057	2.024 **
Total monthly working hours	0.026	1.777 *	0.011	0.574
Work enjoyment (+2 to -2)	-0.103	-7.544 **	-0.085	-4.570 **
Driven (+2 to -2)	0.435	28.821 **	0.405	19.754 **
Work involvement (+2 to -2)	0.073	4.775 **	0.085	4.040 **
Constant		7.415 **		4.756 **
Sample size		4339		2455
F value		46.120 **		23.008 **
Adjusted coefficient of determination		0.238		0.212

Notes: 1. If a coefficient value is "+," a higher explanatory variable means a poorer health state.

Conversely, if the value is "-", a higher explanatory variable means a better health state.

2. \*\* p<0.05; \* p<0.10.

3. Items in brackets indicate the reference group for each dummy variable.

Table 7. The Workaholic Types

		Work enjoyment	
		+ group	- group
Driven			
Non-managers			
+ group	enjoyment + / driven + = 439	enjoyment - / driven + = 781	
- group	enjoyment + / driven - = 421	enjoyment - / driven - = 1246	
Managers			
+ group	enjoyment + / driven + = 370	enjoyment - / driven + = 430	
- group	enjoyment + / driven - = 351	enjoyment - / driven - = 614	

Table 8. A Comparison of the Workaholic Types (Average Values)

	Workaholic type				Total
	enjoyment + / driven +	enjoyment + / driven -	enjoyment - / driven +	enjoyment - / driven -	
Non-managers					
Total monthly working hours	203.5	187.0	194.3	181.2	189.0
Mental/physical health state	9.4	5.6	10.2	5.6	7.4
Managers					
Total monthly working hours	209.0	194.4	193.3	183.6	193.4
Mental/physical health state	8.1	4.9	8.6	4.4	6.3

Note: All of the results of analysis of variance are statistically significant at the 1% level.

To classify the types, the positive aspect of workaholism (work enjoyment) and negative aspect (driven) are combined only when “work involvement” is high.<sup>15,16</sup> Table 7 shows the sample sizes for each type. Each of the types has high “work involvement”; however, *enjoyment +/driven +* is high in both “work enjoyment” and “driven” while *enjoyment +/driven -* is high in “work enjoyment” but low in “driven.” On the other hand, *enjoyment -/driven +* is low in “work enjoyment” but high in “driven,” while *enjoyment -/driven -* is low in both “work enjoyment” and “driven.”

Table 8 provides a comparison of averages of total monthly working hours and total points for mental and physical health for each workaholic type. Generally speaking, the trends for both non-managers and managers match. Total monthly working hours were

<sup>15</sup> When values are 3 (always true) or 2 (often true).

<sup>16</sup> The positive (+) group of “work enjoyment” is comprised of 2 (“I look for meaning in my work and put all my energies into it”) and 1 (“I put energy into my work, but I sometimes enjoy free time”), while the negative (-) group is comprised of the others (0 [“I think that work and free time are equally as important as one another”], -1 [“I work to a certain extent but enjoy my free time as much as possible”] and -2 [“I do not prioritize work, but rather look for meaning in my free time”]). The positive (+) group of “driven” includes 3 (“always true”) or 2 (“often true”), while the negative (-) group includes the others (1 [sometimes true] and 0 [almost never true]).

longest for the type with high “work enjoyment” and “driven” scores (*enjoyment +/driven +*), and shortest for the type with low scores in the same elements (*enjoyment –/driven –*). Even among those types with high “work involvement” scores, those with higher “work enjoyment” and “driven” scores had longer working hours. Looking at mental and physical health, the type with a low “work enjoyment” score but high “driven” score (*enjoyment –/driven +*) had the worst health state, while those types with a low “driven” score (*enjoyment +/driven –* and *enjoyment –/driven –*) had better health states. The aforementioned analysis using the three elements of workaholism also showed that “driven” had the largest influence on tendencies toward poor health state.

In this way, a comparison of average scores concerning mental/physical health shows that the types with high “driven” (*enjoyment +/driven +* and *enjoyment –/driven +*) have high health scores, meaning that the state of health is not good. A multivariate analysis that, like the analysis of the three elements of workaholism (Table 6), used mental/physical health state as an explained variable confirms the impact that each of the workaholic types have on state of health (Table 9).

In the case of non-managers, as opposed to the type with low “work enjoyment” and “driven” scores (*enjoyment –/driven –*), the types with high “driven” scores (*enjoyment +/driven +* and *enjoyment –/driven +*) had a significant statistical impact with a positive association with state of health. In other words, these types displayed a tendency toward a poorer state of health. When the types with high “driven” scores (*enjoyment +/driven +* and *enjoyment –/driven +*) were compared, the type with the low “work enjoyment” score (*enjoyment –/driven +*) had a higher coefficient value, indicating an even stronger tendency to worsen state of health. An analysis of managers shows similar results as those of non-managers. Here, it is possible to conclude that, even though work pressure tends to worsen mental/physical health, a positive attitude toward work generates a relatively good state of health.

The above analysis showed a tendency for poorer state of health for types with high “driven” scores (*enjoyment +/driven +* and *enjoyment –/driven +*). From this, the author next conducted a comparison with living habits for each workaholic type. When working hours become longer, “not only do the hours of labor become longer, but time runs short for sleep and rest as well as for domestic life and leisure. This interferes with recovery from mental and physical fatigue” (Iwasaki 2008). Kubota et al. (2011) conducted a survey of Japanese nurses to identify the relationship between workaholism and sleep disorders.<sup>17</sup> Although the results did not show a link between workaholism and insomnia, they did show that those people with strong workaholic tendencies tend to suffer from sleep-related issues, such as drowsiness on the job, difficulty waking up, and feeling of fatigue upon rising from bed.

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<sup>17</sup> The survey targeted nurses working at two university hospitals. The number of respondents used in the analysis was 312, all of whom were female.

Table 9. The Impact of the Workaholic Types on Mental and Physical Health (OLS)

The explained variables are synthetic variables for 10 items concerning physical and mental condition during one week. OLS was the method used.	Non-managers		Managers	
	Standardized coefficient	t value	Standardized coefficient	t value
Gender (male = 1, female = 0)	-0.078	-3.371 **	-0.041	-1.723 *
Age (years)	0.012	0.550	0.051	2.089 **
Academic background				
[Junior high school/high school]				
Junior college/specialized training college	-0.011	-0.501	0.005	0.189
University	-0.022	-0.910	-0.012	-0.374
Graduate school	0.022	1.042	-0.016	-0.554
Annual salary (logarithm)	-0.103	-3.912 **	-0.146	-4.897 **
Position [Rank-and-file employee]				
Section chief/senior staff member	-0.035	-1.674 *		
Assistant division chief	-0.029	-1.363		
Position [Division chief]				
Division manager			-0.022	-0.871
Division director			-0.005	-0.220
Occupation [General office work]				
General affairs, personnel, accounting, etc.	-0.078	-3.289 **	0.081	1.777 *
Sales	-0.075	-2.538 **	0.092	1.630
Customer services	-0.021	-0.967	0.020	0.675
Administrative specialist	-0.003	-0.126	0.055	1.757 *
Technical specialist	-0.047	-1.529	0.072	1.386
Medical or educational specialist	-0.051	-1.918 *	0.047	1.565
Worksite management/supervision	-0.022	-0.881	0.075	1.736 *
Manufacturing/construction work	-0.063	-2.302 **	0.047	1.544
Transport/security	-0.011	-0.515	0.002	0.080
Other	-0.051	-2.307 **	0.025	0.749
Business category [Manufacturing]				
Construction	-0.052	-2.552 **	-0.001	-0.049
Communications/transport	-0.022	-1.043	0.025	0.985
Distribution/eating and drinking	-0.012	-0.522	-0.019	-0.684
Finance/real estate	0.023	1.081	0.063	2.365 **
Academics/education/medicine	0.020	0.748	0.016	0.572
Other services	-0.007	-0.342	0.075	2.849 **
Company size [99 employees or less]				
999 employees or less	0.022	0.972	0.097	3.200 **
1,000 employees or more	0.045	1.736 *	0.094	2.661 **
Total monthly working hours	0.056	2.905 **	0.003	0.113
Workaholic type [A–B–]				
enjoyment + / driven +	0.247	12.531 **	0.288	10.747 **
enjoyment + / driven –	0.001	0.031	0.035	1.354
enjoyment – / driven +	0.352	17.689 **	0.350	13.208 **
Constant		7.304 **		5.130 **
Sample size		2578		1613
F value		19.080 **		10.663 **
Adjusted coefficient of determination		0.174		0.152

Notes: 1. If a coefficient value is “+,” a higher explanatory variable means a poorer health state. Conversely, if the value is “–,” a higher explanatory variable means a better health state.

2. \*\* p<0.01; \* p<0.05.

3. Items in brackets indicate the reference group for each dummy variable.

Table 10. Responses to the Item “I Sleep an Adequate Number of Hours”  
by Workaholic Type

	I disagree	I somewhat disagree	I somewhat agree	I agree	Total (N)
Non-managers					
enjoyment + / driven +	27.1%	44.8%	19.9%	8.3%	100.0% (181)
enjoyment + / driven -	12.1%	41.1%	36.4%	10.3%	100.0% (107)
enjoyment - / driven +	27.6%	45.2%	21.8%	5.4%	100.0% (261)
enjoyment - / driven -	15.2%	39.2%	33.2%	12.4%	100.0% (250)
Total	21.5%	42.7%	26.9%	8.9%	100.0% (799)
Managers					
enjoyment + / driven +	24.1%	44.3%	22.4%	9.2%	100.0% (174)
enjoyment + / driven -	21.4%	31.1%	32.0%	15.5%	100.0% (103)
enjoyment - / driven +	28.8%	42.4%	20.0%	8.8%	100.0% (125)
enjoyment - / driven -	14.1%	38.3%	33.6%	14.1%	100.0% (128)
Total	22.3%	39.8%	26.4%	11.5%	100.0% (530)

Table 11. Responses to the Item “I Spend Enough Time with My Family  
and Friends” by Workaholic Type

	I disagree	I somewhat disagree	I somewhat agree	I agree	Total (N)
Non-managers					
enjoyment + / driven +	30.6%	47.2%	18.9%	3.3%	100.0% (180)
enjoyment + / driven -	18.7%	43.0%	31.8%	6.5%	100.0% (107)
enjoyment - / driven +	26.1%	34.9%	29.5%	9.6%	100.0% (261)
enjoyment - / driven -	10.0%	39.4%	37.3%	13.3%	100.0% (249)
Total	21.1%	40.2%	29.9%	8.9%	100.0% (797)
Managers					
enjoyment + / driven +	31.0%	46.6%	20.1%	2.3%	100.0% (174)
enjoyment + / driven -	22.3%	47.6%	22.3%	7.8%	100.0% (103)
enjoyment - / driven +	20.8%	46.4%	26.4%	6.4%	100.0% (125)
enjoyment - / driven -	14.1%	40.6%	32.8%	12.5%	100.0% (128)
Total	22.8%	45.3%	25.1%	6.8%	100.0% (530)

Table 10 and Table 11 compare living habits (“I sleep an adequate number of hours” and “I spend enough time with my family and friends”) by workaholic type, with data limited to people whose total monthly working hours were at least 201 hours. As an overall trend, the types with a high “driven” score (*enjoyment +/driven +* and *enjoyment -/driven +*) had high percentages of the response “I disagree,” signifying that the relevant living habit is not being fulfilled. Thus, differences appear between types with high “driven”

scores (*enjoyment +/driven +* and *enjoyment -/driven +*) and the other types, even when delimited to working hours above a certain level. Although it may be difficult to change the way people approach their work, it may also be possible that revising lifestyle habits will lead to a revision of the way people work.

## **VI. Summary and Issues**

In this paper, workaholism has been examined in relation to the characteristics of long-hour workers and analyzed with reference to previous research. “Workaholism” is sometimes equated with “addiction to work,” but in terms of its characteristics other than working long hours, addictiveness to work has mainly been analyzed in the field of psychology. Definitions of workaholism often produce negative connotations, but positive aspects are also sometimes highlighted. In this paper, the author’s analysis of workaholism has been based on the three elements of workaholism (“work enjoyment,” “driven” and “work involvement”) posited by Spence and Robbins (1992). The main hypotheses presented by this paper are that (i) people who get more enjoyment from their work, feel more inner drive toward their work, or feel a stronger sense of involvement in their work tend to work longer hours, and (ii) it would seem that people who get more enjoyment from their work are less likely to feel problems with their own health, whereas those who feel more inner drive toward their work or feel a stronger sense of involvement in their work tend to be more aware of health problems.

Firstly, the relationship between the three elements and working hours was examined, since workaholics are regarded as people who work long hours. Data on average working hours (Tables 1–3) reveal a tendency for people who get more enjoyment from their work, feel more inner drive toward their work, or feel a stronger sense of involvement in their work to work longer hours. Although this supports the first hypothesis, the correlation coefficients (Table 4) were not so high. More specifically, the correlation with working hours was somewhat higher for “driven” and “work involvement” than for “work enjoyment.”

Next, correlations among the three elements of workaholism were analyzed (Table 4). The results revealed a relatively strong connection between “driven” and “work involvement” (i), while “driven” and “work involvement” were less strongly related to “work enjoyment” (ii). Of these, the correlation in (i) may be equated with negative aspects of workaholics (“working compulsively” and “working excessively”), and those in (ii) with a positive aspect (“work engagement”) (Schaufeli, Taris, and Bakker 2006).

The author then analyzed the impact of the three elements of workaholism on mental and physical health, using synthetic variables created from answers to ten questions on physical and mental condition over a one-week period. In terms of the correlation with each element, there was hardly any relationship with “work enjoyment,” while the strongest relationship was with “driven” (Table 5). Multivariate analysis (OLS) was conducted to investigate the impact of the three workaholic elements, as well as gender, age, occupation and

other control variables, taking the state of mental and physical health as the explained variable. As a result, “work enjoyment” was shown to have a positive impact on mental and physical health, but the impact of “driven” and “work involvement” was negative. The negative impact of “driven” was particularly strong (Table 6). These findings support the second hypothesis. Besides the above, the author also analyzed different types by combining the three elements of workaholism, revealing a tendency toward poorer health in the type with strong “driven” (Table 9). “Driven,” i.e. a feeling of pressure from work, was therefore shown to have a consistent impact on the worker’s mental and physical health.

As described above, this paper has analyzed elements related to the work addictiveness of workaholics. Although workaholics are perceived to be people who voluntarily work long hours, this voluntary characteristic is thought to involve some healthy and some not so healthy aspects, as mentioned at the beginning of this paper. The analysis presented in this paper has revealed a trend for people who find meaning in their work to be healthy, with a contrasting tendency toward poor mental and physical health among those who work (or perhaps are made to work) under pressure. That does not mean, however, that people who find meaning in their work do not also face health hazards. As working hours increase, the risk of damage to health increases commensurately. It therefore goes without saying that each individual should lead a vocational lifestyle that takes health into account. It should also be possible to revise the way in which people work, not only in the workplace but also by changing daily lifestyle habits.

The Ministry of Health, Labour and Welfare has set up a Project Team as a measure to combat suicide, depression and other problems. One of the five central themes of its report, published in May 2010, was “Enhancing mental health measures in the workplace and support for workplace reinstatement—Promoting the creation of workplaces where each individual is valued.”<sup>18</sup> Again, in September 2010 the “Study Group on Mental Health Measures in the Workplace” published a report on its findings, including a proposal for a “new framework leading to better workplace environments with consideration for privacy.”<sup>19</sup> From these, too, an increased concern for workers’ health is evident. Nevertheless, the circumstances of people with “addictiveness” to work are varied, and how to respond to these individually remains a difficult problem. Although the intervention of medical personnel and other specialists is also important, the “risk levels” of people with “addictiveness” to work will need to be ascertained, for example through daily communication in the workplace. In this respect, managers in the workplace will have an important role to play.

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<sup>18</sup> Ministry of Health, Labour and Welfare, “Jisatsu, Utsubyoto Taisaku Purojekuto Chimu Torimatome ni Tsuite [On the summary report by the Project Team for Measures against Suicide and Depression, etc.],” <http://www.mhlw.go.jp/bunya/shougaihoven/jisatsu/torimatome.html> (accessed September 28, 2010).

<sup>19</sup> Ministry of Health, Labour and Welfare, ““Shokuba ni okeru Mentaru Herusu Taisaku Kentokai’ no Hokokusho Torimatome [Summary report of the Study Group on Mental Health Measures in the Workplace],” <http://www.mhlw.go.jp/stf/houdou/2r985200000q72m.html> (accessed September 28, 2010).



One issue concerning this paper is that its analysis was based on single question items, rather than a measure of workaholism elements consisting of more than one item. Another issue is the need for analysis reflecting differences in the ways people work, depending on individual attributes such as gender. Finally, according to Shimazu and Eguchi (2012), job resources (such as support from superiors and powers of discretion) and personal resources (such as a sense of self-efficacy and optimistic outlook) have been clarified in empirical research as determinants of work engagement. By conducting analysis that includes this kind of variable, it should be possible to clarify the mechanisms in more detail.

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