Effects of “*Shinkeishitsu*” on Occupational Stress in Japanese Workers

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Abstract

The traditional Japanese personality “*shinkeishitsu*” has become almost outdated even in modern Japanese psychiatry, yet the *shinkeishitsu* trait can still be found among the Japanese population. *Shinkeishitsu* relates phobic anxiety disorders, panic disorder, generalized anxiety disorder, obsessive-compulsive disorder, and somatoform disorder. However, the association between work-related mental problems and *shinkeishitsu* is still unclear. The purpose of this study was to clarify the effects of *shinkeishitsu* on occupational stress and depressive symptoms among Japanese workers. This study is based on self-administrated questionnaire applied to 31 Japanese teachers who gave lectures on mental health at school. The *shinkeishitsu* trait, coping style, depressive symptoms, occupational stress, social support, and a personality-trait subscale were assessed. *Shinkeishitsu* people were likely to use a type of emotion-oriented coping for stressful situations. *Shinkeishitsu* had a significant positive correlation with Self-Rating Depression Scale scores. Higher role conflict, role ambiguity, intragroup conflict, and intergroup conflict, as well as lower job control and self-esteem, were associated with higher *shinkeishitsu* score. The results of this study suggest that the *shinkeishitsu* trait effects on coping style, role problems and job control, and it is associated with the development of depressive symptoms. *Shinkeishitsu* is an important personality trait to consider in occupational mental health, even in modern Japan.

Keywords: *Shinkeishitsu*; Demand-control/Support model; Occupational stress; Depressive symptom; Coping style; Japanese workers

Abbreviations

MDD: Major Depressive Disorder; DC/S: Demand-Control/Support; CISS: Coping Inventory for Stressful Situations; SDS: Zung's Self-Rating Depression Scale; GJSQ: the Generic Job Stress Questionnaire

Introduction

Effects of “*Shinkeishitsu*” on Occupational Stress in Japanese Workers

According to a 2011 survey by the Ministry of Health, Labour and Welfare, the number of patients in Japan with mental illnesses such as schizophrenia and major depressive disorder (MDD) has increased to over 3.2 million people; in fact, the incidence of

MDD has exceeded that of diabetes (about 2.37 million people) and cancer (about 1.52 million people) [1]. Mental illness is now so prevalent in Japan that it is considered one of the Five Major Diseases in Japanese medicine, and its effects are serious. The survey of completed suicide revealed that mental illness is a particularly important cause of suicide. By 2011, the number of suicides per year in Japan had exceeded 30,000 people [2]. Moreover, there is an increase in the number of various types of workers experiencing mental illness Ministry of Health [1], particularly mood disorders. Therefore, more aggressive efforts should be made to monitor mental health in the Japanese workplace.

Recently, the number of patients with not only MDD, but also MDD with atypical features or adjustment disorders, which are presumed to develop from one's personality, continues to rise among Japanese workers [3,4]. A number of studies have investigated the association between personality traits and job stress. The traditional Japanese personality “*shinkeishitsu*,” which also relates to the Japanese-culture-bound syndrome “*taijin-kyofu-sho*,” has become almost outdated, even in modern Japanese psychiatry [5]. Morita [6] developed a psychiatric classification system and coined the term “*shinkeishitsu*,” or a “nervous trait,” to identify a group of related neurotic sufferings and symptoms mediated by certain common psychological, psychosomatic, and somatopsychic processes [7]. Morita *shinkeishitsu* has three dimensions: symptoms, symptom formation, and character structure. These dimensions include the following: 1) clinical characteristics of the symptoms: ego dystonia of anxiety, adaptation anxiety, defensive oversimplification, self-specialization, symptom-overcoming attitude and problem acknowledgement; 2) symptom formation: psychic interaction and conflicts between the ideal and reality; and 3) character structure: having two symmetric aspects of both “Introversion and Fragility” and “Obsessive and Self-empowering Characteristics” [8]. In addition, an introversive and fragile aspect must have at least one of these five characteristics: introversion, worrisomeness, interpersonal fragility and hypersensitivity, hypochondriasis, or passivity. In a similar way, an obsessive and self-empowering aspect must have at least one of these five characteristics: desire for perfection, desire for superiority, desire

for self-esteem, desire for health, or desire for control. Kora [9] differentiated between *shinkeishitsu* as a trait and *shinkeishitsu-sho* (*shinkeishitsu* disease) as a neurosis. *Shinkeishitsu* neurosis manifests in various forms, such as phobic obsessions, anxiety, avoidant behaviors, panic attacks, hypochondriasis, and related somatic problems [10,11]. Morita [6] indicated that his therapy was specifically designed for treating *shinkeishitsu* patients. In modern Japanese society, the word “*shinkeishitsu*” is still a common word, but its meaning represents only nervousness or hysteria. The original meaning of the term “Morita *shinkeishitsu*” is used as a local diagnosis among Morita therapists, and it remains difficult for people outside this group to understand what Morita *shinkeishitsu* truly is [5]. Nevertheless, *shinkeishitsu* traits can still be found in Japanese workers, as well as in other healthy people. However, there is no study about the association between work-related mental problems and the Morita *shinkeishitsu* trait, as far as the researchers of the present study are concerned of. Many studies have examined the relationship between personality traits that are similar to *shinkeishitsu* and problems in the workplace. The Type A personality Friedman [12] is characterized as a person who is ambitious, rigidly organized, highly status-conscious, sensitive, truthful, impatient, always trying to help others, who takes on more than they can handle and wants other people to get to the point, and is also proactive and obsessed with time management. This personality type has been associated with burnout [13,14].

In contrast, the Japanese economic depression is so severe that employees are inundated with many more job tasks than before, and guiding the research on this topic is the job demand-control/support (DC/S) model of occupational stress, a major paradigm of contemporary work-stress research and intervention [15-17]. The model makes explicit the links between psychosocial work conditions and the health and productivity of workers [18]. Karasek [16] has suggested that high job demand without autonomy is more important in predicting depressive symptoms than job demand by itself. In a study by Billings and Moos [19], the correlations of depressive symptoms with work involvement and poor support from superiors and co-workers were somewhat greater than the correlation between depressive symptoms and work pressure, although all the correlations were significant. These findings suggest that stressors related to the job role or content and poor human relations at the workplace, rather than job overload, are key risk factors for depressive symptoms in industrial workers [20]. DC/S model is the most widely used theoretical framework that relates the characteristics of a job to health and well-being, e.g. about teachers [21].

Therefore, we posit an association between depressive symptoms and *shinkeishitsu* in the workplace. The purpose of this study was to clarify the effects of *shinkeishitsu* on workers and their depressive symptoms by conducting an investigation on coping style, job demand, job control, and social support along the DC/S model.

Subjects and Methods

Subjects

From 2011–2013, teachers who gave lectures on mental

health at school were invited to participate in the current study. We distributed questionnaires to 40 teachers agreed to our study who ranged from 23–61 years of age, and of these, 31 completed the questionnaire and participated. Informed consent was obtained from all participants. This was a self-administered questionnaire survey, and demographic factors including age, marital status, and sex were assessed before the psychometric tests below were completed.

The protocol of this study was approved by the Human Subjects Review Committee at Osaka City University (authorization number: 1782).

Participants

The all samples were ($N=31$) teachers. The mean age was 39.8 ($SD=12.8$), 35.5% were males and 64.5% were females. The mean age for males was 43.8 ($SD=13.2$). The mean age for females was 37.6 ($SD=12.4$). Any demographic factors did not have any significant differences between sexes by t-tests.

Measures of “shinkeishitsu”

“*Shinkeishitsu*” was assessed by a self-administered questionnaire for assessing *shinkeishitsu* trait [8]. This Japanese-language questionnaire consists of 25 yes/no items. Table 1 shows each item translated into English. The items were rated on yes = 1, no = 0. The total number of “yes” responses forms the *shinkeishitsu* score. The cut-off point was set at 15 points; a score greater than 15 points was indicative of a *shinkeishitsu* tendency (+), whereas a score of less than 15 points was classified as *shinkeishitsu* (-). Great *shinkeishitsu* tendency (+) is considered to have the same mechanism of symptom formation, which is called “*toraware*”. This means “to be bound as by some intense preoccupation” [22]. Cronbach’s alpha for the current study was 0.90 ($M=8.87$, $SD=5.89$).

Coping Inventory for Stressful Situations (CISS) [23]

The Japanese version of CISS Furukawa [24] consists of 48 items, with 16 items tapping each of the three behavioral categories, and each item has a five-scale Likert-type question ranging from (1) “Not at all” to (5) “Very much”. The scores for each category are totalled into a score of 16–80. A higher score indicates that the behavior in question is more common. This instrument measures three types of coping mechanisms: task-, avoidance-, and emotion-oriented strategies. Task-oriented coping strategies involve behavioral and cognitive responses that are directed at dealing with the specific problem at hand. Example items include “Schedule my time better.” and “Focus on the problem and see how I can solve it”. Avoidance-oriented coping strategies are characterized by attempts to avoid distressing situations and can be either person-directed (i.e., seeking out other people) or task-directed (i.e., becoming involved in another task). Example items include “Think about the good times I’ve had.” and “Try to go to sleep”. Emotion-oriented coping strategies focus on the individual and aim to manage the distressing feelings that arise from stressful situations. Example items include “Feel anxious about not being able to cope.” and “Become very upset”. Cronbach’s alpha of the task-, avoidance-, emotion-, oriented

Table 1: Items from “Self-administered questionnaires for shinkeishitsu” by Kitanishi [8], translated by author.

1	I am afraid that I cannot adapt myself to my environment (I cannot get along well at work, home, and school).
2	My distress is very painful for me.
3	I think that my present distress is induced by my character.
4	I am always worried about whether a painful scene (state) may happen again.
5	I think that my distress is a unique trait that other people do not have.
6	I would like to relieve my distress somehow.
7	I can think only about my distress.
8	The more I focus on my distress, the more I ruminate about it.
9	If it were not for my distress, I could do anything I want.
10	I regard myself as being completely useless.
11	I am suffering from the desire “How I want to be.”
12	I always make an effort to relieve my distress.
13	I am shy and likely to think too much about minor issues.
14	I am concerned about minute details and become unable to move beyond anxious preoccupations.
15	I am apprehensive about what other people say to me and I get hurt easily.
16	I am worried about my health by nature.
17	I am shy and bad at starting work on new things.
18	I can't help but feel concern over whether I have done something properly or not.
19	I am a sore loser.
20	I am proud.
21	I don't want to have any stress.
22	I want to control my feelings and manipulate people around me according to my will.
23	I am unsatisfied until issues are clarified completely.
24	I am a lion at home and a mouse outside.
25	I am argumentative and an armchair theorist by nature.

strategies scores for the current study was 0.89, 0.84, and 0.88 ($M = 47.3, 51.5, \text{and } 53.7, SD = 9.7, 9.7, \text{and } 11.5$).

Zung's Self-Rating Depression Scale (SDS) [25]

The Japanese version of SDS Fukuda [26] was used to evaluate depressive symptoms. Subjects respond to items such as “I feel down-hearted and blue”. Items were rated on a 4-point Likert-type scale (0= None or a little of the time; 3=Most of the time). The responses to the 20 items are then totalled into a possible score of 0–60. Cronbach's alpha for the current study was 0.91 ($M = 22.5, SD = 11.6$).

Generic Job Stress Questionnaire (GJSQ) [27]

Along with the demographic and occupational variables, we assessed occupational stress using the Japanese version of the Generic Job Stress Questionnaire (GJSQ) Hurrell [27], which has been shown to have sufficient reliability and validity [28,29]. The GJSQ is a useful questionnaire for assessing various aspects of occupational stress, including occupational stress and stress reactions at the group and individual level. The original authors of the GJSQ permit the use of the measure's independent subscales for assessing depressive symptoms and occupational stress. Thus, we used six subscales to assess occupational stress; (1) role conflict ($\alpha = 0.89, 8 \text{ items}$), (2) role ambiguity

($\alpha = 0.79, 6 \text{ items}$), (3) intragroup conflict ($\alpha = 0.90, 8 \text{ items}$), (4) intergroup conflict ($\alpha = 0.67, 8 \text{ items}$), (5) job control ($\alpha = 0.92, 16 \text{ items}$), and (6) quantitative workload ($\alpha = 0.84, 11 \text{ items}$), three social support subscales; (1) social support from one's superior ($\alpha = 0.89, 4 \text{ items}$), (2) from co-workers ($\alpha = 0.81, 4 \text{ items}$), (3) from family or friends ($\alpha = 0.86, 4 \text{ items}$) as buffer factors, and a personality characteristic subscale; self-esteem ($\alpha = 0.90, 10 \text{ items}$). In general, higher scores for the occupational stress subscales, except for that of job control, indicate greater stress. In contrast, higher scores for job control and the social support subscales indicate lower stress.

Data analysis

All data were analyzed using the Statistical Package for the Social Sciences, version 21.0 (SPSS 21, IBM USA).

Independent t-tests were used to examine differences in subject characteristics, CISS subscale scores, SDS score, and GJSQ subscales by sex or *shinkeishitsu* (+) / (-). We also calculated Pearson's r to examine the correlation between SDS, CISS subscales, and GJSQ subscales scores and *shinkeishitsu* scores.

Results

Table 2 shows scores of *shinkeishitsu* scale, SDS, CISS

subscales and sex differences. Any items did not have any significant differences between sexes by t-test.

CISS scores are shown in Figure 1. The emotion-oriented scores were significantly higher in *shinkeishitsu* (+) subjects ($M = 57.1, SD = 9.2$) than in *shinkeishitsu* (-) subjects ($M = 37.2, SD = 6.8$), according to t-test, $t(29) = 6.53, p < 0.001$. The 95% confidence interval of the difference was 13.7 to 26.2 points. The scores for other types of coping did not change according to *shinkeishitsu* level significantly.

SDS scores in *shinkeishitsu* (+) group and (-) group are shown in Figure 2. Teachers with *shinkeishitsu* (+) reported significantly higher depressive scores ($M = 38.3, SD = 9.5$) than teachers with *shinkeishitsu* (-) ($M = 17.1, SD = 6.0$), according to t-test, $t(29) = 7.53, p < 0.001$. The 95% confidence interval of the difference was 15.4 to 27.0 points.

Table 3 shows GJSQ subscale scores and the differences between *shinkeishitsu* (+) and (-) group. In *shinkeishitsu* (+), role conflict, role ambiguity, intragroup conflict, intergroup conflict scores were significantly higher than scores in *shinkeishitsu* (-). Job control, social support from coworkers, and self-esteem

Table 2: Means and standard deviations of the subjects.

Notes; SDS: Zung's Self-Rating Depression Scale. CISS: Coping Inventory for Stressful Situations. Data are presented as mean $\pm$ standard deviation.

	Total (N=31)	Male (N=11)	Female (N=20)
<i>Shinkeishitsu</i> (+)	17.4 $\pm$ 1.2 (N=23)	18.3 $\pm$ 0.5 (N=4)	16.5 $\pm$ 1.0 (N=4)
<i>Shinkeishitsu</i> (-)	5.9 $\pm$ 3.4 (N=8)	6.0 $\pm$ 3.2 (N=7)	5.9 $\pm$ 3.6 (N=16)
SDS score	22.5 $\pm$ 11.6	24.2 $\pm$ 11.5	21.6 $\pm$ 11.8
CISS score:			
Task-Oriented	47.3 $\pm$ 9.7	48.8 $\pm$ 10.4	46.4 $\pm$ 9.4
Avoidant-Oriented	51.5 $\pm$ 9.6	54.5 $\pm$ 12.6	49.9 $\pm$ 7.5
Emotion-Oriented	53.7 $\pm$ 11.5	52.2 $\pm$ 13.8	54.5 $\pm$ 10.3

Figure 1: T-test of *shinkeishitsu* (+) (-) on task, avoidance and emotion oriented coping strategies.

Note: N=31 *** $p < 0.001$

Figure 2: T-test in SDS for *shinkeishitsu* (+) and (-).

Note: *** $p < 0.001$

Table 3: Means, standard deviations and t-test between Generic Job Stress Questionnaire (GJSQ) scores with and without *shinkeishitsu*.

	<i>Shinkeishitsu</i> (-)		<i>Shinkeishitsu</i> (+)		
Occupational stress (range)	M	SD	M	SD	t-test
Role Conflict (8-56)	28.4	7.4	42.0	7.1	-4.53 ***
Role Ambiguity (6-42)	18.2	4.5	25.0	6.2	-3.34 ***
Intragroup conflict (8-40)	19.7	6.1	26.5	5.2	-2.84 ***
Intergroup conflict (8-40)	17.5	4.6	25.8	4.8	-4.30 ***
Job control (16-80)	41.5	12.4	30.1	12.0	2.25 *
Social support from superior (4-20)	14.1	4.4	11.1	4.4	1.64 ns
Social support from coworkers (4-20)	16.5	2.7	13.6	4.0	2.28 *
Social support from family/friends (4-20)	16.6	3.7	14.6	3.1	1.32 ns
Self-esteem (10-50)	35.0	7.4	22.5	7.6	4.08 ***
Quantitative workload (11-55)	38.3	6.7	43.9	6.9	-2.00 ns

* $p < 0.05$, *** $p < 0.001$, ns = not significant

Note: T-test was used for statistical comparison between *shinkeishitsu* (+) and (-). P values < 0.05 were considered significant and are denoted by an asterisk in the table.

scores in *shinkeishitsu* (+) were significantly lower than scores in *shinkeishitsu* (-).

The correlation between SDS, CISS subscales, and GJSQ subscales scores and *shinkeishitsu* scores is shown in Table 4. The relationship was investigated using Pearson's r . There were strong positive correlations with SDS score, emotion-oriented coping score, role conflict, and intergroup conflict, associated with *shinkeishitsu* score. There were moderate positive correlations with role ambiguity and intragroup conflict, associated with

Table 4: Pearson’s *r* correlation coefficients among all study variables in the measures.

	<i>r</i>	<i>p</i> -value
SDS	0.80	0.00
Task-Oriented	-0.43	0.02 *
Avoidance-Oriented	-0.29	0.11
Emotion-Oriented	0.71	0.00 ***
Role Conflict	0.79	0.00 ***
Role Ambiguity	0.62	0.00 ***
Intragroup conflict	0.62	0.00 ***
Intergroup conflict	0.71	0.00 ***
Job control	-0.33	0.07
Social support from superior	-0.40	0.03 *
Social support from coworkers	-0.43	0.02 *
Social support from family/friends	-0.40	0.03 *
Self-esteem	-0.69	0.00 ***
Quantitative workload	0.32	0.08

* *p*<0.05, *** *p*<0.001

shinkeishitsu score. There were moderate negative correlations with task-oriented coping style, three social support, and self-esteem, associated with *shinkeishitsu* score. Demographic variables (i.e., age, sex, and marital status) did not show any correlations with *shinkeishitsu* scores and GJSQ subscales scores.

Discussion

In this study, we examined the association between the *shinkeishitsu* trait and depressive symptoms, coping styles, and various occupational stressors. Results showed that higher *shinkeishitsu* scores were associated with higher SDS scores. Additionally, the *shinkeishitsu* tendency was linked to various occupational stressors. Higher *shinkeishitsu* tendencies were associated with the utilization of emotion-oriented coping strategies, increased role conflicts, role ambiguity, and intergroup and intragroup conflict, as well as with decreased job control and self-esteem. We hypothesized three pathways from *shinkeishitsu* to depressive symptoms; (1) coping style, (2) role problems, and (3) job control.

In this study, the increased *shinkeishitsu* score were correlated with increase in emotion-oriented coping strongly and decrease in task-oriented coping moderately. Many studies reported the link between the emotion-oriented coping style and psychological problems. Significant associations have been reported between the emotion-oriented coping strategy scale of the CISS and various measures of psychological distress (Endler) [30], personality measures Saklofske [31], leading to non-specific general psychopathology in depressive workers Endler [23], depression Billings & Moos, Barnett & Gotlib [19,32], and the relapse of depressive episodes [33]. On the other hand, the task-oriented coping style is important to work performance in the workplace. The task subscale of the CISS describes purposeful task-oriented efforts aimed at solving problems, cognitively restructuring problems, or altering situations. Such strategies

mainly focus on task performance or planning and attempts to solve problems. Some clinical studies have reported that the use of problem-focused and task-oriented coping strategies is associated with a decreased risk of depressive episodes [33]. High emotional-oriented and low task-oriented coping strategies induced by high *shinkeishitsu* tendency in this study had the similar aspects of developing depressive symptoms to results had reported.

Higher *shinkeishitsu* tendencies were associated with increased role conflicts and role ambiguity. Some studies reported that role conflicts and role ambiguity are predictors of depressive symptoms. Our previous study showed that teachers’ role ambiguity and role conflict increased SDS score [34]. In managerial employees Heinisch [35], workload and role ambiguity that were assessed predicted depressive symptoms. In the other study, role ambiguity predicted subsequent depression in 795 employed adults [36]. A study using a teacher sample found that role conflict predicted emotional exhaustion, i.e., burnout Jackson [37].

In terms of burnout, more neuroticism leads to more job burnout, and of all the Big 5 personality variables, neuroticism has the highest impact on job burnout [38]. Neuroticism, which is one of the Big Five personality traits Costa [39], was associated with job stress and mental diseases. In a Cox’s proportional hazard model analysis of the incidence of long-term sick leave because of depressive disorders, higher-level education, higher neuroticism, and having a white-collar job were associated significantly with sick leave because of depressive disorders [40]. Tokuyama [41] reported that the first onset of depression was associated with a past history of neuroticism. Additionally, links between self-esteem and neuroticism have been reported in past research. Rosenberg [42] argued that neurosis was one sign of low self-esteem. In contrast, Eysenck [43] viewed self-esteem as indicative of low neuroticism. Irrespective of the causality between self-esteem and neuroticism, the traits are clearly related [44].

According to the above studies, neuroticism is associated with depressive symptoms and low self-esteem. *Shinkeishitsu* also had similar effects. Neuroticism and the Type A personality resemble *shinkeishitsu* to some degree; however, there are many ways in which the two constructs differ from *shinkeishitsu*. Type A behavior is expressed by three major symptoms: free-floating hostility, time urgency and impatience, and a competitive drive [12]. Neuroticism is expressed as the tendency to experience negative emotions, such as anger, anxiety, or depression, emotional instability, and vulnerability to stress. As described previously, *shinkeishitsu* has two symmetric aspects of the “introversive and fragile” trait and the “obsessive and self-empowering” trait. Neuroticism is similar to the “introversive and fragile” trait in *shinkeishitsu*. However, *shinkeishitsu* also features the opposite trait of “self-empowering” simultaneously, which neuroticism lacks. In Morita Therapy, “desire for life” (i.e., *sei-no-yokubo* in Japanese, the innate desires to stay alive and to live well) plays a critical role in this “self-empowering” trait [7]. This powerful desire encourages progress toward a goal whereas

excess desire estranges ideal from reality and provokes strong anxiety. By using this trait, taking corresponding constructive action to lead a fulfilling life is an important therapeutic method in Morita Therapy. The inherent conflict between these two sides of one trait, which differs from the nature of neuroticism, may underlie the characteristics of Japanese workers (i.e., the tendency to be a workaholic or to over-adapt).

According to the DC/S model of occupational stress, *shinkeishitsu* had an influence on less job control. Inoue et al. [40] reported that low job control might be a strong predictor of long-term sick leave because of depressive disorders. In a review of the evidence, Glass and McKnight concluded the job uncontrollability contributed to negative psychological states largely when there was a discrepancy between career aspirations and occupational achievement. Excess “desire for life” in *shinkeishitsu* people might also make this discrepancy. A part of *shinkeishitsu* people has strong “desire for control” as obsessive trait. The difference between their desire for control and reality (job uncontrollability) may contribute to negative psychological states additionally. *Shinkeishitsu* negatively correlated with three social supports. It is thought that the social support acts as a buffering or moderating variable against the negative consequences of high job strain [45]. The reason for this correlations is unclear, however we speculated how *shinkeishitsu* made this correlation. Mentioned above, *shinkeishitsu* has both of the introversive and fragile trait (e.g. interpersonal fragility, hypersensitivity, or passivity) and the obsessive and self-empowering trait (e.g. desire for perfection or desire for superiority). These traits may make them keep the social supports at a distance and lose any social supports (and may also increase group conflict). *Shinkeishitsu* was not associated with quantitative workload. Because those constructs depend on external factors, *shinkeishitsu*, which is a personal trait, not be linked. These low job control and low social supports as buffer induced by *shinkeishitsu* indicates to increase job strain along to JC/S model.

Taken together, *shinkeishitsu* associated with coping style changes, an increase in role problems, low job control and social support. We speculate that they mediate or moderate the link between *shinkeishitsu* and depressive symptoms. Further investigation of the moderating role of job control and social support in the relationship between *shinkeishitsu* and depressive symptoms is needed.

There are several limitations to this study. First, the sample consisted only of a small, non-clinical group of Japanese teachers. As mentioned above, especially teachers’ role conflict and ambiguity tend to induce depressive symptoms. We cannot generalize these teachers’ data to a sample of workers with mental health problems. Therefore further studies could include workers from different occupational groups should examine whether the *shinkeishitsu* items are invariable across occupations. In addition, use of Japanese-language scales, as well as other cultural and occupational artifacts in the environment, may have created bias, and in this study, we did not control for these potential confounds. Finally, it is not possible to determine any causal relationship using a cross-sectional study. In the future,

including a larger, broader sample can further develop the study of *shinkeishitsu* in occupational health settings.

Conclusion

The results of this study suggested that the *shinkeishitsu* trait effect on coping style, role problems and job control. It was associated with the development of depressive symptoms. *Shinkeishitsu* remains an important personality trait in the study of occupational mental health, even in modern Japan.

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