



Effects of WELL Certification and office factors in Japan

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Summary of this article

In recent years, as companies seek to maintain and strengthen their competitiveness, improving employee compensation alone has become insufficient. There is a growing need for systems that support employee well-being, including the working environment and organizational culture [1]. Against this backdrop, offices are increasingly viewed worldwide not merely as places to work, but as strategic assets for enhancing health and productivity. WELL Certification [2] exemplifies this trend as an international building rating system that scientifically evaluates occupant health and well-being. In this article, we examine the impact of WELL Certification on employee work engagement and well-being, based on results from 41 office projects in Japan using the Panasonic Occupant Survey developed in collaboration with the International WELL Building Institute (IWBI).

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Section 01

WELL Certification and Surveys

WELL Certification is based upon a global standard that promotes the health and well-being of occupants in buildings.

Introduction: WELL Certification and Survey Overview

First, we will outline WELL Certification and survey methods.

What is WELL certification?

WELL Certification is a comprehensive building certification system designed to promote the health and well-being of occupants in buildings, launched by Delos Living LLC, and managed and operated by the International WELL Building Institute (IWBI). The first edition of WELL v1 was published in 2014, and since then, knowledge about well-being and architectural design has been accumulated through its application to various buildings. In 2020, WELL v2 was revised to provide more specific and comprehensive criteria.



WELL Certification is evaluated for people working in spaces, and certification can be obtained for part of an office rented by a company or an entire building. WELL v2 consists of 10 concepts: Air, Water, Light, Sound, Thermal Comfort, Nourishment, Material, Movement, Mind, and Community. It consists of more than 100 specific requirements based on these.

The evaluation is based on the requirements for well-being strategies that can be implemented at the design, construction, and operation stages, as well as the measurement results of on-site space performance, and by obtaining a certain number of points, certification levels such as Silver, Gold and Platinum can be obtained.



Section 01

Panasonic Occupant Survey

In this study, we conducted a comprehensive evaluation in accordance with the WELL v2 Occupant Survey (C04/C05) guidelines [2], assessing not only the physical office environment but also organizational aspects such as organizational culture and work styles. The survey items include satisfaction with building and space conditions—such as acoustics, air quality, cleanliness, furniture, layout, lighting, maintenance, and thermal comfort—as specified in Appendix C01 of WELL v2, as well as elements outlined in Appendix C02, including health-related activities, enhancement of well-being, performance, and resilience. Together, these items are designed to evaluate both the physical environment and well-being-oriented ways of working within that environment.

The survey was administered across both WELL Certified and non-certified offices, collecting responses from a total of 4,237 employees, including 3,313 employees who commute to the office at least twice per week. For the purposes of this evaluation, non-certified offices were further classified according to their renovation status—such as offices with no renovations for more than three years and those renovated within the past three years. This classification enabled a comparison of the effects of office renovations conducted without achievement of WELL Certification and those carried out with WELL Certification in mind.

Table1. Question list of Occupant

| | Item | Description |
|------------------|-----------------------------|--|
| Basic Info | Attributes | Sex, Age, Occupation, Department |
| | Behavior | Attendance rate, main office, length of stay |
| | Operation Rules | Seat Style, Amount of Seat |
| Work environment | IEQ | Thermal environment, Access to natural elements, Indoor air quality, Light environment, Access to drinking water, Bathroom |
| | Privacy | Speech privacy, Solo work, Sound environment |
| | Refresh | Chat break, Solo break |
| | Work Flexibility | Flexible work hour, Easy to take leave |
| | Interior design/ Layout | Furniture and monitors, Interior design, Office layout, Online teamwork, Face-to-face teamwork, Maintenance, Cleanliness, Seat operation rules |
| | Team Culture | Social relationship, Psychological safety, Employee consideration |
| | Personal Development | opportunities for growth, Rewarding work content |
| | Benefits | Medical support, Exercise promotion, Healthy food promotion, Salary |
| | Organizational Contribution | Organization strategy, Organizational contribution |
| Well-Being | Work engagement | Work engagement |
| | Well-being | Positive and happy at work, Perceived health at work, Work engagement*, Social relationships*, Organization strategies*, and opportunities for growth* (* same as above) |
| | Work continuity | Willingness to continue work |
| Workload | Workload | Workload, including overtime hours |

Section 01

Project List

| | Condition | | Number of projects | Response rate | Number of respondents | Number of valid respondents * |
|---|----------------|-------------------------------------|-----------------------------|---------------|-----------------------|-------------------------------|
| 1 | Non-Certified | No renovation for more than 3 years | 19 | 60% | 2,569 | 2,095 |
| 2 | | Renovation within 3 years | 11 | 64% | 749 | 625 |
| 3 | WELL Certified | WELL Certified | 11 10 platinum 1 gold | 67% | 919 | 593 |

* attending work more than 2 times a week.

Survey Details

| | |
|------------------------|---|
| 1. Survey method | Online survey |
| 2. Survey period | 2022~2025 |
| 3. Survey target | Offices in Japan that are interested in pursuing WELL Certification |
| 4. Number of responses | 41 Projects *1 4,237 people *2 |
| 5. Analysis conditions | For the evaluation, projects were categorized into WELL Certified projects, projects with no renovations for more than three years, and projects renovated within the past three years. |

*1 Offices belonging to the same company were treated as separate projects if they existed both before (non-certified) and after WELL Certification achievement.

*2 The office evaluation focused on 3,313 occupants who commute to the office two or more days per week.

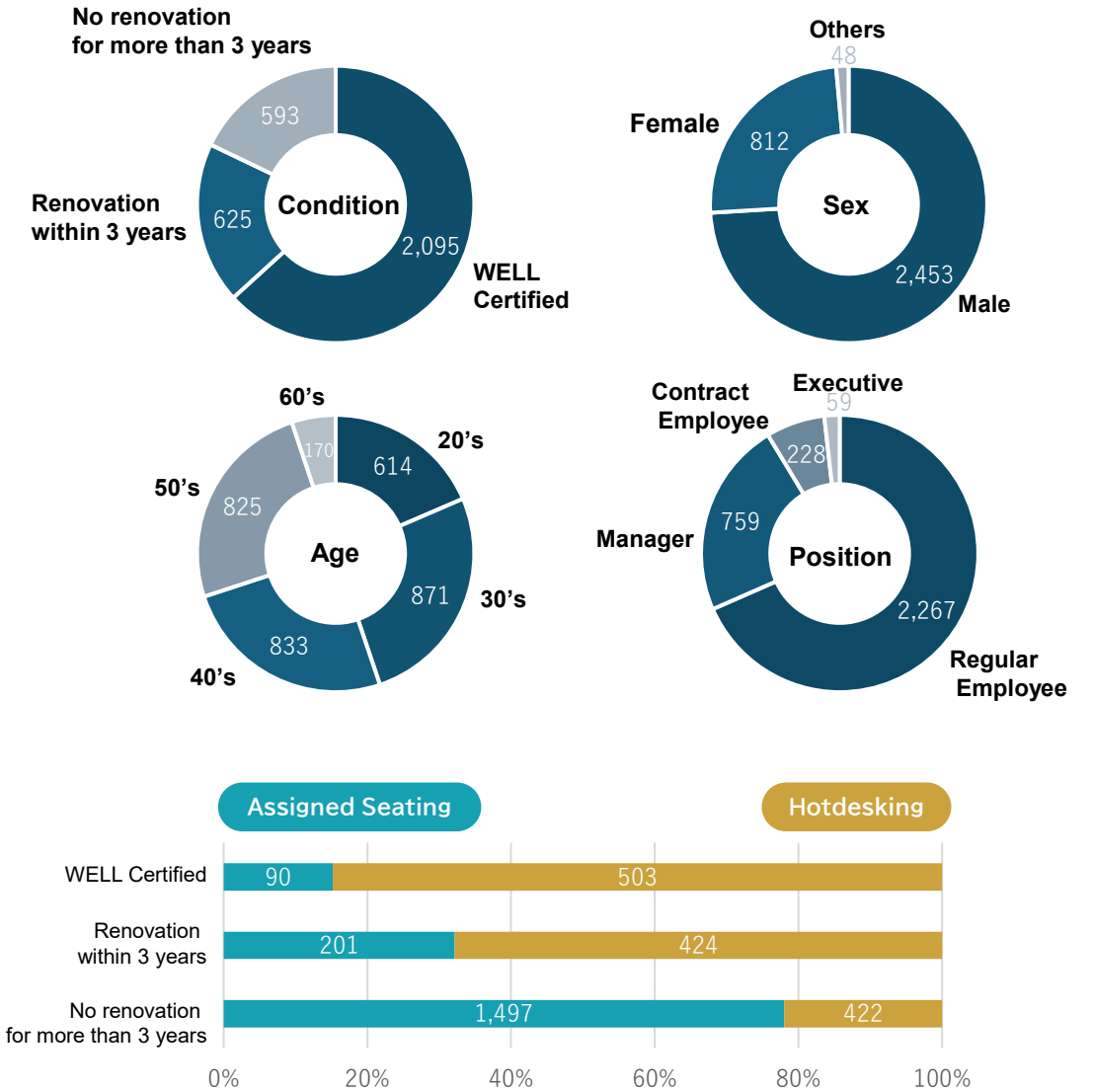


Fig.1 Survey respondents' overview

Section 02

What are the effects of WELL Certification?

When comparing levels of work engagement and well-being across offices with no renovations for more than three years, renovations within the past three years, and WELL Certification, the results show that WEL Certified offices reported 8.1-19.6% higher work engagement and 9.7-19.2% higher well-being than non-certified offices. This trend was consistent regardless of renovation status, indicating that improvements based on WELL Certification contribute to increased employee satisfaction.



Fig.2 Comparing Work Engagement

Q. What do you think about work engagement?

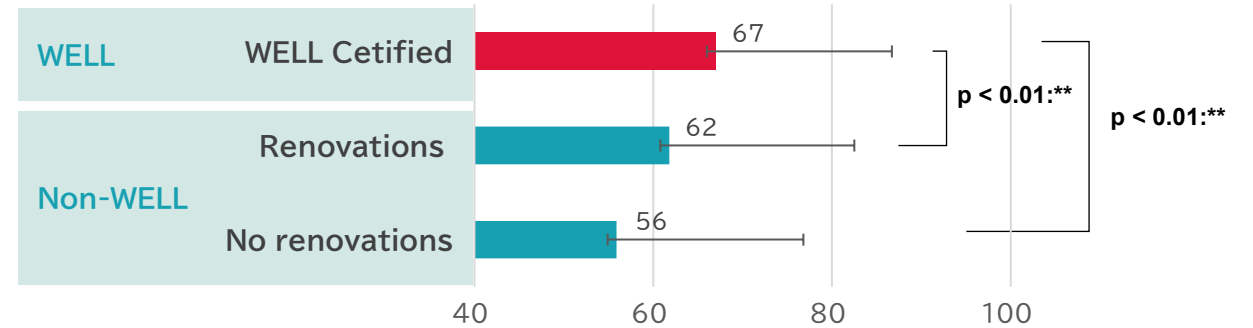
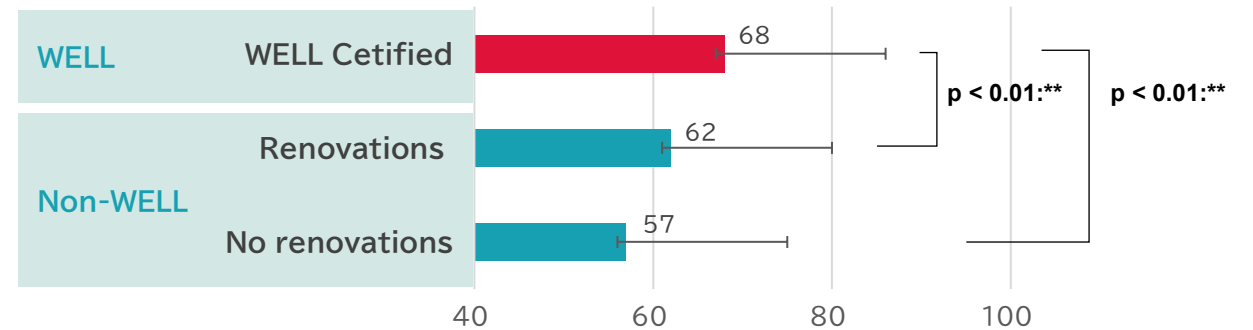


Fig.3 Comparison of Well-being*2

Q. Have you invested in well-being in your offices?



*1 The survey results, which were collected using a 7-point scale, are expressed as percentages (with "1: Very dissatisfied" converted to 0, "4: Neutral" to 50, and "7: Very satisfied" to 100).

*2 Based on the PERMA theory [4], the Well-Being score is calculated from the average of the following factors: Positive and Happy at work (P), Work engagement (E), Social Relationships (R), Organization strategy (M), opportunities for growth (A), and Healthy at the work (H).

Section 02

Q. Are you satisfied with IEQ, design, organizational culture, etc.?

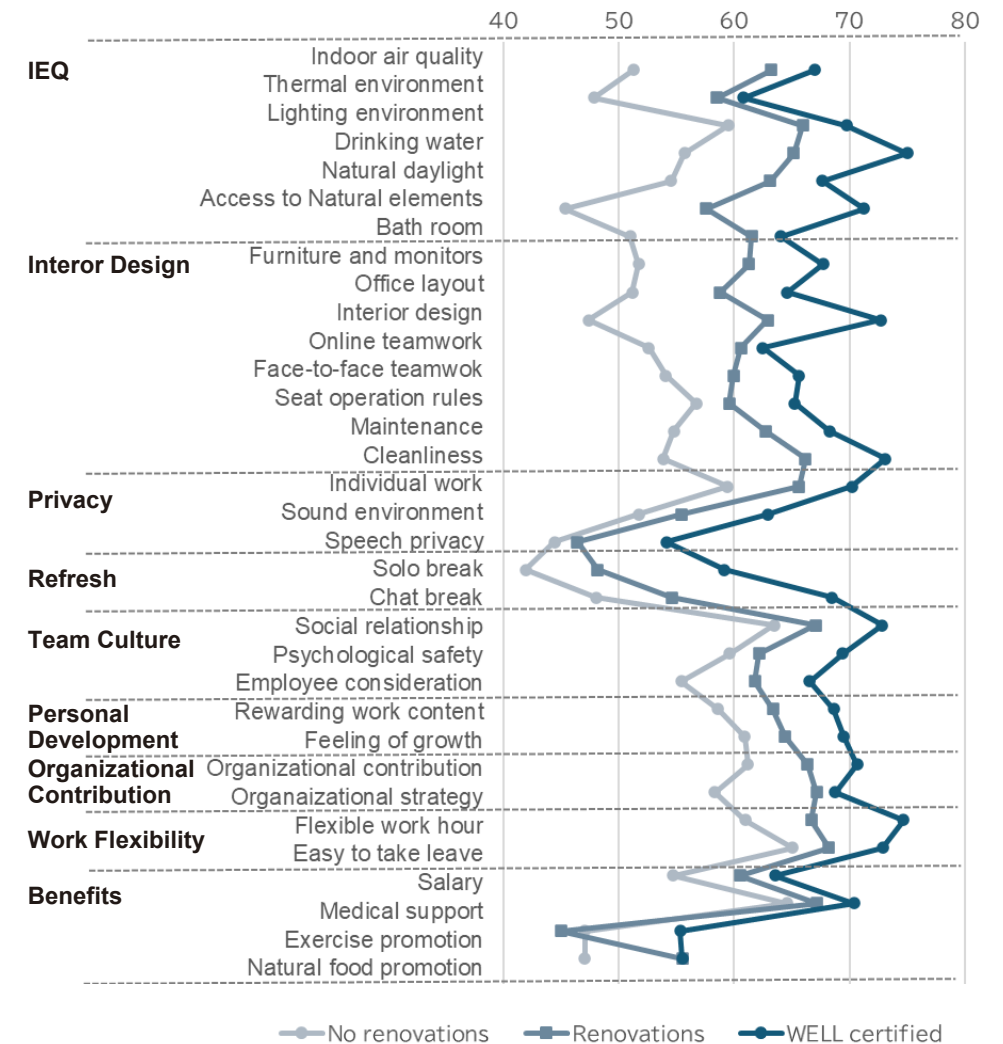
1. Differences between WELL Certified and non-Certified spaces

On the office side—such as indoor environmental quality (IEQ) and interior design—WELL Certified offices tend to show higher satisfaction levels than non-Certified offices. In particular, strong results were observed in drinking water and access to natural elements. These items are recommended under the WELL concepts of Water and Mind, and the findings are considered to reflect the positive effects of WELL Certification.

On the organizational side—such as opportunities for growth, psychological safety, and contribution to the organization—WELL Certified offices demonstrated higher satisfaction in most items. Although some of these elements are not explicitly defined as WELL Certification requirements, the “Community” concept encourages transforming both the workplace environment and organizational practices to promote employee health and well-being. This influence is believed to have indirectly improved organizational factors, leading to enhanced performance.

Satisfaction with solo breaks was likewise higher in WELL Certified offices compared with other conditions, whereas non-Certified projects tended to show lower satisfaction with individual breaks. In non-Certified offices, the need for occasional solo breaks is sometimes not fully understood, resulting in insufficient provision of appropriate spaces. By contrast, WELL Certified offices—guided by the M07 Restorative Spaces feature, which recommends the provision of break areas—displayed relatively higher satisfaction, though still not entirely sufficient. This results suggest that part of the positive impact of WELL Certification can be observed in this area as well.

Fig.4 Satisfaction comparison of WELL with non-Certified



Section 02

2. Common problems in WELL Certified and non-Certified offices

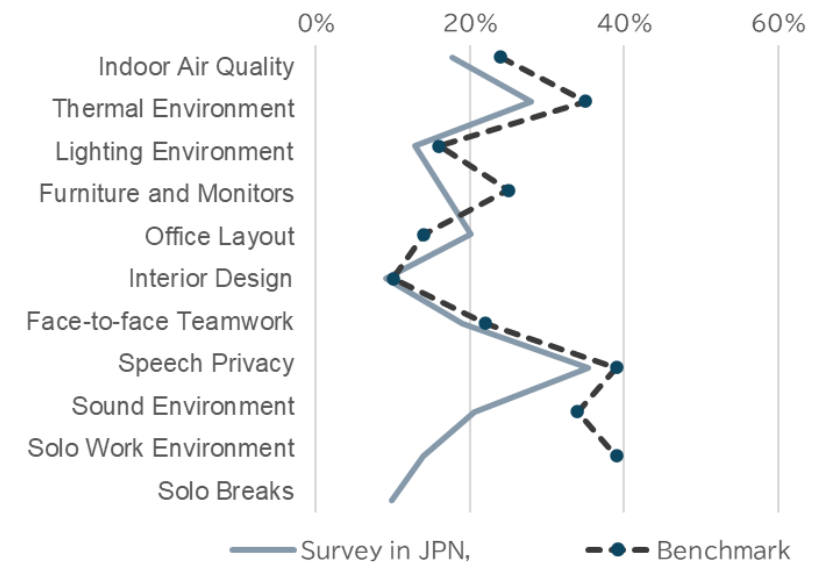
Regarding privacy, WELL Certified offices demonstrated higher effectiveness than non-Certified offices across all items—speech privacy, sound environment, and individual work. These elements are also recommended within the WELL Building Standard, and the results suggest that their intended benefits were realized. However, satisfaction with speech privacy remained relatively low even in WELL Certified offices, highlighting that this issue is a common challenge in Japan's increasingly open-office work styles.



3. Comparison with overseas research[6]

Figure 5 presents a comparison of dissatisfaction rates related to indoor environmental quality in WELL Certified offices between Japan and other countries [6]. As shown in the figure, many items exhibit similar trends, except for the sound environment and individual work. This suggests that WELL Certification functions as a global framework capable of ensuring a consistent level of environmental quality. The differences observed in the sound environment and individual work may be attributed to the fact that Japanese occupants are generally more accustomed to working in open spaces than their counterparts in other countries.

Fig.5 Comparison of Dissatisfaction Rates with Indoor Environmental Quality in WELL Certified Offices:
A Comparison with the Study by Marzban [6]



Section 03

What are the factors associated with Well-Being?

In the previous chapter, we showed that offices with WELL Certification have a positive impact on well-being and engagement. In this chapter, we conduct a statistical analysis of the various factors that influence well-being.

In particular, since there are few studies that evaluate well-being using office space-related factors [6–9], we examine these factors with a focus on organizing the underlying conceptual framework.



Office factors influencing work engagement and well-being

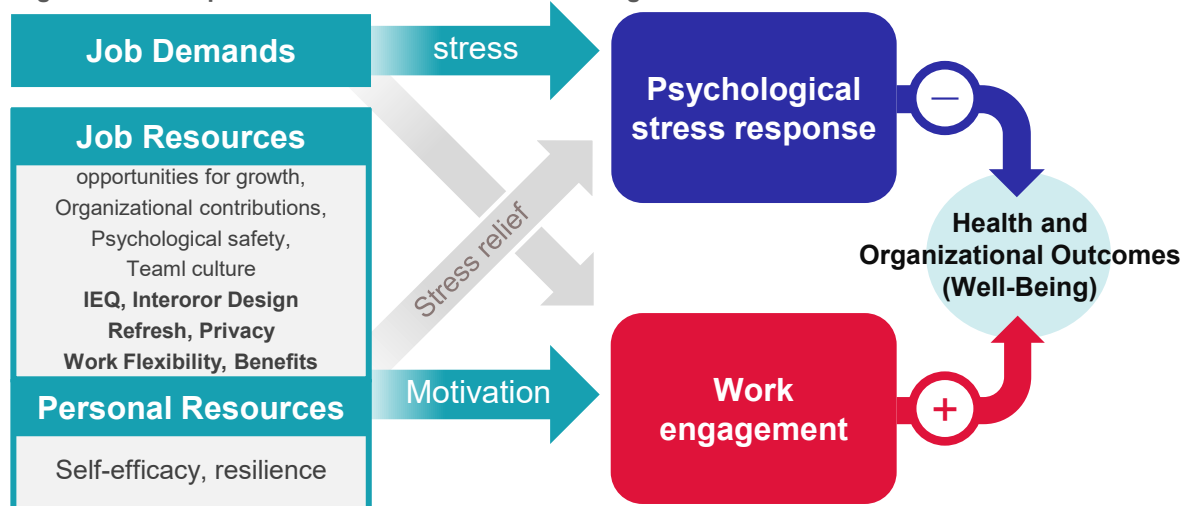
To evaluate factors related to work engagement and well-being, this study is grounded in the Job Demands–Resources (JD-R) model, which is widely used to analyze the mechanisms underlying employee engagement and well-being.

Job Demands–Resources (JD-R) Model

The JD-R model, developed in 2001, consists of three core components: job demands, work resources, and personal resources [10–13]. Work and personal resources function as buffers against stress, while job demands refer to aspects of work that require sustained physical or psychological effort. The model demonstrates that the balance among job demands, work resources, and personal resources influences employees' stress levels, work engagement, and ultimately their well-being.

Traditionally, work resources have focused on organizational factors such as opportunities for growth, contribution to the organization, and psychological safety. In this study, in addition to these organizational resources, we incorporate physical office space elements—such as indoor environmental quality and interior design—as work resources to conduct an integrated analysis.

Fig.6 Relationship between JD-R Model and Well-being



Section 03

Factors affecting work engagement and well-being

Based on the questionnaire data collected in this survey, statistical analyses were conducted to identify factors related to work engagement and well-being. Specifically, we examined the relationships among work engagement (a positive and fulfilling state of mind at work), perceived health at work (a psychologically healthy state characterized by low stress), and satisfaction with individual survey items. For both work engagement and perceived health at work, the contributing factors and their relative statistical influence are presented in Fig. 7 (details of the analytical methods are provided in the Appendix).

Motivational process

In the motivational process, employees who have sufficient work resources—such as opportunities for growth and a positive workplace environment—are better able to concentrate on their tasks, leading to higher levels of work engagement. In this study, indoor environmental factors and office design were also included in the evaluation. The results indicate that opportunities for growth (42%) contributed most strongly to work engagement, followed by refresh opportunities (18%), team culture (16%), and interior design (12%). With regard to interior design, functional aspects—such as ease of communication—appear to have a stronger influence than purely aesthetic elements.

Health process

While high job demands can drain physical and mental energy and reduce employees' ability to work in a healthy manner, a comfortable and supportive office environment can help reduce physical and psychological stress. In this study, both organizational and office-space factors were included in the analysis. The results show that refresh opportunities (31%) had the greatest contribution to perceived health at work, followed by opportunities for growth (19%), team culture (16%), indoor environmental quality (IEQ) (14%), benefits (10%), and work flexibility (9%).

Fig.7-1 Factors Contributing to the Motivational Process

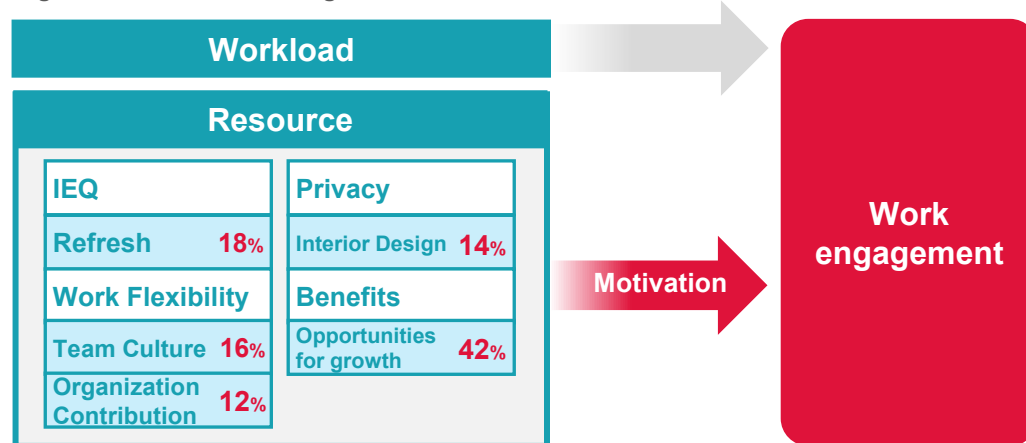
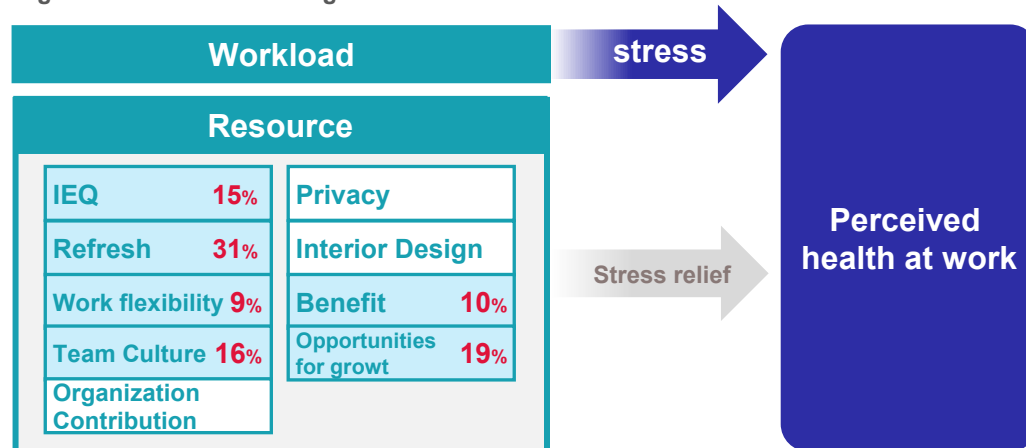


Fig.7-2 Factors Contributing to Health Processes



Section 03

Summary

Statistical analysis revealed that both organizational culture and physical office space—related factors contributed to work engagement and well-being.

Work Engagement

Opportunities for growth (42%), Refresh(18%), Team culture (16%), and Interior design (14%) contribute

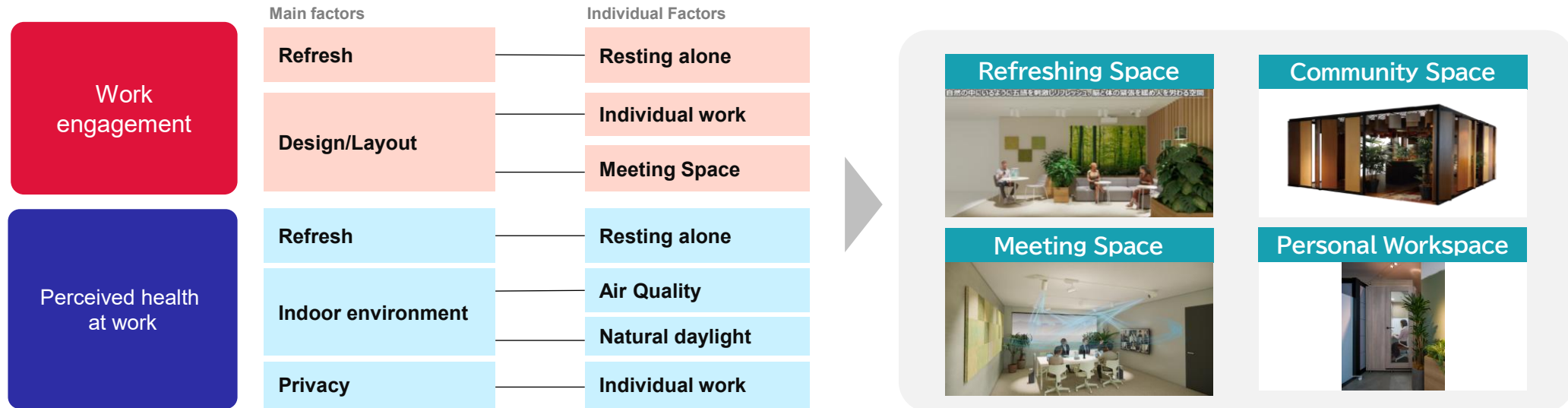
Well-being at Work

Refresh (31%), Opportunities for growth (19%), Team culture (16%), and IEQ (14%) contribute

While previous studies on work engagement and well-being have primarily focused on organizational factors, the findings of this study indicate that office-related factors that support daily work styles are also important contributors. These results suggest that the WELL certification process—by improving work styles, enhancing office environments that support those styles, and promoting organizational transformation—can lead to increased work engagement and well-being.

Detailing Office Space Factors for Well-Being and Work Engagement

This is an example of detailing the spatial factors that affect work engagement and well-being and how to deal with them.



Section 04

Toward a Well-Being Office

With the support of IWBI—the organization that administers WELL Certification—we developed the Panasonic Occupant Survey based on the WELL Building Standard survey requirement. We applied it to 4,237 individuals across 41 office projects in Japan to evaluate the impact of WELL-Certified offices on work engagement and well-being.

It is important to emphasize that WELL Certification itself is part of a more comprehensive well-being strategy for companies. It provides a critical roadmap for the team to transform the office environments and employ evidence-based organizational practices that are scientifically validated. For companies striving to increase workplace well-being in the office, it is essential to first visualize the current situation and continuously improve the space, systems, and culture based on employee feedback. We intend for this research study and white paper to demonstrate the impacts of investing in offices to support employee well-being through WELL, and highlight the differences that certification can make on employee health and well-being outcomes.

Limitations of this study

Methodology

This survey provides a snapshot of the effects of 4,237 valid responses collected from 41 projects by comparing WELL Certified and non-Certified offices. Ongoing investigations are needed in the future.

Sample method

There are several biases in the sampling method, for the following reasons:

1. The survey is limited to tenant renovation projects.
2. It is based solely on subjective responses.
3. It does not account for biases such as occupation or other demographic factors.
4. It does not assess the degree of impact across different certification levels.
5. The respondents are occupants of offices that have received WELL Certification services, and they may recognize that obtaining WELL Certification could influence their perceptions. Even with these biases considered, a sufficiently clear difference in effectiveness was observed between WELL-Certified offices and other offices.

Acknowledgments

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APPENDIX1. Technical Notes

Summary

Outline how to identify factors that contribute to work engagement and workplace well-being.

STEP1: Identifying Factors by Multiple Regression Analysis

Multiple regression analysis was conducted using work engagement and workplace health as the dependent variables, and satisfaction items as the explanatory variables. The stepwise method (forced entry) was applied to automatically extract parameters with high relevance. Table 3-1 shows the significance levels and partial regression.

In addition to common work resources such as opportunities for growth, organizational contribution, and organizational culture, significant effects were also observed for factors such as design and opportunities for refreshment. Similarly, perceived health in the workplace was strongly influenced by organizational factors—including personal growth, organizational contribution, benefits, and workload—as well as by physical work environment elements such as opportunities for refreshment and indoor environment. All variance inflation factors (VIFs) were below 3, indicating a low likelihood of multicollinearity.

STEP2: Calculation of the contribution rate of each factor

For each item, the product of the partial regression coefficient and the satisfaction score, obtained from the multiple regression analysis in STEP 1, was calculated. These values were then used to determine each variable’s contribution to work engagement and perceived well-being in the workplace. Table 3-2 shows the contribution rate for each factor.

For work engagement, approximately 70% of the contributing factors were general work resources such as personal growth, organizational culture, and organizational contribution, while about 30% consisted of ‘Refresh’ and ‘Interior Design.’ Regarding perceived workplace health, around 55% of the contributing factors were organizational elements—including personal growth, organizational culture, job flexibility, and benefits—while approximately 45% were explained by spatial factors such as refreshment and indoor environment.

Table3-1. Regression analysis results for work engagement and health at work

| | Work Engagement | | | Perceived health at work | |
|---------------------------|--------------------------------|------|--------------------------|--------------------------------|------|
| | Partial regression coefficient | VIFs | | Partial regression coefficient | VIFs |
| Opportunities for growth | .444 ** | 2.7 | Workload | .361 ** | 1.8 |
| Team Culture | .152 ** | 2.5 | Opportunities for growth | .125 ** | 2.7 |
| Workload | .148 ** | 1.4 | Refresh | .103 ** | 1.6 |
| Organization contribution | .119 ** | 3.2 | Team Culture | .098 ** | 2.6 |
| Refresh | .088 ** | 1.7 | Benefits | .080 ** | 2 |
| Interior Design | .082 ** | 1.9 | IEQ | .056 ** | 1.7 |
| | | | Work Flexibility | .052 ** | 2 |
| <i>R</i> ² | .631 ** | | <i>R</i> ² | .478 ** | |

N=3313,* p<0.05, ** p<0.01

Table3-2. The contribution of each factor to work engagement and health at work

| | Work Engagement | | | Perceived health at work | |
|---------------------------|---|-----|--------------------------|---|-----|
| | Partial regression coefficient * satisfaction | % | | Partial regression coefficient * satisfaction | % |
| Workload | 1.46 | | Workload | 3.55 | |
| Opportunities for growth | 4.13 | 42% | Opportunities for growth | 1.16 | 19% |
| Team Culture | 1,53 | 16% | Refresh | 1.94 | 31% |
| Organization contribution | 1.18 | 12% | Team Culture | 0.99 | 16% |
| Refresh | 1.66 | 17% | Benefits | 0.62 | 10% |
| Interior Design | 1.21 | 13% | IEQ | 0.89 | 14% |
| | | | Work Flexibility | 0.56 | 9% |

APPENDIX1. Technical Notes

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