Adapting the Physician Job Satisfaction Scale to Japan

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BACKGROUND: Understanding the job satisfaction and dissatisfaction of physicians might help to improve health care in Japan. Nevertheless, no job-satisfaction scale for physicians has been validated in Japanese.

OBJECTIVE: To develop a Japanese version of the Physician Job Satisfaction Scale (JSS), a multi-dimensional questionnaire developed by the Society of General Internal Medicine (SGIM) Career Satisfaction Study Group (CSSG), and to evaluate its reliability and validity.

METHODS: A Japanese version of the JSS was developed according to the standard protocol of scale translation. A focus group of 7 Japanese physicians was established to identify “Japanese-specific” facets of job satisfaction. After revising the scale based on the discussions of the focus group, a cross-sectional sample of 87 Japanese physicians from hospitals in different regions completed the Japanese version of the Physician Job Satisfaction Scale (JSS-J) to assess its reliability and validity.

RESULTS: A focus group identified a Japanese-specific facet, “prestige”. Content validity was also established through the focus group. Internal consistency ranged from 0.53 to 0.83. Test-retest reliability, convergent and discriminant validity were good to excellent.

CONCLUSIONS: Although the overall results suggest that the JSS-J can be applied to assess the job satisfaction of Japanese physicians, further qualitative research is required to refine the JSS-J.

KEY WORDS: physician job satisfaction, scale development, Japan, questionnaire survey, validation


As the environment of health care (patient rights, litigation, organization and financing) has changed dramatically in recent years, the physician’s workplace and the patient-physician relationship has changed accordingly. Some researchers have reported that there is a relationship between physician job satisfaction and the quality of care they provide as measured by patient sat-
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satisfaction and patient compliance. Others have found that dissatisfied physicians have riskier prescribing patterns. A decrease in satisfaction correlates with an increase in the perceived level of stress, which leads to unhappy outcomes such as burnout, mental health problems, or even suicide. A link between stress and poor job performance, turnover, accidents and errors, and alcohol and drug abuse has also been documented. Williams and colleagues have described well that job satisfaction is inversely related to the intention to withdraw from practice. Taken altogether, the findings suggest that distress and dissatisfaction among physicians have a significant impact not only on the physicians themselves but on patients and health care organizations.

At the time this research began little attention had been paid to physician job satisfaction in Japan and only a few studies had surveyed physicians’ work conditions, but none had evaluated job satisfaction with a reliable measurement. While nurses’ high rates of turnover had driven researchers to conduct many studies, physicians’ turnover seemed to have little impact except in remote area, since most Japanese physicians have little opportunity to change their workplace of their own will. As dissatisfied physicians have increased worldwide, several Japanese researchers have become interested in physician job satisfaction, however they have used questionnaire measurement without validation.

The Physician Job Satisfaction Scale (JSS) is a self-administered, multidimensional questionnaire developed in the United States by the Society of General Internal Medicine (SGIM) Career Satisfaction Study Group (CSSG) to assess physician job satisfaction. The JSS is well validated, and many studies have been conducted based on this measurement. Since no appropriate measurement exists in Japan, the aim of the development of the Japanese version of the JSS was to develop a Japanese version of the JSS (JSS-J) to assess Japanese physician job satisfaction. In addition, it is important to describe the process of scale adaptation and to evaluate its validity and reliability, because the two countries have different health care systems and physician mobility is more limited in Japan.

METHODS

The Japanese version of the JSS was developed according to the standard protocol of scale translation using the following steps: forward-translation, back-translation, qualitative evaluation by focus-group discussion, pilot study, and psychometric evaluation (Fig. 1).

Translation

The original version of the JSS was first translated into Japanese by two translators. Translators 1 and 2 were bilingual (Japanese and English) native speakers of Japanese. Working independently, they produced two initial translations of the JSS. Translator 3 (bilingual, native speaker of Japanese) compared those two translations and produced a single translated version. For each response choice, the original JSS used a 5-point, agree-disagree Likert scale. The translated version followed the same response choice as the Likert scale. This version was back-translated into English by a bilingual native speaker of English and then reviewed.

Focus group discussion

To make the JSS translation a more suitable measurement of the Japanese work environment, a focus-group discussion was held with seven physicians recruited in the Tokyo metropolitan area. The discussion was aimed at finding out how the respondents interpreted the question items and the response choices. It also aimed to identify “Japanese-specific” facets of physician job satisfaction. The JSS translation was shown to confirm linguistic and face validity. In the process of
confirming face validity, the question item, “Clinical guidelines restrict my freedom to practice,” was omitted since physicians in Japan seldom have their practice restricted by clinical guidelines. We also decided to omit the item “Gatekeeping requirements seldom conflict with my clinical judgment,” because many Japanese physicians are less likely to recognize “gatekeeping” as one of their roles. Concerning the restriction of health care insurance, such as “Formularies or prescription limits restrict the quality of care I provide,” we generated two question items, one for diagnostic tests and the other for prescriptions.

Developing new facets

The original JSS has 10 facets (autonomy, relationship with colleagues, personal time, relationship with patients, patient care issues, relationship with staff, relationship with community, pay, administration and resources) and 3 overall measurements (global job satisfaction, career satisfaction and specialty satisfaction). The focus group also identified a Japanese-specific “prestige” facet, which is the physician’s sense of doing a unique and respected job. This facet seems to reflect satisfaction with the respect or good reputation one has in the professional health care world, rather than in daily social life; therefore, we generated question items for this new facet. Finally, the JSS-J version 1.0 was developed, with 11 facets and two global measurements with three to five items each.

Pilot study

The pilot study was undertaken in 2001, with the questionnaire consisting of six pages and containing the following variable factors: 1. General characteristics: age, gender, marital status, and specialty. 2. JSS-J version 1.0. 3. Single-item measurement of depression and anxiety. 4. Intention to leave current workplace: Asking how probable a job change is within the next two years. 5. Single item of perceived burnout measurement.

The pilot questionnaire was given to 87 physicians from four geographically different hospitals (in the Tokyo metropolitan area, Kawasaki, Higashi-Osaka and Niigata City). Two weeks later the questionnaires were again given to 32 of the subjects at two of the four hospitals (Tokyo metropolitan area and Kawasaki) to assess the test-retest reliability. Returned questionnaires (n = 83) yielded 81 usable responses (Table 1).

Analysis

Cronbach’s alfa was computed to assess internal-
Table 3  Internal consistency (convergent validity) and discriminant validity of version 1.0 (n = 81)

<table>
<thead>
<tr>
<th>Facet name</th>
<th>Internal consistency test*</th>
<th>Discriminant validity tests †</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Successes/Total</td>
<td>Percent successful</td>
</tr>
<tr>
<td>Autonomy</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Personal time</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Relationships with patients</td>
<td>2/2</td>
<td>100%</td>
</tr>
<tr>
<td>Patient care issues</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Relationships with colleagues</td>
<td>4/4</td>
<td>100%</td>
</tr>
<tr>
<td>Relationships with staff</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Relationships with community</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Pay</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Administration</td>
<td>2/2</td>
<td>100%</td>
</tr>
<tr>
<td>Resources</td>
<td>3/3</td>
<td>100%</td>
</tr>
<tr>
<td>Prestige</td>
<td>3/3</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Number of correlation coefficients greater than or equal to 0.4.
†Number of correlation coefficients significantly higher per total number of correlation coefficients.

Table 4  Concurrent validity correlations for facets

<table>
<thead>
<tr>
<th>Facet name</th>
<th>Global job satisfaction</th>
<th>Global career satisfaction</th>
<th>Depression</th>
<th>Burnout</th>
<th>Likelihood of leaving current workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>0.27</td>
<td>0.15</td>
<td>-0.13</td>
<td>-0.21</td>
<td>0.09</td>
</tr>
<tr>
<td>Personal time</td>
<td>0.34*</td>
<td>0.21</td>
<td>-0.19</td>
<td>-0.34*</td>
<td>-0.14</td>
</tr>
<tr>
<td>Relationships with patients</td>
<td>0.46†</td>
<td>0.21†</td>
<td>-0.55</td>
<td>-0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>Patient care issues</td>
<td>0.46†</td>
<td>0.29*</td>
<td>-0.16</td>
<td>-0.20</td>
<td>0.02</td>
</tr>
<tr>
<td>Relationships with colleagues</td>
<td>0.31*</td>
<td>0.11</td>
<td>-0.12</td>
<td>-0.18</td>
<td>0.13</td>
</tr>
<tr>
<td>Relationships with staff</td>
<td>0.24</td>
<td>0.07</td>
<td>-0.12</td>
<td>-0.22</td>
<td>0.03</td>
</tr>
<tr>
<td>Relationships with community</td>
<td>0.27</td>
<td>0.35*</td>
<td>-0.04</td>
<td>-0.02</td>
<td>0.09</td>
</tr>
<tr>
<td>Pay</td>
<td>0.35*</td>
<td>0.18</td>
<td>-0.36*</td>
<td>-0.37†</td>
<td>0.02</td>
</tr>
<tr>
<td>Administration</td>
<td>0.13</td>
<td>0.16</td>
<td>-0.21</td>
<td>-0.02</td>
<td>-0.16</td>
</tr>
<tr>
<td>Resources</td>
<td>0.28*</td>
<td>0.29*</td>
<td>-0.31*</td>
<td>-0.23</td>
<td>-0.03</td>
</tr>
<tr>
<td>Prestige</td>
<td>0.40†</td>
<td>0.21†</td>
<td>-0.48†</td>
<td>-0.36†</td>
<td>0.09</td>
</tr>
<tr>
<td>Global job satisfaction</td>
<td>0.64†</td>
<td>0.64†</td>
<td>-0.46†</td>
<td>-0.58†</td>
<td>0.09</td>
</tr>
<tr>
<td>Global career satisfaction</td>
<td>0.64†</td>
<td></td>
<td>-0.18</td>
<td>-0.32*</td>
<td>0.19</td>
</tr>
</tbody>
</table>

*p<0.01 †p<0.001

consistency reliability. Internal-consistency criteria were greater than 0.72. To assess test-retest reliability, Pearson's product-moment correlation coefficients of two tests were computed. The assessment of item-internal consistency (convergent validity) and discriminant validity was based on calculating the coefficients of correlation for each item with its hypothesized scale and with all other scales. If the correlation between an item and its hypothesized scale was greater than 0.4, that item was considered to have "succeeded" in the test of item-internal consistency. If the correlation between an item and all scales other than its hypothesized scale was less than the correlation between that item and its hypothesized scales, that item was considered to have "succeeded" in the test of discriminant validity21. The assessment of concurrent validity was based on measurements of perceived burnout, depression and intention to leave the current workplace (turnover).

RESULTS

Table 2 shows the results of internal-consistency reliability and test-retest reliability. For internal-consistency reliability, four facets (personal time, relationships with colleagues, relationships with staff, and pay) exceeded the 0.7 criterion. Four facets (autonomy, relationships with patients, patient care issues, and community) nearly met the criterion. The remaining three facets (administration, resources and prestige) were less than 0.6. For test-retest reliability, Pearson's product-moment
correlation coefficients ranged from 0.63 to 0.90. Apart from two facets (administration and prestige) all exceeded 0.7, which was acceptable.

The success rates of all items scored 100% in the tests of item-internal consistency. For discriminant validity, the success rates of three facets (relationships with colleagues, relationships with staff, and prestige) ranged from 83% to 89%, and the remainder scored more than 90% (Table 3).

The negative correlations among the facets, and depression and perceived burnout measurements shown in Table 4, support the concurrent and convergent validity of our measurements18. The positive correlation coefficient between the facets and two global measurements supports the concurrent validity. The correlations between the facets and global job satisfaction were generally higher than the correlations between the facets and global career satisfaction. These results confirm that the facets pertain to the current jobs of those surveyed rather than their entire careers.

DISCUSSION

The aim of our study was to develop an instrument to measure Japanese physician job satisfaction, including the quality of work life across medical specialties and settings. We decided to adapt the JSS for use by Japanese physicians for the following two reasons: First, the JSS was shown to be a valid and applicable measurement to assess physician job satisfaction in various practice settings19. Since no validated measurement exists for assessing physician job satisfaction in Japanese, adapting the JSS for Japanese physicians would save time in comparison with developing a measurement independently. Second, if the JSS could be applied to Japanese physicians, we could then study and compare the work lives of physicians in the United States and Japan. Although the health care systems of the two countries are different, we considered that a comparison might provide suggestions for better quality care in Japan.

Although we discovered a Japanese-specific facet, its low Cronbach alpha suggests that we might have failed to present appropriate question items to measure this facet. During the focus-group discussion, some physicians described dissatisfaction with their position and the desire for higher academic positions to be recognized as experts in their clinical fields. Although they realize that these positions do not alter the relationship with patients, they want to be recognized as experts in the professional health care world. In the original 15 facets of the JSS, there was a “status” facet, defined as satisfaction with the respect received from patients, their families, and the general community. Throughout the developmental process, it was deconstructed and the items were reformulated into relationships with colleagues, staff, patients and community. Physicians’ colleagues are of course part of the health care world but the “prestige” facet has been described as being outside the workplace. It was therefore difficult to reformulate the “prestige” facet as “status”, because it has not been described in the relationship with colleagues, patients and community. Why are physicians eager for respect and reputation in the professional health care world rather than in their immediate daily lives? Sociologists have suggested that the Japanese are likely to construct their self-image depending on their relationships with others20. This tendency may explain this new facet in part. On this occasion we only recruited physicians working at urban hospitals, so clinic practitioners and physicians working in rural area may have different perceptions. We need to conduct further qualitative studies to clarify the concept of the new facet and exploring the perceptions of physicians in other practice settings to generate appropriate question items.

Autonomy was another facet with a low Cronbach alpha. Throughout the focus-group discussion we modified two question items regarding restricted health insurance. Those question items that the focus group agreed not to modify, such as reviewer pressure and referral restriction, seemed to lower internal consistency. Japanese physicians usually receive little pressure from outside reviewers and rarely have restrictions with referrals; therefore, they are less likely to consider them a matter of autonomy. Further qualitative research is needed to explore what regulates the “autonomy” of Japanese physicians, and if it is completely different from that of the original JSS, it will be necessary to generate new question items.

All subjects of the pilot study were hospital-employed physicians. This may explain why two other facets, administration and resources, yielded a low alpha. Studying physicians’ perceptions of other practice settings may help to refine the validation of those facets.

Previous studies indicate that physician satisfaction is inversely associated with the intention to leave the current workplace6. However, in the concurrent validation, we failed to show a correlation between the satisfaction and intentions to change job. This may be problematic
given the nature of the physician employment pattern in Japan where movement from one employer to another is less frequent and may not occur voluntarily.

The overall results suggest that the JSS-J can be applied to Japanese physicians. While marginally usable, some facets with a Cronbach’s alpha of less than 0.7 needed to be removed or altered. Further development should focus on expanding and refining these facets.

CONCLUSION

Understanding physician job satisfaction is useful for the following reasons: clarifying physicians’ career choices, improving the patient-physician relationship, explaining physicians’ behavior in clinical and organizational domains, and re-arranging physicians’ workplaces to better meet the needs of both physicians and patients. The number of subjects in this pilot study was rather small for precise evaluation. With those limitations, the results showed that the JSS-J would be applicable for Japanese physicians. Before gathering more data, further qualitative research is needed to refine the Japanese conceptual framework of some facets, especially the newly identified ‘Japanese-specific’ facet, and to test the psychometric properties of the revised version.

The authors are grateful to Thomas Konrad, Ph.D., for helpful comments and suggestions on earlier manuscripts, and Mark Linzer, M.D., for insightful critical review and input into this project. The authors also thank the many physicians who generously participated in the focus group and pilot survey.

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References


Appendix

**Items in Japanese version of Physician Satisfaction Scale (JSS-J ver 1.0)**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Items</th>
</tr>
</thead>
</table>
| Autonomy                       | Others rarely question my professional judgments.  
                                | Prescription limits restrict the quality of care I provide.*  
                                | I am able to refer patients or receive referrals when necessary.  
                                | My organization restricts my freedom in practice.*  
                                | Insurance limits seldom restrict diagnostic tests when necessary.*                                                                 |
| Personal time                  | My work schedule leaves me enough time for my family time.  
                                | Work rarely encroaches on my personal time.  
                                | The interruption of my personal life by work is a problem.  
                                | The amount of call I am required to take is not excessive.                                                   |
| Relationships with patient     | The gratitude displayed by my patients keeps me going.  
                                | I feel a strong personal connection with my patients.                                                                                          |
| Patient care issues            | I am overwhelmed by the needs of my patients.  
                                | My relationship with patients is more adversarial than it used to be.  
                                | Many patients demand potentially unnecessary treatments.  
                                | Time pressures keep me from developing good patient relationships.                                                   |
| Relationships with colleagues  | I get along well with my physician colleagues.  
                                | My physician colleagues value my unique perspective in practice.  
                                | My physician colleagues are a major source of personal support.  
                                | My physician colleagues are a good source of professional stimulation.                                                   |
| Relationships with staff       | My non-physician colleagues are a major source of personal support.  
                                | Non-physician staff in my practice are not accommodating.  
                                | Non-physicians in my practice reliably carry out my instructions.                                                   |
| Relationships with community   | I do not feel at home in the community where I practice.  
                                | I feel a sense of belonging to the community where I practice.  
                                | My family and I are strongly connected to the community where I work.                                                   |
| Income                         | My total compensation package is fair.  
                                | I am not well compensated given my training and experience.  
                                | I am not well compensated compared to physicians in other specialties.                                                   |
| Administration                 | My role in managing the business aspect of my practice is not a burden to me.  
                                | Paperwork required by payers is a burden to me.  
                                | I have too much paperwork to do.                                                                                         |
| Resources                      | Medical supplies are available when I needed.  
                                | I have sufficient exam room space to see my patients.  
                                | I have adequate equipment for office procedure.  
                                | There are not enough support staff in my practice.                                                                     |
| Prestige ‡                     | I am not discontent with my current position.  
                                | I am proud of my current work.  
                                | My colleagues and staffs well understand my effort.  
                                | My colleagues or bosses do not evaluate me rightly.                                                                   |
| Global job satisfaction        | I feel my present clinical work personally rewarding.  
                                | Overall, I am pleased with my work.  
                                | Overall, I am satisfied in my current practice.  
                                | My current work situation is a major source of frustration.  
                                | My work in this practice has not met my expectation.                                                                 |
| Global career satisfaction     | If I were to choose over again, I would not become a physician.  
                                | I am satisfied with my career as a physician.  
                                | All things considered, I am satisfied with my career as a physician.  
                                | In general, my medical career has met my expectation.  
                                | I would recommend medicine to others as a career.                                                                     |

*Question items modified in focus group discussion.

‡Facet generated for Japanese version.