A Cross-national Replication of Physiotherapists' Perspectives on Professional Practice

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Abstract. A survey was conducted to investigate attitudes towards professional knowledge and practice of 1,017 Japanese physiotherapists. The questionnaire consisted of 22 statements and demographic variables. The final response rate was 57.7 per cent and the respondents' age ranged from 23 to 72 (mean $\pm$ SD: 32.9 $\pm$ 8.4) years. The statements were organised into six dependent variables. The findings indicated that the majority of the respondents supported a humanistic approach, showing less concern for the personal and socio-psychological problems of the client. Gender differences on professional practice were small, but women tended to endorse a more holistic view of treatment placing emphasis on the client's responsibility and promotion of their coping skills. Comparative analyses of Japanese and Australian physiotherapists revealed that Australian men placed emphasis on treatment methods and techniques and holistic and work domain attitudes. Australian women endorsed all the attributions and attitudes except interaction attributions. Swedish physiotherapists highly endorsed technique attributions as well as a holistic view of professional practice. Findings are discussed within the framework of the attribution theory and in the context of viewing physiotherapy as a biomedical science or as a caring profession, as well as from historical and cultural perspectives.

Key words: Professional practice, Paradigm, Attribution theory

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INTRODUCTION

In the traditional biomedical disease model¹⁻³⁾ the role of the physiotherapist is to attribute the cause of the condition to the client and to use a physical means of treatment that focuses on the technical aspect of care. In contrast, in the paradigm recognised as a caring profession^{4, 5)}, a holistic model⁶⁾, life model^{7, 8)} and psychosocial model approaches the client holistically. Does the application of the biomedical model alone fulfill the requirements necessary for today's therapy in Japan? This question needs to be addressed because we are encountering increasing problems inherent in

chronic diseases and residual disabilities brought about by the advent of an increasingly ageing society and advancement in medical sciences. These problems can be better addressed by recognising physiotherapy as a caring profession. Studies portrayed in the Japanese physiotherapy literature concerning physiotherapist's attitudes towards health, disease and/or disability, as well as any new concept for a physiotherapy paradigm founded on a caring profession are few and far between.

The attribution theory^{9, 10)} can be utilized to provide answers to the physiotherapist's questions on whether physiotherapists have successful or unsuccessful treatment outcomes^{4, 11, 12)}. Causal

attributions are founded on the physiotherapist's knowledge and experience and are related not only to gender, age and career, but also to personal values and attitudes. Accordingly, studies carried out in Australia and Sweden were replicated here in Japan in order to examine Japanese physiotherapists' perspectives on their professional practice *vis-à-vis* the client's personal responsibility, client-therapist interaction and the importance of a humanistic-holistic approach to treatment. Therefore, by examination of present-day physiotherapy practice it may help to confirm some of the inherent problems of a profession that has been founded on the traditional biomedical disease model. Another reason for the replication was to find out present-day physiotherapists' perception of professional practice, and how it compares with that of their Australian and Swedish counterparts whose professional practice has a longer history than that in Japan.

By interpretation of results from such an investigation it would possibly foster not only a concept for physiotherapy treatment, but also improve the client's competency so as to enable them to be self-reliant in their treatment programme. Thus, this study may help clarify the current views of professional practice of physiotherapists in Japan. In addition, the awareness of a paradigm being in existence for physiotherapy practice may enable development of further research¹³⁾ and contribute to establishment of a general theory of practice for physiotherapy¹⁴⁾.

The physiotherapist is required to possess appropriate techniques and interpersonal skills for communication in client management. Any incompetency regarding this aspect lowers acceptance on the part of the client and client's family of a physiotherapist's professional guidance and suggestions, consequently increasing dissatisfaction with the client's healthcare, which, in turn, may lower accountability on the part of the physiotherapist¹⁵⁾. This study may help to promote an awareness of this important factor to the physiotherapy profession.

Although information on biomedical science is plentiful in the present undergraduate physiotherapy curriculum, subjects concerning interpersonal communication and counselling skills are given little consideration with no emphasis on their important contribution to physiotherapy practice. Therefore, this study can be viewed as a window on the future development of a humanistic-

holistic model not only for professional practice of physiotherapy, but also for inclusion in curriculum development for the education and training of physiotherapists.

METHODS

Instrument

A survey, originally devised by Stenmar and Nordholm⁵⁾, was implemented in this study. The questionnaire was composed of two parts. Part one of the questionnaire consisted of a Likert-type attitude scale to measure views on the professional practice of physiotherapy in Japan. The details of the statements are shown elsewhere¹⁶⁾. The intention of these 22 statements in the questionnaire was to search for the type of attributions that were conceived by physiotherapists to explain their treatment outcomes. The content of the questions included means on the knowledge and technical aspects of physiotherapy, holistic approach to health care, client characteristics and client-therapist relationship.

Part two of the questionnaire collects background information about respondents' age, gender, number of years of professional experience and work setting.

Scoring

The definition and scoring of the three attributional and three attitudinal dependent variables have been described elsewhere¹⁶⁾. Briefly, *technique attributions* reflect the biomedical science perspective of physiotherapy, with *client attributions* reflecting the view that clients themselves are the essential factor in treatment outcomes, and *interaction attributions* express the view that interaction between client and therapist is evidence of a successful treatment outcome. A score of 5 indicates agreement with the attribution and a score of 1 indicates disagreement. Negatively phrased statements such as items 2, 7 and 18 are reversed according to the Likert procedure so that higher scores represented greater agreement with the statement¹⁷⁾. The score range for each dependent variable is from 3 to 15, where the higher the score the more the respondent agrees with the attribution.

Amongst the three attitudinal dependent variables, *holistic attitude* reflects the holistic treatment model with a score ranging from 3 to 15.

Client resources attitude involves focusing on the problems of the client versus focusing on the positive resources of the client such as their motivation and coping skills, so distinguishing between the biomedical perspective of physiotherapy and the humanistic/holistic perspective. The score range for this variable is from 4 to 20. *Work domain attitude* deals with the extent to which physiotherapists should concern themselves with the socio-psychological problems of their clients and has a score range of 3 to 15.

Procedure

The original English version of the questionnaire was translated into Japanese by the author. This Japanese version was, then, critically examined by the staff of the Physiotherapy Department at the University of Kanazawa Hospital for its wording and phrasing.

Using the systematic sampling method, 1,017 respondents were selected from the Japanese Physical Therapy Association Membership List for the year 2000, but these were eventually reduced to 984 respondents due to various reasons of non-compliance to the questionnaire. A letter explaining the purpose of the study accompanied the questionnaire as well as a stamped addressed return envelope. The questionnaire was anonymous but contained a code for the purpose of issuing a reminder. This code was removed upon receipt of the questionnaire. The study was carried out during March and April of 2002.

The rate of return was 57.7 per cent, from which 12 incomplete questionnaires were excluded from the analysis, leaving a final sample of 568 respondents. The data for the Australian and Swedish physiotherapists were taken from references 12 and 5.

Statistics

The mean values, SDs, ranges and 95 per cent confidence interval of the dependent variables were calculated. Chronbach's alpha was calculated for total statements with a result of 0.57. Using the unpaired *t*-test the results from the questionnaire of the Japanese physiotherapists were compared with those of existing data from the 1994 studies of the Australian and Swedish physiotherapists. Probability values of <0.05 were considered statistically significant in a two-sided test, and *Microsoft Excel 2001* was used for the data analysis.

RESULTS

Background and characteristics of the respondents

The background and characteristics of the Japanese, Australian and Swedish respondents are compiled in Tables, 1, 2 and 3, respectively.

For the Japanese respondents, the 95 per cent confidence interval for *technique attributions* was 1.4–4.3, *client attributions* 2.9–5.0, *interaction attributions* 2.8–5.0, *holistic attitude* 1.8–3.5, *client resources attitude* 2.1–4.3, and *work domain attitude* 1.0–3.5.

Brief analyses of the attributional and attitudinal variables

The mean score for each dependent variable was calculated by dividing the score by the number of statements that constituted each dependent variable; therefore, the possible range for each score was from 1 to 5. The mean scores of all the dependent variables except for *work domain attitude* exceeded the midpoint of 2.50 for all the respondents.

All respondents showed relatively high mean scores for *client attributions*, *interaction attributions* and *client resources attitude*, 4.03, 3.97 and 3.19, respectively. Significantly higher mean (SD) scores were shown by the men for *technique attributions* in comparison with the women, that is, 2.94 (0.76) versus 2.74 (0.72) ($t=3.12$, $p<0.01$).

Comparison between the Japanese and Australian respondents

The Australian men therapists showed significantly higher scores than their Japanese men counterparts for *technique attributions* and *holistic attitude* and *work domain attitude* (Table 4 and Fig. 1). The dependent variables' high mean scores for the Japanese men therapists were *client attributions*, *interaction attributions* and *client resources attitude*, but there was no significant difference between the Japanese and Australian men therapists. The mean score for *client attributions* was significantly higher for the Japanese women therapists than their Australian women counterparts. The dependent variables that showed significantly higher scores for the Australian women therapists compared to their Japanese counterparts were *technique attributions*, *holistic attitude*, *client resources attitude* and *work domain attitude*.

Table 1. Characteristics of the Japanese respondents

Number:	568 (Female 243, 42.8%, Male 325, 57.2%)
Mean (<i>SD, range</i>) age:	32.9 (8.4, 23–72)
Workplace setting:	
Hospital	467 (82.2%)
Social welfare	29 (5.1%)
Education and/or research	18 (3.2%)
Administration	14 (2.5%)
Others (eg. Nursing homes)	40 (7.0%)
Mean (<i>SD, range</i>) years of professional experience:	9.8 (7.4, 1–36)
Academic qualifications:	
Master's degree	3 (0.5%)
Baccalaureate degree	75 (13.2%)
Diploma	490 (86.3%)

SD: standard deviation.

Table 2. Characteristics of the Australian respondents¹²

Number:	558
Mean (<i>SD, range</i>) age:	33.8 (9.6, 21–65)
Workplace setting:	
Public hospital	317, 59.1% (Female 82.1%, Male 17.9%)
Private sector	241, 40.9% (Female 75.9%, Male 24.1%)
Mean (<i>SD, range</i>) years of professional experience:	11.2 (9.3, 1–40)
Academic qualifications:	
Baccalaureate degree	52.5% (with 20.3% completed post-graduate training)
Diploma	47.5%

SD: standard deviation.

Table 3. Characteristics of the Swedish respondents⁵

Number:	140 (Female 116, Male 24)
Mean (<i>SD, range</i>) age:	37.9 (9.5, 21–78)
Workplace setting:	
Hospital clinics	27.0%
Primary healthcare	29.0%
Occupational health	6.0%
Private practice	5.0%
Various combination of the above areas	33.0%
Mean (<i>SD, range</i>) years of professional experience:	10.3 (8.9, 1–50)
Continuing education:	
5 weeks of full-time study	32.0%
Other related educational fields	38.0%

SD: standard deviation.

Comparison between the Japanese and Swedish respondents

The mean scores for all the dependent variables were higher for the Swedish men therapists in

comparison to their Japanese men counterparts with an apparent significant difference in *technique attribution*, *holistic attitude* and *work domain attitude* (Table 5 and Fig. 2). In addition, the

Table 4. Comparison of the six dependent variables between Japanese and Australian[†] physiotherapists according to gender

Dependent variables	Men		Women	
	Japanese (N=325) Mean (SD)	Australian (N=49*) Mean (SD)	Japanese (N=243) Mean (SD)	Australian (N=268*) Mean (SD)
Technique attributions	2.94 (0.76)	3.55 (0.64)	2.74 (0.72)	3.32 (0.69)
Client attributions	4.04 (0.63)	3.83 (0.72)	4.01 (0.55)	3.78 (0.72)
Interaction attributions	3.97 (0.65)	3.86 (0.76)	3.97 (0.59)	3.99 (0.69)
Holistic attitude	2.65 (0.46)	3.54 (0.69)	2.66 (0.42)	3.83 (0.67)
Client resources attitude	3.17 (0.62)	2.98 (0.82)	3.22 (0.52)	3.38 (0.77)
Work domain attitude	2.14 (0.68)	2.99 (0.88)	2.16 (0.70)	3.00 (0.87)

[†]: Reference 12. *: Those who work in public sector only. SD: standard deviation. **: $p < 0.01$.

Fig. 1. Radar chart showing comparison of the six dependent variables between Japanese and Australian physiotherapists. 1.00–5.00 denotes the range of the mean scores. 1: Technique attributions; 2: Client attributions; 3: Interaction attributions; 4: Holistic attitude; 5: Client resources attitude; 6: Work domain attitude.

Swedish women therapists also showed significantly higher mean scores for all of the dependent variables compared to their Japanese women counterparts.

DISCUSSION

Most of the Japanese respondents were in their early thirties because the history of contemporary physiotherapy in Japan is less than 40 years. Also the majority of therapists were employed in medical institutions, currently a nation-wide trend, though the practice of physiotherapy is gradually

expanding into various fields of healthcare including that of homecare service. At present, Japanese physiotherapists do not have the right to engage in private practice, which is reflected in the results. The high number of diploma holders reflects the continuing trend in diploma programmes that the majority of schools of physiotherapy still pursue.

The majority of the Japanese respondents generally placed emphasis on the client's personal responsibility, thereby supporting a humanistic approach to care with less concern shown for the socio-psychological problems of the client. They

Table 5. Comparison of the six dependent variables between Japanese and Swedish[†] physiotherapists according to gender

Dependent variables	Men		Women	
	Japanese (N=325) Mean (SD)	Swedish (N=24) Mean (SD)	Japanese (N=243) Mean (SD)	Swedish (N=116) Mean (SD)
Technique attributions	2.94 (0.76)	3.31 (0.80)	2.74 (0.72)	3.13 (0.72)
Client attributions	4.04 (0.63)	4.25 (0.76)	4.01 (0.55)	4.30 (0.77)
Interaction attributions	3.97 (0.65)	4.18 (0.79)	3.97 (0.59)	4.35 (0.71)
Holistic attitude	2.65 (0.46)	3.51 (0.97)	2.66 (0.42)	3.97 (0.75)
Client resources attitude	3.17 (0.62)	3.43 (0.69)	3.22 (0.52)	3.76 (0.79)
Work domain attitude	2.14 (0.68)	2.55 (0.77)	2.16 (0.70)	2.84 (0.93)

[†]: Reference 5. SD: standard deviation. *: $p < 0.05$, **: $p < 0.01$.

Fig. 2. Radar chart showing comparison of the six dependent variables between Japanese and Swedish physiotherapists. 1.00–5.00 denotes the range of the mean scores. Numerals 1 to 6 correspond to those in Fig. 1.

also emphasized the coping skills of their clients. Readers are advised to refer to *reference* 16 for more detail.

Gender difference in physiotherapy practice

The difference in the proportion of men to women should be considered when cross-culturally comparing the practice of physiotherapy. Women physiotherapists have traditionally dominated the physiotherapy profession in Western countries. For example, at the present time 95 per cent of British physiotherapists are women¹⁸). Because of this, in textbooks and scholarly papers written in English,

the physiotherapist is referred to as 'she' versus the patient and doctor as 'he'. Similarly, men physiotherapists occupy only nine per cent of the Canadian physiotherapy profession to which the author belonged from 1972 to 1981¹⁹). The origin for this fact can be traced back to Britain at the turn of the 19th century when altruistic women of the middle class took it upon themselves to create the physiotherapy profession. This was not for personal economic gain, but for the sake of creating a respectable profession that would have dignity and integrity²⁰).

Comparison with the Australian physiotherapists

In the Australian sample, the percentage of men physiotherapists was 15¹²⁾ compared to 57 in the Japanese sample (Table 4). Due to the overwhelmingly large number of Japanese men physiotherapists, a discrepancy in the accuracy of the statistical comparison became apparent between the Japanese and Australian men physiotherapists²¹⁾. For example, a null hypothesis cannot be rejected when a large difference exists in the number of the two groups: in this study it was 6.6 times larger for the Japanese men physiotherapists. Nevertheless, the fact that the Australian men physiotherapists showed significantly higher mean scores for *technique attributions*, *holistic attitude* and *work domain attitude* indicates a large discrepancy in the views of Japanese and Australian men physiotherapists. Therefore, the statistical probability may have been 0.1 per cent or less, if the difference in the *n* of both groups had remained within a two- to three-times larger range. Similarly, the mean scores of the Japanese men physiotherapists for *client attributions*, *interaction attributions* and *client resources attitude* may also have been significantly high. Indirect evidence suggests that a significant relationship existed amongst all of the dependent variables with the exception of *interaction attributions* for the women physiotherapists where the gender difference in number was negligible.

The Australian women physiotherapists were seen to emphasize the client-therapist relationship, client responsibility and holistic attitude in comparison to that of their men counterparts, which suggests that they support the holistic model of physiotherapy. However, no gender difference was apparent in Japan. Therefore, it is likely that men with nurturing characteristics tend to enter the physiotherapy profession in Japan. Alternatively we might ask the question "Can such characteristics be fostered in the socialization process during training?"

The higher mean scores of the Australian physiotherapists for *technique attributions* seem to indicate that they, regardless of their gender, highly endorse the biomedical disease model of physiotherapy and, at the same time, also support the holistic model. Physiotherapy private practice is commonplace in Australia, and the ratio of private practitioners to institutionally employed physiotherapists is two to three¹²⁾. Compared to

physiotherapists employed in public healthcare institutions, private practitioners have a high motivation to emphasize technique and knowledge, for business would not be viable without maintaining a satisfactory client-therapist relationship²²⁾. It could be said that Australian physiotherapists who work for the private sector might influence the attitude of those who are employed in institutional setting. Further, Australian clients who seek treatment from private practitioners tend to be in comparatively high-income brackets and can afford individual healthcare insurance¹²⁾. People with such resources are likely to have a high motivation with responsibility for their own healthcare and, therefore, encouragement and support from the physiotherapist may not be as necessary¹²⁾. In short, physiotherapy practice can be greatly affected both on an individual basis and collectively depending on the differences in the healthcare systems that each nation adopts²³⁾. Incidentally, the Australian healthcare system²⁴⁾ resembles that of the Japanese system, having public and private sectors, with the latter having a fee-for-service scheme. This fact may suggest a similarity in background between healthcare systems of Japan and Australia more so than between Japan and Sweden, which will now be discussed.

Comparison with the Swedish physiotherapists

Men constitute less than 25 per cent of the Swedish physiotherapy population²⁵⁾, with a low of 17 per cent for men physiotherapists in Stenmar and Nordholm's study⁵⁾. Therefore, there was a discrepancy in the present study concerning the accuracy in the statistical comparison as mentioned before²¹⁾. Specifically, the difference in the number of the two groups was 13.5 times larger for the Japanese men physiotherapists (Table 5). Nevertheless, the fact that the Swedish men physiotherapists showed significantly higher mean scores for *technique attributions*, *holistic attitude* and *work domain attitude* indicates a large discrepancy in the views of the Japanese and Swedish physiotherapists. Especially, the mean scores for *holistic attitude* were considerably high for the Swedish men physiotherapists. Therefore, the probability of statistical significance may have been 0.1 per cent or less, if the difference in the *n* of both groups had remained within a two- to three-times larger range. Similarly, the three remaining

dependent variables may also have yielded a statistical significance. Again, the evidence that a significant relationship existed amongst all dependent variables for the women physiotherapists of Japan and Sweden, where the difference in the number of both groups was statistically acceptable, indirectly suggests this.

Contrary to Swedish physiotherapists, Japanese physiotherapists do not seem to emphasize their knowledge and technique as being necessary for treatment outcome compared to the importance placed on the client-physiotherapist relationship and motivation of the client. The possible reasons for this may be because Japanese physiotherapists: 1) may consider the client-physiotherapist relationship as being more important; 2) have little professional freedom; 3) have no right to engage in private practice; and 4) may not yet have the confidence to accept physiotherapy as a science²⁶⁾. Amongst these, the right to engage in private practice may be the largest determining factor for motivation of the Japanese physiotherapists.

Holistic attitude of the Japanese respondents yielded no gender difference, that is to say, men (mean values, SDs) 2.65, 0.46 versus women 2.66, 0.42, though Swedish women significantly supported it. However, since the mean scores for *holistic attitude* of the Japanese respondents were lower than those for *technique attributions*, this may signify that they may be neither sufficiently interested in seeing the client from a total perspective, nor be aware of such a notion and approach. This implication may be due to the fact that the Japanese physiotherapy profession places less emphasis than their Swedish counterparts on education and training *vis-à-vis* the interpersonal dimension of physiotherapy including social skills training²⁷⁻²⁹⁾.

Sweden and some other west European countries have been regarded in Japan as models of welfare societies³⁰⁾. It is thought that welfare states are successful because people's consciousness is high for comprehending their own healthcare and welfare. Moreover, in Sweden, the revised healthcare law of 1982 clearly states that the client is an active participant for his/her own health and not a passive recipient of care⁵⁾. Culture and tradition of a country in which one resides affect peoples' mentality and behaviour towards their own healthcare²³⁾. It is, therefore, a matter of course that physiotherapists' behaviour *vis-à-vis* their

professional practice will be affected by the culture and dominant views on healthcare of their society. For this reason again, the majority of people in societies including physiotherapists and other healthcare professionals would act from such views. Thus, the aforementioned new healthcare law in Sweden must have influenced the kind of causal attributions made by the physiotherapists who came into the profession after this law was implemented.

Contrary to west European countries where the ageing process of their population has taken several decades, the Japanese population has shown a relatively rapid ageing. In the face of increasing chronic diseases and an increasingly ageing society the Japanese people have been pressed for some time to change their consciousness and attitude towards their own health and healthcare system. For this reason, physiotherapists, both individually and collectively, cannot trust to the biomedical disease model alone. That is to say, perspectives of the public as well as healthcare professionals will have to change accordingly. The necessity for such a change was recommended in the biennial report of the World Health Organization 16 years ago³¹⁾, and in Japan, it has been proposed by the Social Security Reform Committee of the Keizai-Doyukai of Japan³²⁾.

The findings of this survey brought about by a comparison amongst Japanese, Australian and Swedish physiotherapists can be attributed to the difference in the historical lapse of time *vis-à-vis* the development of the physiotherapy profession in each country. The Japanese physiotherapy profession originated during the 1960's from one that had a strong flavour of occidental culture to one that has so advanced as to be *exported* in recent years to the People's Republic of China. However, there is still a great deal of latitude for Japanese physiotherapists' development in terms of a holistic approach and their perspectives on physiotherapy practice. In order to improve this, incorporation of perspectives from the fields of the social sciences and humanities is required in the education and training of physiotherapists at both undergraduate and graduate levels.

Limitations of the study

It cannot be said conclusively that the Japanese version of the 22 survey statements is accurate, and this may require further verification. The Australians and Swedes share the Judeo-Christian

culture, the influence under which the original statements were conceived, so when interpreting this study an awareness of this *cross-cultural* measure should be exercised. People's attitudes change with time, and we should be aware of this fact concerning the nature of such a cross-sectional study as this. Moreover, we should note that there was an eight-year time lapse between these studies in Australia, Sweden and Japan. As for the relatively low Chronbach's alpha score of 0.57, readers are advised to refer to *reference 16*.

CONCLUSION

Based on the results of a mailed survey on professional practice of Japanese physiotherapists, the prevailing view of the respondents was that they regarded physiotherapy as a caring profession. However, the level of endorsement of this viewpoint was lower than that shown in the studies of Australian and Swedish physiotherapists. The findings were also related to the differences in the historical and cultural contexts of each nation, so influencing the physiotherapists' attribution of their treatment outcomes as well as their attitudes towards the physiotherapy profession. We may ask an important question arising from the results of this study: Are we, as a profession, satisfying today's public demand and meeting their expectations as a professional body, or are we still in a growth period towards our professional maturity? We can also conclude that our education system of physiotherapists needs to be revised to meet the increasing and changing needs of the public's healthcare.

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