

Translatability of Family Concepts into the Japanese Culture: Using the Family Environment Scale*

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Family concepts and their measurements interest many family researchers. There is a question about the extent to which family concepts are universal or influenced by the culture in which the instrument originated. Using the Family Environment Scale (FES), the authors examine the translatability of family concepts into the Japanese culture. Forward- and back-translation processes and cross-cultural assessment of reliability and validity are discussed. We suggest that there may be different degrees of translatability for each of the family concepts used in the FES and that evaluation of families in different societies necessitates culturally appropriate constructs and instruments.

The discussion is built around Japanese data, which are compared to the American results.

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IN family research and therapy, family concepts and their measurements are seen as one of the viable ways for providing "objective" family pictures. They permit comparison of one family with another, or a group of families with different groups, for clinical and sociological purposes. A number of measurement tools have been developed to fathom aspects of family behavior, and they have been tested with a variety of populations (see Doherty, Colangelo, & Hovander, 1991; Moos & Moos, 1986; Olson, Russell, & Sprenkle, 1983; Reiss, 1981). Questions arise, however. Are family concepts and their measurements universal? Can we use these measurement scales across ethnic boundaries simply by translation? Will family concepts mean or measure approximately the same things in different cultural contexts? The development of a common vocabulary with similar meanings seems important for today's family therapists who have started working

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across national and linguistic boundaries (for example, Saito, Steinglass, & Schukit, 1992). The World Health Organization's translation of criteria for psychiatric disorders into many different languages may be a good example of efforts in this direction (see Robins, Wing, Wittchen, et al., 1988).

The present study discusses a cross-cultural application of the family concepts and illustrates to what extent cultural factors must be considered in using translated assessment tools. Specifically, we examine translatability of the family concepts used in the Family Environment Scale (FES; Moos & Moos, 1976, 1986) into the Japanese culture. Translation of the instrument involves many steps and verifications for demonstrating its adequacy. This report is an exploratory study in search of new questions about translation and the constructive aspects of culture.

The problem of translatability arises, for example, when the wording of an original instrument used to measure concepts remains unchanged. This, then, would be comparable to the translation of a foreign novel: the translator tries to find the exact word in the "target" language to match that of the original. The direction of translation is always from the original to the target language. There is, however, another kind of translation that has been developed in cross-cultural research, in which changes in wording are possible (and mutually acceptable) between two languages in order to attain a better equivalence (Barnlund & Nomura, 1985; Werner & Campbell, 1970). In the latter case, there is no "original" version, and the researcher starts to design a bicultural or cross-cultural instrument at the outset: no unilateral directionality for translation may be assumed. Translatability is a notion important for the former kind of translation and research, while the notion of "equivalence" is more germane to the

latter. Although both aim at attaining accurate translation, thus "equivalence," we call attention to the different directionality between the two.

"Translatability" here indicates the extent to which a certain concept in one culture is transferable to or successfully rendered into another culture. It should be noted that the "concepts" in this article mean *psychological constructs* made into a set of questionnaire items—they do not mean translations of each *linguistic concept*. Translatability is then assessed in terms of conceptual and functional similarities (conceptual/functional equivalence). Generally speaking, translation is an effort in which the original *constrains* the choice of corresponding terms; however, translatability may be seen as a performance of that translation, which is evaluated by the target culture.

Instead of an "either/or" category of translatable vs. untranslatable, we expect the family concepts to have gradations in successful translation. Social constructionism views terms and discourse not as a reflection or map of the world but as a social artifact. The terms in which reality is understood are products of historically and culturally situated interchanges among people (Gergen, 1985). Rather than reflecting about given meanings, people create or construct meanings. In the realm of translation, people using the target language give their own semantic space to the translated concept, rather than simply reflecting the original language. Thus, it can be expected that some constructs are easily translated into the other language, and that others can be translated but only with confusion or variance in meaning. Further, there might be some constructs that do not have any integrated, experiential correspondence at all in the other culture, and hence are not usable.

There might be another level, however, at which a certain construct in the origi-

nal not only "well-translates" but also possesses a greater cultural significance—"overconstructed"—in the other culture. Saying that a translated version turns out to be "more successful" than the original sounds contradictory in the framework of translation, for nothing can be more "successful" than the original. However, in translation of constructs that are made up of a number of survey items, the newly translated construct could possibly have clearer and more consistently understood meanings in the target language because of the target culture's emphasis on that particular value and its active assignment of relevance. Like a copy of a drawing that is done more "precisely" than the original drawing, the construct could sometimes correspond "too exactly" to the original formulation.

We expect theoretically at least four levels of translatability for the constructs used in the FES: inadequate, partially adequate, "overly" adequate, and adequate.

Translatability is not a simple, metric concept. While internal consistency offers important information, it can be used for determining poor translatability, but not for good translatability. We are able to say—provided the translation is adequate—that the constructs with low internal consistency have poor translatability into the target culture. This may be obvious because constructs with low alpha are not an integrated entity in the translated language so they cannot measure what they purport to measure in a stable and consistent manner.

The translated constructs with high reliability are complicated. High internal consistency seems to suggest high integrity of the construct, that is, good translatability; but the alpha score itself is not a sufficient guarantee. The reason may be that sometimes the construct is consistently skewed or pulled in a certain direc-

tion by cultural bias. As an illustration of this, one of our authors showed an American psychologist a Japanese scale that measures healthy husband and wife relationships. He was surprised at the response from the American psychologist who asked, "Is this some kind of pathology scale for husband and wife?" Certain phenomena of co-dependence considered healthy in Japan can be "construed" as pathological by Americans. And the scale measuring healthy states in one culture may be framed as one measuring pathological states in the other. Thus, even though a translation of this scale into English has high internal consistency, translatability of the scale is suspect at best, since the two are "consistently" interpreted in a very different cultural framework. We then notice that translatability cannot be separated from the issue of validity.

While cross-cultural surveys are becoming more common, the issue of translation remains relatively neglected.¹ The lack of attention seems also true for the Family Environment Scale. The FES happened to be a suitable instrument for a study of translatability since it included 10 different concepts (that is, subscales)—many more than other family instruments—that tap aspects from the personal to the organizational. The FES has been translated into 11 different languages (see Moos & Moos, 1986). Among the 11, however, there are only four available references in English for 4 languages: Chinese (Cheung & Lau, 1985), German (Nowicki & Schneewind, 1982), Hebrew (Raviv & Palgi, 1985), and Spanish (Szapocznik, Kurtines, Foote, et al., 1983). References for other language versions—French, Italian, Korean,

¹ In Japan, an exception may be the few researchers who examined the adequacy and equivalence of Japanese and English versions of the *Todai Health Index* and the *MMPI* (Miyahara, Ikeda, Tsutsumi, et al., 1986; Takeuchi, Aoki, & Suzuki, 1993).

Marathi, Portuguese, and Swedish—are not listed, and information on the Dutch FES was published only in Dutch (Moos & Moos, 1986, p. 25).

Any serious attempt at developing a different-language version should involve reliability testing for the translated instrument. The measure of internal consistency and test-retest reliability are often used for this purpose. Reliability, in the sense of consistency and stability, must be established if one wishes to measure the so-called "within-culture" reliability of translated instruments—just as the original instrument required reliability testing at the time of its formulation.

Just as important and essential as the "within-culture" reliability is the assessment of the cross-cultural reliability (Brislin, Lonner, & Thorndike, 1973; Nomura & Barnlund, 1983; Roberts, Vernon, & Rhoades, 1989). Even though the translated version scores high for both internal consistency and test-retest reliability, this does not guarantee that the translation has achieved equivalence across the cultures. The reliability of the translated instrument and the equivalency achieved between different-language versions are two different things. Unless one can demonstrate consistent measurement between cultures, comparisons may be suspect because we never know whether the differences result from a real cultural difference or from an inadequate translation. To exclude the second possibility, bilinguals should complete both versions of the instrument, the original and the target, and the degree of item-by-item agreement should be assessed (item equivalence).

The assessment of both within- and cross-cultural reliabilities thus becomes our working criteria for evaluating reliability and accuracy of the translation. Close examinations of the four available language-versions of the FES, mentioned above, find that only two—the Chinese

and the Hebrew—have undergone reliability tests; but, unfortunately, neither of these have reported the cross-cultural reliability results.

Cheung and Lau (1985) administered their Chinese version of the FES with 713 tenth-grade students in Hong Kong, and obtained the internal consistency (Cronbach's alpha) for all the FES subscales (constructs). The results were: Cohesion (.80), Expressiveness (.28), Conflict (.72), Independence (.35), Achievement (.39), Intellectual-Cultural Orientation (.60), Active-Recreational Orientation (.50), Moral-Religious Orientation (.41), Organization (.47), and Control (.48).

It is noteworthy that while Cohesion had very high internal consistency, other constructs such as Expressiveness, Independence, and Achievement scored extremely low. These low scores are far below .6 adopted by Moos and Moos (1986) for the acceptable bottom-line. The extremely low internal consistency of these subscales could come from either inadequate translation or poor translatability of the construct, but this important question was not explored in their article.

As for the Hebrew version (Raviv & Palgi, 1985), it is a Kibbutz version, in which some of the items were altered and the entire Moral-Religious subscale was converted into a different one to fit the Kibbutz life. The authors report only the highest (.74 for Organization) and lowest (.44 for Expressiveness) reliability indexes. Because of their modifications, it is questionable to call their version a direct translation of the FES.

Reviews of these references suggest that the Chinese FES (Cheung & Lau, 1985) is one of few formal attempts at a direct translation. Nevertheless, two important problems remain unsolved: the low internal consistency of most of the subscales, and no assessment of the cross-cultural reliability. However, examining both the

Chinese and the Hebrew versions, we notice that the translated FES lowers the internal consistency below the original. This may not be surprising, since the instrument crosses the barriers of both language and culture. Yet, it is a significant point for considering the nature of translated instruments.

We have mentioned that the notion of translatability presupposes directionality whereas the notion of equivalence does not. Cross-cultural psychologists provide a useful guideline in this context. According to Hui and Triandis (1985), there are four types of equivalence that should be met: (1) conceptual/functional equivalence indicates the similarity of meaning and goals, both of which are difficult to separate; (2) equivalence in construct operationalization refers to using a construct in the same procedure in two cultures; (3) item equivalence is when each item means the same thing to subjects from Culture A and B; and (4) scaler equivalence, the most difficult to achieve, is attained if the construct uses the same metric system. Among the four, each preceding one is a prerequisite for the next one.

A designer of cross-cultural instruments would thus proceed from (1) to (4), because constructs and items can be mutually adjustable between languages. In our study, however, the original FES stays unchanged, so that the direction of investigation must take a reverse course, from (4) to (1). Upon translation, we first check if the scales use the same metric; then test for bilingual item equivalence; then look at internal consistency to examine operationalization and conceptual/functional equivalence of constructs. Translatability of the family constructs is then assessed through reference to conceptual/functional equivalence.

We have two practical goals. The first is

to examine the translatability into the Japanese culture of family "constructs" that originated in the of United States. The second is to delineate how the Japanese socially "construct" their images, the folk idea of family that, in turn, gives shape to family behavior. Psychometric data will be used to investigate social constructionist (that is, cultural/semantic) problems by reversing the order employed by the cross-cultural psychologists.

FAMILY ENVIRONMENT SCALE

The FES—a self-report, paper-and-pencil questionnaire—is comprised of ten subscales (constructs) that measure the social-environmental characteristics of all types of families (Moos & Moos, 1986). These ten subscales assess three general domains of family characteristics: Relationship, Personal Growth, and System Maintenance (see Table 1).

The FES questionnaire is made up of a total of 90 items, 9 in each subscale. The respondents are asked to rate each item as True or False according to whether or not they agree that each item is an accurate picture of their family. The responses are then scored, giving a maximum total of 9 points for each 9-item subscale. The scores obtained for each scale enable the investigators to estimate the strength of various characteristics in the family environment as perceived by the various family members. For analyzing and interpreting the American data, we have used the results reported in the FES Manual, second edition (Moos & Moos, 1986).

PROCEDURES

Forward Translation

To prepare the Japanese version, our team (a psychiatrist, an anthropologist, a sociologist, and a psychologist) worked on the first draft of the translation. This first draft was administered in a pretest to 188

TABLE 1
FES Subscales and Dimensions

Relationship Dimensions	
1. Cohesion	The degree of <u>commitment, help, and support</u> family members provide for one another
2. Expressiveness	The extent to which family members are encouraged to <u>act openly and to express their feelings directly</u>
3. Conflict	The amount of openly expressed <u>anger, aggression, and conflict</u> among family members
Personal Growth Dimensions	
4. Independence	The extent to which family members are <u>assertive, self-sufficient, and make their own decisions</u>
5. Achievement Orientation	The extent to which activities (such as school and work) are cast into an <u>achievement-oriented or competitive</u> framework
6. Intellectual-Cultural Orientation	The degree of <u>interest in political, social, intellectual, and cultural activities</u>
7. Active-Recreational Orientation	The extent of <u>participation in social and recreational activities</u>
8. Moral-Religious Emphasis	The degree of <u>emphasis on ethical and religious issues and values</u>
System Maintenance Dimensions	
9. Organization	The degree of importance of <u>clear organization and structure</u> in planning family activities and responsibilities
10. Control	The extent to which <u>set rules and procedures</u> are used to run family life

housewives residing in Tokyo. The results of this were used to prepare the second draft.

Not only should the translation of such material be accurate, but the Japanese wording should also be natural. When some of the items were not part of the daily life in Japan, we placed emphasis on what the scale was trying to measure and somewhat changed the wording. Werner and Campbell (1970) called such experiential translation "cultural translation." For example, we replaced "The Bible is a very important book in our home" (in English) with "Religious items (family shrine, Buddhist altar, Bible) are very important in our home" (in Japanese). "Family members attend church, synagogue, or Sunday School fairly often" was translated into "My family often participates in religious meetings and events."

Back Translation

A professional translator then blindly translated this second draft back into English. Two native English speakers compared this back-translation with the original and noted any discrepancies. Our research team then corrected the Japanese version of the items whose meaning differed from the original. The unsuccessfully translated items were once again handed back to the back-translator for a second round of back-translation. This almost complete version was then examined independently by another bilingual Japanese for a final check, which led to the final version.

Back-translation gives an investigator a good deal of control over the questionnaire development, particularly when the investigator doesn't understand the tar-

get language (Brislin et al., 1973, p. 40). However, for our Japanese team members who understand English, the major advantage of back-translation was that it operated as a filter through which nonequivalent terms or inappropriate expressions would not readily pass (Sechrest, Faye & Zaidi, 1972, p. 261).

When the first back-translation didn't correspond well to the original, we took the following steps:

- (a) Item 74 (Independence): It's hard to be by yourself without hurting someone's feelings in our household.

↓

- (b) Forward translation 1: "*Watashino uchi dewa, minnakara hanarete hitoride iruto, hokano darekaga kibun o gaisuru kotoni-naru.*"

↓

- (c) Back-translation 1: In my family, we have to be careful of a certain person's feelings, which leaves him/her isolated from the rest of us.

↓

- (d) Forward translation 2: "*Watashino uchi dewa, darekani ki o tsukawa-nakereba naranainode, minnakara hanarete hitoride irukotoga muzukashii.*"

↓

- (e) Back-translation 2: In my family, as we have to be careful of a certain person's feelings, it is difficult for me to be alone.

We believe that the work procedures described above pretty much fulfilled the two conditions described at the beginning: accuracy and naturalness.

Bilingual Testing

We administered both versions to bilingual subjects to evaluate the cross-cultural reliability of the translated instrument. Through examining the responses to the source and target versions, we can demonstrate the translation's adequacy in terms of item equivalence. If the original and its translation elicit the same re-

sponse, the most important purpose of a passage is being conveyed. Responses are often the ultimate criteria for researchers who compare answers to questions across cultures (Brislin, 1970; Brislin et al., 1973; Prince & Mombour, 1967).

Thus, 11 bilinguals (8 whose first language is Japanese and 3 whose first language is English) were asked to fill out both Japanese and English versions of the questionnaire at a one-month interval. Although a demonstration of adequate bilingualism is complicated (Lambert, Havelka, & Crosby, 1958), we asked bilinguals who resided in Japan and in the United States. Of the 11, two were men, and nine were women, mean age 40.9. Of the 8 bilinguals whose first language was Japanese, two resided in the United States. The three whose first language was English all lived in Japan.

We studied the extent to which the bilinguals' responses are in agreement between the two versions. Examining all the questions item by item, we obtained the average agreement of 75.9% (with 85.6% for the highest and 67.8% for the lowest). Responses to the questions were found to be about equal, and item equivalence had been moderately demonstrated.

Administering the Japanese Version

The Japanese version was administered November 1989 in Tokyo's Setagaya District. The subjects were families of married parents and one or more teenage children (junior-high or high-school students). The 500 families were chosen in a stratified two-stage, random sampling design, and both parents and one or more children from 320 of those families filled out the questionnaire (a return rate of 64.0%). The respondents were 320 mothers, 320 fathers, and 400 children, a total of 1,040.

The questionnaires were left with the respondents and picked up at a later date, although Moos and Moos (1986) had cho-

sen the self-administration method in the presence of a test administrator. This method of leaving the forms, however, posed two reliability problems: (a) whether the respondents took the task seriously, and (b) whether they had understood the items.

To help address these problems, we selected questions that are very similar in meaning, but with one phrased as a positive expression and the other as a negative one (Items 20 and 80). If the responses to these two questions were contradictory, we excluded these unreliable samples from our data. As a result, 569 out of the 1,040 collected questionnaires (54.7%) were considered valid. (The final sample is 35.0% of all the distributed questionnaires.) Although we couldn't find any other suitable ways to determine unreliable forms, a possible inflation of the internal consistency, for example, may remain as a problem in this procedure.² However, a comparison of the basic characteristics (sex, age, education of father, occupation of father, number of family members, number of children, and type of family) of these reliable cases with those in the total collected cases, which include "unreliable" ones (see Table 2), shows that they were similar on all items.

² We eliminated samples that had inconsistent answers from the two questions asking similar things. The two items used in this check are both taken from the Control subscale: Item 20 "There are very few rules to follow in our family" or "*Watashi no uchi dewa ruuru ya kimari ga hotonndo nai,*" and Item 80 "Rules are pretty inflexible in our household" or "*Watashi no uchi dewa ruuru o kanari kibishiku mamoranakutewa naranai.*" Analytically speaking, the former emphasizes the quantity of control and the latter emphasizes the quality of control. Empirically, however, these two items seem to ask about domains of perception with a considerable overlap (for those who answer yes or no): the extent to which one feels controlled by or becomes conscious of existing rules in one's family.

TABLE 2
Characteristics of the Japanese Sample

	Collected Cases (N = 1,040)	Cases Used for Analysis (n = 569)
Family		
Father	320 (30.8%)	171 (30.1%)
Mother	320 (30.8%)	151 (26.5%)
Child	400 (38.4%)	247 (43.4%)
Sex		
Male	512 (49.2%)	285 (50.1%)
Female	528 (50.8%)	284 (49.9%)
Age		
Father	46.9 (± 4.5)	46.9 (± 4.7)
Mother	43.6 (± 4.1)	43.5 (± 4.1)
Child	15.3 (± 1.7)	15.4 (± 1.7)
Father's Education		
Junior-High	24 (7.5%)	13 (7.6%)
High School	85 (28.6%)	49 (28.7%)
Junior College	17 (5.3%)	8 (4.7%)
College	178 (55.6%)	92 (53.8%)
Graduate School	15 (4.7%)	8 (4.7%)
Father's Occupation		
Professional	53 (16.6%)	26 (15.2%)
Managerial	85 (26.6%)	42 (24.6%)
Clerical-Sales	47 (14.7%)	29 (17.0%)
Private Business	110 (34.4%)	61 (35.7%)
Other	25 (7.8%)	13 (7.6%)
No. Family Members	4.6 (± 1.0)	4.7 (± 1.0)
No. Children	2.3 (± 0.7)	2.3 (± 0.8)
Family Types		
Nuclear	229 (71.6%)	117 (68.4%)
Three-Generation	85 (26.6%)	51 (29.8%)
Other	6 (1.9%)	3 (1.8%)

RESULTS

Reliability Assessment

The internal consistency of the subscale was assessed by Cronbach's alpha coefficient. The results, shown in Table 3, indicated that 5 out of the 10 subscales—Cohesion, Intellectual, Moral-Religious, Organization, and Control—exceeded the .6 level of internal consistency, which Moos and Moos use as the acceptable

TABLE 3
Internal Consistencies and Test-Retest Reliabilities

	Internal Consistencies (α)		Test-Retest	
	Japan (N = 569)	United States (N = 1,067)	Japan (N = 59)	United States (N = 47)
Cohesion	.79	.78	.99	.86
Expressiveness	.52	.69	.95	.73
Conflict	.57 .63 (8)*	.75	.99	.85
Independence	.34	.61	.97	.68
Achievement	.56 .60 (7)*	.64	.97	.74
Intellectual-Cul.	.64	.78	.99	.82
Active-Rec.	.59 .61 (8)*	.67	.99	.77
Moral-Religious	.63	.78	.99	.80
Organization	.64	.76	.95	.76
Control	.63	.67	.98	.77

* Alpha scores obtained after deleting confounding items; parentheses indicate number of items used.

checkpoint.³ Similar to the case of the Chinese FES translation (Cheung & Lau, 1985), the alpha for Cohesion was also quite high in our Japanese sample (.79).

In order to increase the reliability, the remaining 5 subscales were manipulated by excluding the items that lowered the internal consistency, namely, one item each from Conflict and Active Recreational Orientation (Items 83 and 7), and two from Achievement Orientation (Items 25 and 45), thus bringing the level of reliability to .6. However, two subscales, Independence and Expressiveness, did not attain this

level despite such procedures. These constructs, we suspect, were not measured consistently and accurately in our Japanese sample.

The above results confirm the internal consistency of 5 of the subscales in their original form (Cohesion, Intellectual-Cultural, Moral-Religious, Organization, and Control), and of 3 other subscales under certain conditions (Conflict, Active-Recreational, and Achievement).

The test-retest reliability was assessed on the basis of the correlation coefficient of each subscale, using a separate sample of 59 housewives who filled out the forms at one month's interval. This resulted in high correlations for all subscales (see Table 3).

Validity

In our previous publication (in Japanese), we stated the following with respect to the validity of the translated version (Noguchi, Saito, Tezuka, & Nomura, 1991). First, on concurrent validity (criterion-related validity), we were unable to find a correlating measure in Japan that had established validity and reliability. We therefore examined content validity on

³ Examining the five subscales in the FES (Cohesion, Expressiveness, Conflict, Organization, and Control), Roosa and Beals (1990) point out that actual internal consistencies are lower than those originally reported for this instrument, and below the acceptable level. To this criticism, Moos (1990) provides new internal consistency scores for these subscales, stating that they are all acceptable (the highest average alpha .77 and the lowest .60). Moos further contends that the sample by Roosa and Beals is less diverse than his, so that internal consistency would have remained relatively low. While Moos warns that too heavy an emphasis on internal consistency may be less productive for scale construction and validation, Roosa and Beals argue—based on the classic texts of statistics—that low reliability (below .70) is problematic for interpreting any results.

the basis of the findings reported on the two cultures by anthropologists and sociologists. Since our results generally agreed with the overall cultural contrasts between Japan and the U.S., they were considered as evidence for supporting validity of the Japanese FES. As for construct validity, Moos and Moos (1986) did not show factorial structure of the FES in their manual, so it was difficult to examine the validity on a cross-cultural basis.

To help illustrate these points, we present the results of the U.S.–Japan cultural comparison and that of factor analysis. The former is presented in relation to content validity and the latter to construct validity.

The Cultural Comparison

Here, we present the comparisons of intersubscale correlations and one large difference in the score point.⁴ Details of our findings have been reported elsewhere (Nomura, Noguchi, Saito, & Tezuka, 1995).

By plotting the mean scores, we can obtain similar profiles between Japan and the United States with one exception: Achievement. Profiles for the standard deviation scores also present a rather similar pattern with one exception: Cohesion. (The character of the Cohesion subscale is later discussed in more detail.) These similar profiles may be indications that the scalar equivalence is generally achieved between the two samples (Figures 1 and 2). One noticeable gap (see Figure 1) is in the score point of Achieve-

ment Orientation, which is much greater in the U.S. (5.47) than in Japan (2.27).

Intercorrelations between the subscales (except Expressiveness and Independence) are examined in the two nations for both parents and children (see Table 4). We have drawn crude cultural contrasts according to two criteria: (a) the positive correlation is significant in one country and the negative correlation in the other, or (b) either the positive or negative correlation is significant in one country but uncorrelated in the other. (Coefficients between .1 and $-.1$ are considered as having no correlation.)⁵

1. Parents: Cohesion and Control show a positive correlation in Japan but a negative correlation in America.

2. Parents: While Achievement Orientation and Intellectual-Cultural Orientation are positively correlated among Japanese, they are uncorrelated among Americans.

3. Parents: Intellectual-Cultural Orientation and Organization are positively correlated among the Japanese adults but uncorrelated among the American adults.

4. Children: Cohesion and Control are uncorrelated in Japan but negatively correlated in the U.S.

5. Children: Achievement Orientation and Conflict are positively correlated among Japanese children but uncorrelated among American children.

⁴ We take the results and interpretations in this section to be preliminary for two reasons: first, that a small discrepancy in the data exists between the two samples, in which the American sample includes families with preschool as well as adolescent children while the Japanese sample includes only families with adolescent children; and second, that the sampling methods differed slightly between the U.S. and Japan.

⁵ With respect to Table 4, although we conducted the test of significance for the Japanese sample, it has not been reported for the American sample in the Moos's Manual (1986). Our sample ($N = 569$) has shown significance ($p < .01$), with the correlation coefficient of more than .15 and less than $-.15$. Because the U.S. sample size was more than 1,000, it is reasonable to assume the significance for the U.S. results with this level (more than .15 and less than $-.15$). For this reason asterisks for the U.S. results are in parenthesis.

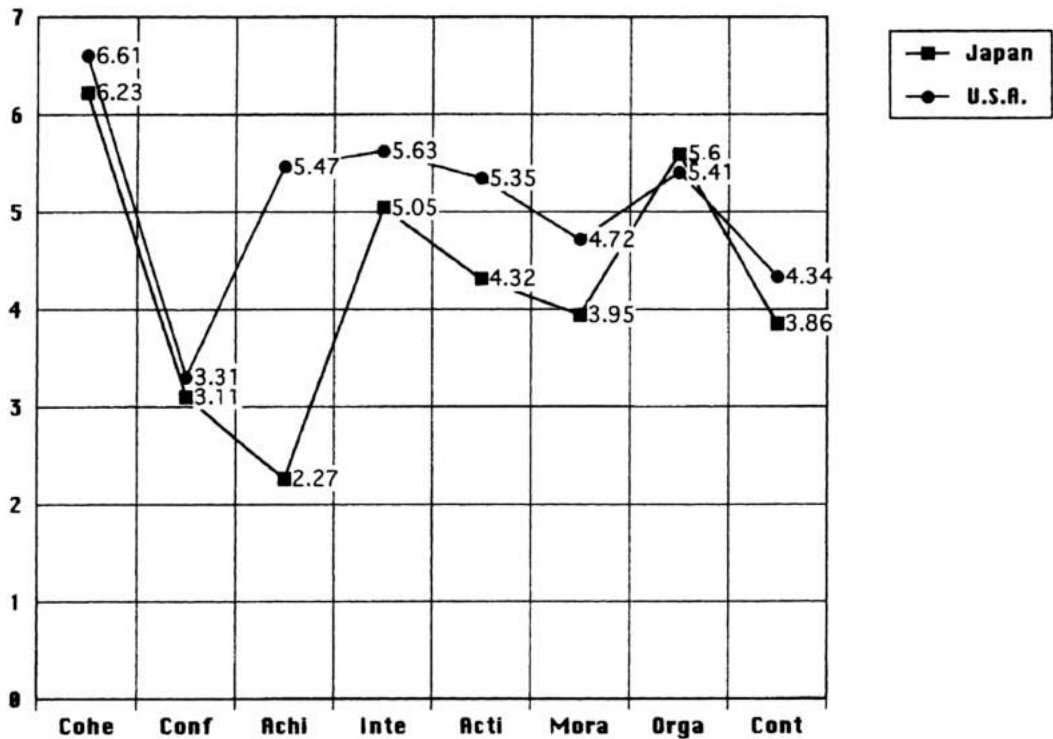


FIG. 1. Subscale means (Japan and the United States).

6. Children: Achievement Orientation and Organization are uncorrelated among Japanese children but positively correlated among American children.

7. Children: Moral-Religious Emphasis and Active-Recreational Orientation are positively correlated among Japanese children but uncorrelated among American children.

We will now briefly discuss the content validity of the Japanese FES. The much higher score on Achievement by Americans is in accord with both the classic and the current contentions that achievement is regarded as one of the most deeply rooted values of American society (Henry, 1963; Mead, 1965; Merton, 1957; Stewart & Bennett, 1991; Terkel 1980). Whatever values immigrants brought with them to the United States would inevitably have been colored by the values of personal

success, aspiration, and fulfillment of one's life goals.

Cohesion and Control are negatively correlated among Americans, but positively correlated among Japanese. Cohesion increases with greater control in Japan, whereas the greater the control the weaker the cohesion is in the U.S. This appears to reflect the different organizational principles in the two societies. The positive correlation between Cohesion and Control is in line with (1) Confucian ethics in Japan, which propound that togetherness comes from the codes beyond individuals (Smith, 1983); (2) the vertical social alignment in Japan that regulates one's interpersonal conduct and strengthens solidarity (Nakane, 1970); or (3) the Japanese emphasis on harmony, which maintains and promotes group strength (Rohlen, 1974).

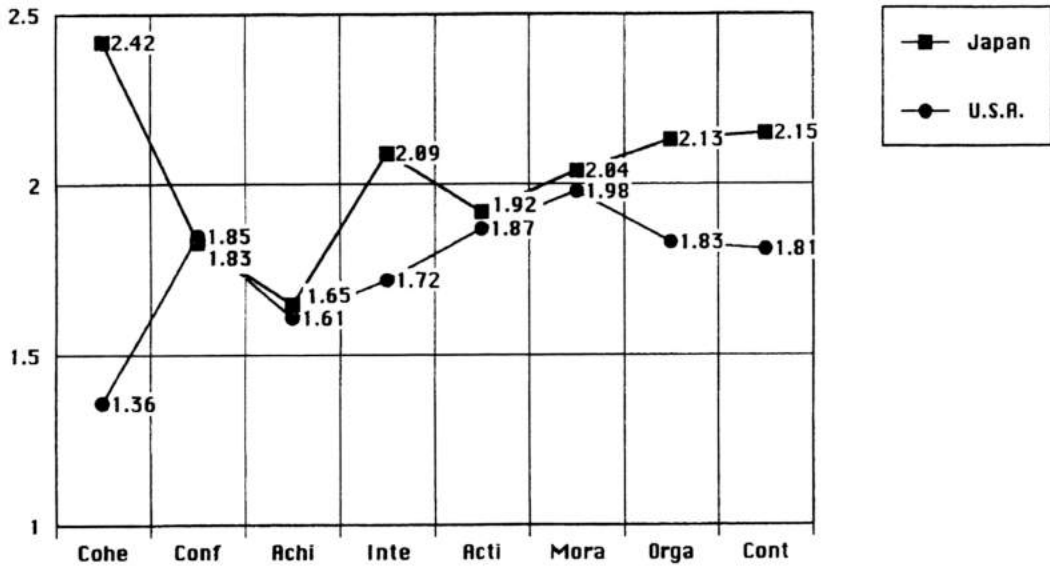


FIG. 2. Standard deviation (Japan and the United States).

The positive correlation among Japanese parents between Achievement and Intellectual-Cultural is perhaps due to their generation's valuation of good education. For them, achievement has often been expressed in terms of entering fa-

mous schools, whose entrance exams are stressful enough to bring tension and conflict to the examinee as well as to the family. The children's positive correlation between Achievement and Conflict thus appears related to the values of current

TABLE 4
Subscale Intercorrelations

	Cohesion	Conflict	Achieve.	Intelle.	Act-Rec.	Moral-R.	Organiz.	Control
Cohesion		-.21*	.21*	.46*	.33*	.28*	.52*	.28*
Conflict	-.24*		.14	-.38(*)	.27(*)	.20(*)	.41(*)	-.17(*)
Achieve.	-.53(*)			.09	.07	-.10	-.33(*)	.31(*)
Intelle.	-.04	.31*			.09	.13	.15*	.31*
Act-Rec.	.11	.07	.16*	.01		.09	.26(*)	.30(*)
Moral-R.	.47*	.07	.05	.46*	.45(*)	.17*	.30*	.12
Organiz.	.38(*)	-.09	.05	.53*	.09	.09	.09	-.07
Control	.46*	.03	.06	.40(*)	.11	.14	.14	.04
	.28(*)	.04	.12	.21*	.29*	.06	.08	.04
	.32*	.07	.12	.29*	.04	.26*	.26*	.38*
	.22(*)	-.07	.31(*)	.10	.04	.27(*)	.27(*)	.29(*)
	.50*	-.32*	-.01	.34*	.29*	.21*	.21*	.35*
	.38(*)	-.33(*)	.31(*)	.14	.12	.27(*)	.27(*)	.20(*)
	.09	.10	.43*	.11	.11	.28*	.22*	.22*
	-.20(*)	.22(*)	.40(*)	-.03	-.05	.35(*)	.27(*)	.27(*)

Note: Parent scores are above the diagonal and children scores below the diagonal. Japanese scores (roman) above U.S. scores (boldface).

* $p < .01$

Japanese parents (see Lebra, 1984; Tobin, Wu, & Davidson, 1989; Rohlen, 1983).

In the United States, Organization is positively correlated with Achievement among children. Margaret Mead (1965) states: Unlike other societies where parents are bringing up children to a way of life seen as static and slow changing, for American parents, childrearing must prepare the child for an "unknown future," a living, changing world with which parents are not familiar. Desperate uncertainty may be conveyed to the baby, and the young American starts life with a tremendous impetus toward success (pp. 83-100). To work against such uncertainty and to realize one's goals, American children must learn how to structure and make plans for their actions.

For the Japanese children's positive correlation between Moral-Religious and Active-Recreational, we have not found any evidence from social scientists' reports.

The above reports on cultures of Japanese and Americans generally agree with our FES results, so that we consider these as a support of the content validity.

Comparisons of Factor Structure

We conducted a factor analysis to find underlying factors among the subscales. Factor structure can then be compared between data from the U.S. and Japan. Results of the factor analysis of the eight subscales are displayed in Table 5. A three-factor solution is appropriate for this data matrix. The three varimax-rotated factors account for 61.8% of the total variance. Factor 1 is a unipolar dimension of Intellectual-Cultural/Active-Recreational Orientations. It is an index of the family's social activities. Factor 2 is a unipolar dimension of Control/Organization, both of which belong to System Maintenance. Factor 3, though not very strong, may be a bipolar dimension of Conflict vs. Cohesion/Organization. It

TABLE 5
Factor Analysis of the Eight FES Subscales: Matrix of Varimax-Rotated Loadings

Subscale	Factor			h ²
	1	2	3	
Cohesion	.58	.48	-.28	.65
Conflict	.01	-.10	.84	.71
Achievement	.13	.32	.60	.47
Intellectual-Cultural	.82	.11	.09	.69
Active-Recreational	.81	.06	.10	.67
Moral-Religious	.20	.60	.11	.41
Organization	.28	.70	-.28	.65
Control	-.13	.75	.31	.68
Percentage of variance	31.0	17.1	13.7	

places conflict/disagreement on one end and togetherness/harmony on the other.

Factor structures of the FES in the U.S. were reported in the series of studies by Fowler (1981, 1982), using both the Moos data (Moos, Insel, & Humphrey, 1974) as well as his own data from university undergraduates. A two-factor solution (varimax rotation) was found appropriate, according to both of his studies. Factor 1 was a bipolar dimension of cohesion vs. conflict; and Factor 2 was a unipolar dimension of control/organization. Fowler's results were supported by Boake and Salmon (1983), using the same methods but with a sample of white families with kindergarten children.

Comparing the results from the two nations, we see different clustering patterns. While two factors appeared in the U.S., three factors emerged in Japan. However, since Independence and Expressiveness have been excluded from the Japanese analysis, we cannot over-emphasize the cultural contrast.

Similarities do exist: the U.S. Factor 2 and Japan Factor 2 are both unipolar dimensions of control/organization; the

U.S. Factor 1, the bipolar dimension of cohesion vs. conflict, roughly corresponds with the Japan Factor 3, that of conflict vs. cohesion/organization with reverse factor loadings.

Bloom (1985) examined the four well-known, self-report measures of family behavior—FES, FACES, Family Concept Q-Sort, and Family Assessment Measure—to find a set of key family concepts. A 75-item scale comprising 15 dimensions was constructed through careful analyses. He then identified the more general categories of family functioning for the meta-concepts and, interestingly, found his results to fit the design of the FES. That is, the 15 identified aspects of family functioning were all subsumed under one of the three general headings of the FES: Relationship, Personal Growth, or System Maintenance (Bloom, 1985, p. 236).

Looking over the Japanese results, we notice that the subscales most highly loaded in each Factor happen to be members of the three underlying domains: Active/Intellectual Orientations in Factor 1 are members of Personal Growth; Control and Organization in Factor 2 belong to System Maintenance; and the highest in Factor 3, Conflict, belongs to Relationship (see Table 5). Thus, each Factor represents one of the general domains of the FES.

To summarize, the U.S. and Japan differed in the number of stable factors: two for the U.S. and three for Japan. However, two of the factors appear to correspond between the two samples. The Japanese results within the FES data and Bloom's inspection across the four different instruments support the efficacy of the three FES domains. The overarching concepts that sustain the grand design of the FES are, therefore, recognized in the two different societies.

DISCUSSION AND IMPLICATIONS

The problem of translatability emerges in cross-cultural research when the original instrument is not allowed to change. Unlike that of equivalence, the approach to this problem takes a different course of investigation, as we have outlined. Translatability cuts across reliability and validity, including elements of both. Translatability is a type of cross-cultural validity, and it emphasizes not only how the original is faithfully reproduced but also how the respondents in the target culture render meanings and give shape to the imported construct.

We initially posed a question: "Do the family concepts mean approximately the same thing or correspond with each other in different cultural contexts?" and "To what extent do cultural factors operate in the use of family assessment tools in a translated version?" We will discuss these and the above issues with examples, using the illustrative term of "crossing," since there seem to exist *degrees* of translatability or levels of crossing from the original to the translated. While these are not statistically supported categories, they are presented to explicate the scope of this notion.

The constructs with low internal consistency have little translatability and are of questionable use for researchers. In Japan, for example, Independence is an item whose scores are extremely low (.34). Examining the correlations of each item in Independence with the scores of all the other subscales, we find three out of nine items in Independence have shown the correlation of .2 or more with the subscales such as Cohesion, Intellectual-Cultural, and Control. This indicates that the items in Independence are confused by the Japanese with these three constructs. With regard to translation, we can roughly

classify such problematic constructs under the term "zero crossing."⁶

Independence as a composite of assertiveness and self-sufficiency, as defined by the FES, could be a "local" concept applicable only to certain cultures. The Japanese often see assertiveness as a sign of immaturity, but the ability to self control one's assertive urge is thought to reflect maturity. They interpret such a person to be considerate to other people's feelings and, therefore, also dependable. And the person on whom other people can depend is viewed as independent and autonomous. Mutual dependency among people in Japan functions to consolidate human relationships, just as mutual trust functions in a similar way in the United States.

There are other constructs that could become usable after deleting confounding elements. For the next level of translatability, "partial crossing" may be the term applied when some kind of adjustment is required, such as excluding various items from the subscales, because respondents have only partially endorsed the translation of these constructs. For example, the three subscales—Conflict, Achievement, and Active-Recreational—can reach an acceptable level of reliability only after taking out confounding items. Internal consistency may be a good indicator for determining whether a construct has poor translatability (zero crossing) or amendable translatability (partial crossing).

⁶ The next lowest in internal consistency to Independence is Expressiveness (.52). Unlike the other eight constructs that managed to cross the cultural boundaries, Independence and Expressiveness appear to be concepts around which the two societies critically diverge. Since they are the concepts that roughly correspond to "self" and "communication," it may suggest that a profound difference between the U.S. and Japan lies in these crucial areas of our humanity: how to view one's own personhood, and how to relate to other individuals.

At the next level, for constructs that show high internal consistency and a seemingly acceptable level of translatability, we use the term "fair crossing." This level includes four subscales—Intellectual-Cultural, Moral-Religious, Organization, and Control—that scored more than .6 alpha without adjustments (see Table 3). Both Americans and Japanese seem to agree on the existence of these concepts in family life and mean similar things when referring to them. With careful translation and item equivalence, these constructs seem to translate equally well into both languages; but this is an approximate evaluation and not a guarantee.

Finally, "over-crossing" occupies a unique theoretical position in our degrees of translatability. One may encounter a translated construct that has greater social significance in the target culture than in the original. The meaning gets clearer in the translated language, and internal consistency would be very high because of the population's "keen" understanding of its idea.

Ordinarily, however, the internal consistency of translated constructs is lower than that of the original. Crossing both language and culture, translation is always something "less" than the original—whether it's a poem or a prose statement. The three formal translations of the FES support this view. The Chinese version obtained considerably lower internal consistency across the subscales (range .28 to .72) except for Cohesion (Cheung and Lau, 1985); the Hebrew version, throughout, had a lower reliability (range .44 to .74) than the original (Raviv & Palgi, 1985); and our Japanese subscales all scored lower than the original except for Cohesion.

In a context where internal consistency should score less than the original, the high reliability of Cohesion in the Japa-

nese version (.79) and in the Chinese version, (.80) is indeed unusual, compared to the rest of the subscales. The "behavior" of Cohesion seems different from that of the other subscales. In Japan, "*matomari*" (cohesiveness) in the sense of harmony and togetherness is a key value in the family, as well as in other social groups.⁷ Most Japanese find the term "*katei-teki*" (family-like) synonymous to cohesiveness, and the idea of a "family-like atmosphere" gains importance even outside the family, such as in schools and companies. We therefore speculate that Cohesion belongs to this theoretical space, a category of over-crossing when translated into Japanese (and perhaps also into Chinese).

From the point of view of equivalence, over-crossing may be as problematic as partial or zero crossing: the high internal consistency of Cohesion doesn't necessarily mean good translatability. This goes back to the former statement that translatability is not a simple, metric concept; rather, it is a performance of the translated construct. Cohesion could be the construct that has high reliability with low translatability because of an overly active assignment of meaning or "over-construction." We are reminded of the husband-wife scale for which Japanese

and Americans each would assign radically different functions.

How then is the concept of family cohesion grasped among the Japanese in relation to other relevant family themes? According to Table 4, the correlation between Cohesion and Control shows a positive correlation among Japanese adults but a negative one among American adults. In the U.S., cohesion and control are antithetical themes: the more that family rules and set ways of doing things are emphasized, the less the degree of mutual support, help, and commitment may be expected. In Japan these two themes go hand in hand: the more that set rules and procedures are used, the more cohesiveness there is in the family. This indicates that Cohesion in the Japanese folk image is placed in a quite different network of relationships than that in the U.S., yet it holds a consistent and stable meaning as an integrated concept. For these reasons, the lack of conceptual/functional equivalence would make us suspicious of the good translatability of Cohesion into Japanese.

We used the FES for this investigation since it possesses 10 subscales, much more variety than the three in the Card Sort Procedure (CSP; Oliveri & Reiss, 1981; Reiss, 1981), and two in the Family Adaptability and Cohesion Evaluation Scales (FACES; Olson & McCubbin, 1983; Olson et al., 1983).

Does the idea of translatability offer a new estimation of correspondence between similar constructs in different instruments? Do similar descriptors correspond to each other or measure a similar thing when measuring instruments are different? For example, Cohesion in the FES may be tested against Cohesion in the FACES, both of which have an identical term for one of their dimensions. Both the FES and the FACES are paper-pencil questionnaires, and the method of collect-

⁷ Many researchers have drawn attention to Japanese group-oriented behavior, which requires "cohesive" elements in community and other institutional settings (see Caudill & Plath, 1966; Embree, 1939; Hamaguchi, 1982; Hendry, 1986; Nakane, 1970). Even in competitive environments, the group (including the family) has been a unit of achievement. In companies, work is often assigned to a group or to a section of an organization, and performed in the name of the group. This strong in-group feeling tends to inhibit open, face-to-face competitions within a group (Barnlund, 1989; Stewart & Bennett, 1991; Vogel, 1963). The emphasis on collective identity makes them rank cohesion and coordination higher than uniqueness and inventiveness. Psychological/psychoanalytic literature also points in this direction (DeVos, 1973; Doi, 1973).

ing data is similar. In the FES, Cohesion exists as only one of ten constructs, whereas in the FACES, Cohesion is one of the two central dimensions. Generally, the answers have been negative with regard to this kind of correspondence (Oliveri & Reiss, 1984; Sigafos, Reiss, Rich, & Douglas, 1985). However, finding the degree of "translatability" between the instruments may be instructive and provide a valuable exchange of information.

SUMMARY

This article has illustrated translation problems of family concepts into another culture. A valid cross-cultural instrument requires both psychometric (that is, etic or universal) and cultural/semantic (emic or culture-specific) considerations (see Osgood, 1965; Triandis, 1972). These are often seen as two sides of the same coin in cross-cultural research. For one, the constructs must be similar across the societies in terms of the goals of behavior and their meanings—a culturally sensitive instrument and an accurate translation are necessary. For the other, we must also recognize that the psychometric constructs used in the instrument are also "constructed" socially and historically in the culture of the original language. Despite the disjointed image of the two, our investigation suggests that constructs for measurement and those in social constructionism (cultural-semantics) are inseparable, pointing out that, in future investigations, family constructs could achieve scientific clarity in the light of cross-cultural data.

Today, family clinicians are increasingly concerned with communal-linguistic processes of interchange during therapy, rather than with the predetermined sets of diagnosis and family patterns (Anderson & Goolishian, 1988; White & Epston, 1990). Cultural- or ethno-psychology with a comparative stance would gain signifi-

cance in future family therapies. Despite the increasing recognition of cross-cultural research, scholars have not addressed the importance of translation sufficiently from either a theoretical or an empirical basis. We presented the idea of translatability with the hope of improving the current family instruments—that is, to make them more applicable across diverse cultures.

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