

Attitudes of Japanese Adults toward Persons with Intellectual Disability: Comparisons over Time and Across Countries

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Abstract: Eleven elementary schools were selected randomly from a typical medium sized city of Japan. Parents of pupils who were attending the schools were surveyed. A small proportion of agreement with, “The reality of lives of persons with intellectual disability (ID) should be told more widely to the public” was interpreted as a typical Japanese response. Agreement with accountability for care for persons with ID is on the side of the family was unexpectedly high. Persons with ID’s “having a normal life in a community” did not get much agreement. This indicates that the idea of normalization is not necessarily well rooted in Japan. Results were compared with results of two studies conducted about 40 and 20 years ago in Japan, indicating that attitude toward persons with ID has improved greatly over the years. Results were also compared with results of three studies performed in the US.

Studies may be grouped into two types concerning attitudes toward people with intellectual disability (ID). The first type (and most studies belong to this type) makes an attempt to uncover new findings using a technique that has not been employed in previous studies. The second type of study makes an attempt to describe present state of the situation using an existing technique, and gets results such as 33% of respondents agree to some question. In the latter type, data become a historical record of the population at the time surveyed. Appropriate sampling methodology and a large sample size is needed for this kind of survey. In this field, most studies have used children or college students as participants instead of the general public, probably because large numbers of students were readily available. (Students as participants are important in their own right—but they are not a representative sample of the public.) There have been relatively few of the latter type

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study. Zentokuren (1962) is such an example of this type in Japan. The study published in Japanese gave important data regarding the 1960s in Japan (see Tachibana and Watanabe [2002] for some details in English).

The first purpose of the present study was to set out standard data in present-day Japan similar to earlier studies such as Zentokuren (1962). We have previously carried out a study using a set of questions on a smaller sample (Tachibana & Watanabe, 2003). Results gave us a chance to improve some of the questions. Questions revised from the previous study were employed in the present study. We believed we could get representative data on the attitude of Japanese people toward persons with ID in the present study and produce a standard data set useful for international comparison.

As the second purpose, we examined whether attitudes of Japanese people toward people with ID have changed over 40 years, by comparison with results of Zentokuren (1962). In addition, we made comparisons with results of studies, which were made 25 years ago in the same city (Shirai, Shirai, Fujiki, & Tsukahara, 1979).

The third purpose was to compare our data with data obtained from studies in the U.S. (Antonak, Fielder, & Mulick, 1993; Antonak & Harth, 1994; Henry, Keys, Jopp, & Alcazar, 1996).

Method

Participants

Participants were parents (or guardians) of children attending 11 elementary schools in Kasugai (a population of about 290,000), Aichi Prefecture, Japan. The 11 schools were selected randomly out of all the schools ($n = 37$) in Kasugai. A questionnaire was distributed to all families ($n = 2758$) whose children attend one of the 11 schools by teachers and collected in December 2000. We did not conduct random sampling from the population of Kasugai. This is because identification of participants associated with random sampling gives a bad feeling to participants in Japan. Instead, schools were selected randomly and we tried to get all targeted participants from selected schools. This procedure made it possible to collect responses without identification of participants.

Questionnaire

The questionnaire has a preface, which says that this is performed as a part of a study of Institute for Developmental Research on attitudes toward persons with ID. In addition to the preface, an assurance of strict confidentiality was added, "Although your response is expected never to be looked into by the teacher of your child, to make more sure of the confidentiality of your response, after completing the questionnaire, please paste down the flap of the envelope and hand to your child to return it to the teacher." In addition to the preface, a sentence, "Please show your true feeling" was added at the end of the preface, for the purpose of encouraging true feelings.

The questionnaire had five main sections (see Tachibana & Watanabe, 2004, for details). In the first section (items 1-16), 16 items of Likert type questions were presented. A common format of questions was, "A person says, '...' What do you think of the opinion?" The part '...' indicates an attitude toward persons with ID. Respondents were required to rate their ideas toward individual items by making a mark on a line. The ends of the line, which was divided into 10 parts indicated "strongly agree" and "strongly disagree" and

the middle part indicated "uncertain". Items were chiefly employed from the study by Zentokuren (1962) (see Tachibana & Watanabe, 2002). Zentokuren is one of the most influential studies conducted in Japan. Many later Japanese studies employed the same questions used in this study. A few items were added to the present questionnaire for the purpose of an international comparison (Antonak et al., 1993; Antonak & Harth, 1994; Henry et al., 1996).

In the second section (items 17-19), three items were employed: 1) guessing the prevalence of persons with ID in general, 2) guessing the prevalence of persons with ID in the future of their own family, and 3) guessing the percentage of hereditary causes of ID.

In the third section (item 20), three questions regarding respondents' schemata of persons with ID were asked. In the first question of this section (item 20A), respondents were required to describe the perceived age of persons with ID: preschool child; elementary school pupil; adolescent (junior high school or older); adult. In the second question (item 20B), respondents were asked "What dimensions of disability do you perceive when you are questioned, 'A person with ID is...?'" Respondents were required to select from seven alternatives: a) fundamental daily habits, b) communication, c) using public facilities, d) understanding of Japanese characters and calculation, e) ability of working, f) challenging behavior, and g) others. In the third question (item 20C), respondents were required to mark the perceived degree of disability: mild, moderate, severe, or profound.

In the fourth section (items 21-28), background variables were probed: they were gender, age, occupation, job-related contact with persons with ID, and volunteer work with persons with a disability. Since some questions that are employed often, such as educational levels, self-designed socioeconomic status, religion, etc. give a bad feeling to respondents in Japan (even though there is no way of identifying respondents to questionnaires) such variables were excluded.

Questions in the last section (items 29-31) required participants to describe freely their experience with people with ID. In addition, respondents were asked whether they have a

feeling of having more interest in the matter of people with ID than average people.

Some items used in the previous study by Tachibana and Watanabe (2003) were deleted, some items were added, and some items were changed. Changes were made in an attempt to improve weaknesses identified in the previous study. The second and third section questions are related to respondents' schema of people with ID. We present results of these sections and relationships between attitudes and background information variables in other studies (Tachibana & Watanabe, 2004).

Scoring of Response

Responses for items 1-16 (11 point-scale) were converted to scores according to position marked by respondents on the questionnaire. The mark, "strongly agree" was assigned a score of 5, and "strongly disagree" was assigned a score of -5. The "uncertain" response was assigned a score of 0. Others were assigned on the basis of an 11 point-scale. To facilitate interpretation, scores of negatively framed items (items asterisked in Table 4) were multiplied by -1. Thus, the higher plus score means more favorable attitude (a greater minus value means a less favorable attitude) for all items despite the different kinds of questioning.

As to whether they have a greater concern on ID (item 30B), the response of 'yes' and 'no', were assigned 2 and 1, respectively.

Statistical Analysis

Present data were not obtained by random sampling. The population defined in the present study was, "all parents whose children were attending the 11 schools in December 2000." Contrary to selecting participants, the schools were selected via random sampling procedure. Thus, in this case we can infer the population from the results by statistical inference. Thus, we will infer the population (the mean of schools of Kasugai) in terms of the 95% confidence interval. The unit of sample is school means.

Results

For ease in understanding the questions, Table 1 has some short explanations and the

abbreviations (see Tachibana & Watanabe, 2004, for details).

As background information, demographic data of respondents are presented in Table 2. Mean (*SD*) of respondents' age was 38.2 (5.0) with the range of 23-65 years old. Despite our intention of getting a representative data set of Japanese adults, female data was predominant. As to the question on jobs in an organization designed to help people with disability (item 27), very few people were working in such organizations. Most of the respondents who responded "yes" were teachers of a general class, and nurses. Number of people who had a person with ID in the family was small ($n = 73$) but the number may be enough to examine the matter in detail. Number of respondents having a close friend with ID was very few ($n = 18$), thus they are included into the category of having a close friend with a family member with ID.

Overall return rate for questionnaires was 87.6%. Some respondents who did not respond to a large part of the questions were dropped from the analyses. Thus, number of respondents in the analysis became 2381. Return rate per school is presented in panel 5 of Figure 1. The school differences in the return rate were not so small except for school 4.

Correlations between mean values (items 1-16) for schools and the return rate were calculated and are presented in Table 3. Variability of mean item scores among schools is also presented in terms of coefficient of variation (C.V.) in Table 3. There was a clear relation between return rate and magnitude of mean scores of items. It should be noted that most correlations indicate minus values. Therefore, lower return rate is associated with larger scores of items (a more favorable attitude toward people with ID). Correlation between scores of 'concern on ID (30B)' and return rate was also considerable. This indicates that people with less concern on ID returned the questionnaire in at lower rate. Thus, correlation between mean score of items for schools and return rate were recalculated by partializing with the effect of 'concern on ID (30B).' Results of semi-partial correlation are presented in Table 3. The semi-partial correlation became very small in most items, indicating that variations of the

TABLE 1

Abbreviation and a Short Description for Questionnaire Items

community living (1)	[commu-liv]	having normal life in a community
hereditary threat (2)	[hered-threat]	a hereditary threat to society
close relationship (3)	[close-rela]	having close personal relationships
marriage problem (4)	[marriage]	marriage with a person who has a family member with ID
tell real life (5)	[tell-life]	real life of people with ID should be told more widely to the public
neighborhood facility (6)	[neigh-facil]	a facility for people with ID in the neighborhood
special aid (7)	[spe-aid]	need for any special aid or shelter for people with ID
living next door (8)	[next-door]	living next door to people with ID in the same apartment building
care by the family (9)	[fam-care]	accountability for taking care of people with ID is with the family
working together (10)	[work-togeth]	working with people with ID
priority (11)	[priority]	the aid for people with ID should be given after aids for people in general
next seat in school (12)	[next-seat]	making respondent's child sit next to a child with ID in school
getting together more frequently (13)	[get-togeth]	getting together more frequently with people with ID
involvement (14)	[involve]	becoming involved with persons with ID
independent marriage (15)	[inde-mar]	persons with ID are capable of maintaining an independent marriage
having a credit card (16)	[cred-card]	persons with ID can use a credit card without complications
gender (21)	[gender]	gender of respondents
age (22)	[age]	age of respondents
occupation types (23)	[occupa-type]	occupation types of respondents
school types attended (24)	[school]	types of schools attended at in young days of respondents
person with ID in family (25)	[family]	having people with ID in family (including relatives) members of respondents
friend of person with ID (26)	[friend]	having a friend who has a person with ID in the family or having a friend with ID
job-related contact (27)	[job-contact]	having job-related experience with people with ID (or having jobs for the disability) in the past or the present time
volunteer work (28)	[volunteer]	experiences of volunteer work with the disability
concern for person with ID (30B)	[concern]	having a greater concern for problems which people with ID have than the average person has

Item number within () are attached to each item abbreviation for readers' convenience. See Tachibana & Watanabe, 2004, for details.

Brackets [] indicate the shortest terms used in figures and tables.

return rate are explained mostly by the difference in 'concern on ID (30B).'

Variation of return rate among schools (especially the low rate for school 4) might suggest that we should have looked at each school's data individually. In order to see how mean item scores varied across school, the mean (*SE*) of item scores for schools are pre-

sented in Figure 1. To save space, the largest two items in the correlation between item score and the return rate and the largest two items in C.V. of the correlation out of 16 items are illustrated in Figure 1 (panel 1-4). The figure indicates that the difference in magnitude for item score across schools is not so great. School 4 did not so greatly differ from

TABLE 2

Demographic Data of Respondents

	Variables			Total N
gender	1 = 90.3	2 = 9.7		2381
occupa-type	0 = 43.0	1 = 32.8	2 = 24.3	2374
school	0 = 28.3	1 = 33.8	2 = 37.9	2376
job-contact	0 = 92.3	1 = 7.7		2380
volunteer	0 = 91.3	1 = 8.7		2380
family	0 = 85.4	1 = 11.5	2 = 3.1	2379
friend	0 = 52.3	1 = 31.0	2 = 16.7	2379

Numbers indicate percentage of respondents for each demographic variable.

Gender: 1 = female; 2 = male.

Occupa-type: 1 = full-time housewives; 2 = part-time employees; 3 = full-time employees.

School: 2 = Attendance at both elementary and junior high school without special classes; 1 = Attendance at either elementary or junior high schools with special classes; 0 = Attendance at both elementary and junior high schools without special classes.

Volunteer: 1 = having an experience of volunteer work for persons with disability; 0 = having no such an experience.

Job-contact: 1 = having job-related experience with people with intellectual disability (or having jobs for people with intellectual disability) in the past or the present time; 0 = having no such an experience.

Family: 2 = having an immediate family member with intellectual disability; 1 = having a person with intellectual disability as one's relative; 0 = others.

Friend: 2 = having a close friend who has a family member with intellectual disability; 1 = having an acquaintance/neighbor who has a family member with intellectual disability; 0 = having no such person.

Total N = total number of respondents. Difference in total N is due to number of respondents who did not respond to each item.

other schools. Thus, in the following analysis, all school's data were pooled.

Results of each question (items 1-16) are presented in Figure 2 and Table 4. Figure 2 indicates results in terms of number of persons who responded to the items. Table 4 indicates results in terms of means and SDs and asterisks indicate that scores were converted to common sense by multiplying the score by -1. Presentation of both sets of re-

sults is not redundant but necessary. Presentation of mean and SD alone is unable to describe exactly the distribution. Presentation by a histogram does not give us means (SDs), which are easy to compare to other studies' results. Although the number of 11 points of selection is not too much to show in terms of mean (SD), the number is too much to show in terms of number of persons per point. Thus, 11 points were reduced to 5 points, by changing point 5 and 4 to 2, and changing point 3, 2, and 1 to point 1. Point 0 is unaltered. Points in the minus zone are also changed in the same way as ones in the plus zone.

As can be seen in Figure 2, panels of items are grouped into 6 types, from A to F. Although we cannot show the mathematical criteria for the grouping, the rough grouping seems enough and useful to see that there are several types of response distribution. Type A is the item that showed the most negative score among items. In other words, type A is the least favorable attitude scores. 'Having a credit card (16)' is assigned to type A. Type B is items in which the largest number of person distributed at 0, which indicates "uncertain". This corresponds to 'independent marriage (15),' 'marriage problem (4),' 'living next door (8),' and 'neighborhood facility (6).' Type C is items that have the peak of distribution at 0 or +1. They correspond to 'tell real life (5),' 'hereditary threat (2),' 'care by the family (9),' and 'community living (1).' Type D is items that have the peak at 2 but a relatively large portion distributed at 0. This corresponds to 'working together (10),' 'special aid (7),' 'involvement (14),' and 'priority (11).' Type E is items that have the peak of distribution at +2. This corresponds to 'getting together more frequently (13)' and 'close relationship (3).' Type F is items that have the predominant proportion at +2. This corresponds to 'next seat in school (12).'

Discussion

Representativeness of the Present Data for Japanese Adults

We made an attempt to describe the state of attitudes in present day Japan. Is our data representative of Japan? The best way to get a

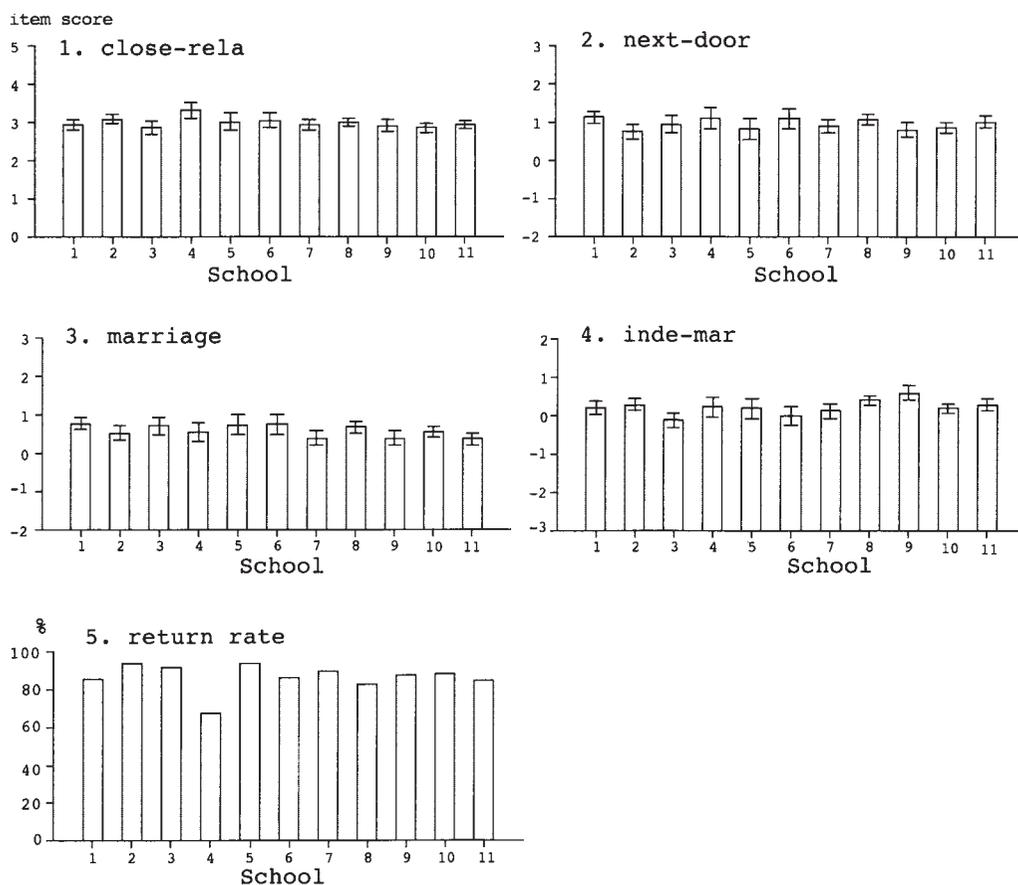


Figure 1. School differences in return rate and a few examples of items with mean and SE.

representative sample is random sampling from all over Japan, something that is practically impossible. Even the best study conducted in Japan, Zentokuren (1962) did not employ random sampling. Another way is to select a few cities in Japan by random sampling and to do random sampling from the population of these cities. Our targeted city, Kasugai, is a typical medium size Japanese city, though it was not randomly selected. Zentokuren showed that there was little difference in areas across Japan 40 years ago. Years after Zentokuren's study, the standardization of thinking on life style or other social problems are progressing in Japan because of the development of media. Nowadays, most Japanese will not oppose the idea that there is no substantial difference in opinions on intellectual disability in different areas of Japan, though no one can present direct evidence for this.

There is no objective criterion for selecting a representative city in Japan. So, it is not unreasonable to suppose that Kasugai is a representative city in Japan. Schools were selected randomly and we tried to get all of the targeted participants from the selected schools. Therefore, it is not unreasonable to suppose that our sample is a typical group of adult Japanese.

Present State Of Attitudes in Japan

We believe that the present data will be a useful record of opinions on intellectual disability in the 1990s in Japan. Furthermore, it may be useful as basic data for an international comparison. Although we insist that our data reflect typical Japanese attitudes, female data is predominant (90.3%). Thus, it is better

TABLE 3

Correlation between Mean Score of Items (item 1–16) for Schools and Return Rate, the Semi-partial Correlations with ‘Concern on Intellectual Disability’, and Coefficient of Variations (C.V.) for Mean Item Scores across Schools

	<i>Correlation</i>	<i>Semi-partial</i>	<i>C.V.</i>
commu-liv	-0.45	0.11	0.06
hered-threat	-0.28	0.07	0.16
close-rela	-0.67 (1)	0.29	0.04
marriage	0.05	0.07	0.26 (3)
tell-life	-0.47	0.07	0.13
neigh-facil	-0.48	0.09	0.13
spe-aid	0.04	0.10	0.06
next-door	-0.69 (2)	0.30	0.14
fam-care	-0.61	0.20	0.11
work-togeth	-0.51	0.11	0.08
priority	-0.58	0.17	0.13
next-seat	-0.17	0.01	0.08
get-togeth	-0.35	0.02	0.08
involve	0.01	0.07	0.10
inde-mar	-0.15	0.02	0.89 (4)
cred-card	-0.21	0.02	0.19
concern	-0.42		

The number within () corresponds to the panel number in Figure 1. See Table 1 for item abbreviations.

to say more precisely that the data are representative of Japanese women aged 23-65 years old who have a child attending an elementary school.

We might be able to group questions used in the present surveys into two types: (1) questions which ask about agreement or disagreement on a less favorable attitude toward people with ID, — this question induces a kind of ‘hesitation,’ a respondent may be reluctant to speak candidly even if it is agreeable; and (2) questions that ask about favorable attitudes and does not induce such a ‘hesitation.’ In the present paper, we call them ‘anti-social norm questions’ and ‘pro-social norm questions,’ respectively.

For results that follow items were grouped into 6 types on the basis of distribution of responses. ‘Marriage problem (4),’ ‘neighborhood facility (6),’ and ‘living next door (8)’ (which belong to type A and B) were considered greatly unfavorable among the item scores. Low scores for these items are ex-

pected since they are ‘anti-social norm questions.’ ‘Close relationship (3)’ and ‘getting together more frequently (13)’ (which belong to type E) were favorable. Higher scores are expected since they are ‘pro-social norm questions.’ On the other hand, ‘tell real life (5),’ which was considered as ‘pro-social norm question’ got lower score than those of, for example, ‘working together (10),’ and ‘involvement (14)’ which are considered ‘anti-social norm questions.’ This response for ‘tell real life (5)’ might be specific to Japanese people. Not a few respondents made a comment that if keeping from identification of persons with ID is guaranteed, the idea is agreeable, on the idea that being known to be a person with ID by others damages the person and the family. For many Japanese, telling about having a member with ID in one’s own family is difficult because they do not want to be publicly known regarding the matter. A respondent wrote a long comment on a memory of her younger sister that her sister was put, in secret, in a community as if her family did not have such a person — and her sister never went out. This happened 30 years ago. However a part of this thinking survives in some degree. It is well known that the number of people with ID registered with local government for obtaining social services in Japan is much smaller than the actual numbers that would be expected. One of the reasons is that people with a family member with ID have an idea that the disadvantage being known of having a family member with ID is in some sense not worth the expected social service, especially in the case of mild ID. This cultural situation of hesitation of speaking openly of people with disability in the family might put ‘tell real life (5)’ at the low score.

The item of having a ‘credit card (16)’ is only just minus. The low score for the item does not necessarily mean respondents have a less favorable attitude. We addressed this matter by examining the variable of having a family member with ID previously (Tachibana & Watanabe, 2004). The score of ‘marriage problem (4)’ was low. The item was found to put a great hesitation of answering candidly on respondents (Tachibana & Watanabe, 2003). Not a few respondents showed agree-

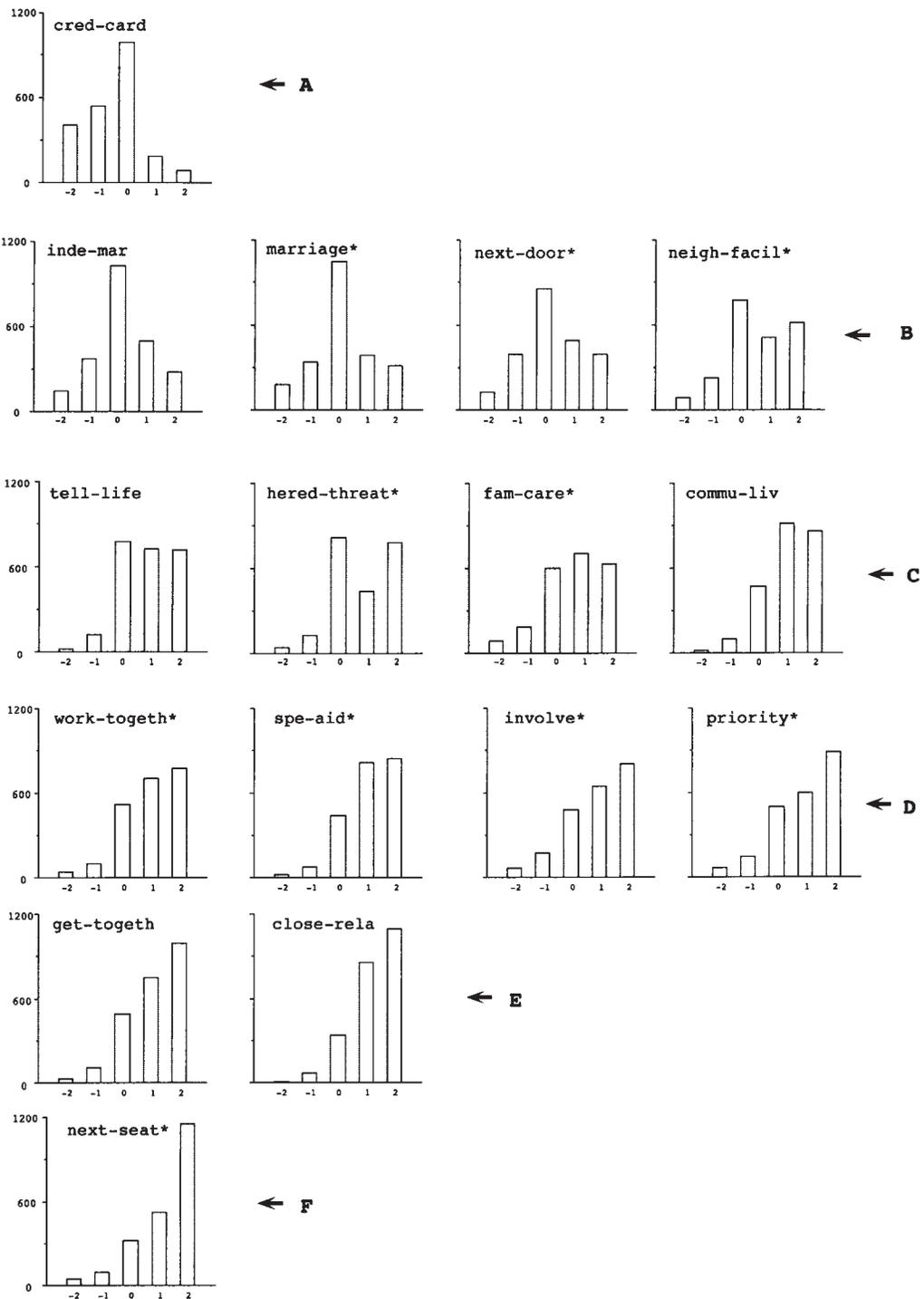


Figure 2. Six types of distribution of responses. The letter with an arrow indicates the type. Vertical axis indicates number of respondents. Horizontal axis indicates item scores converted into ones from -2 to +2. * indicates the inverted score. See Table 1 for item abbreviations.

TABLE 4

Means and SDs for Scores on the Items on the Basis of 11 Points

	Mean	SD
commu-liv	2.48	2.18
hered-threat*	2.19	2.49
close-rela	2.96	2.04
marriage*	0.57	2.66
tell-life	1.99	2.29
neigh-facil*	1.72	2.67
spe-aid*	2.81	2.16
next-door*	0.95	2.69
fam-care*	1.98	2.60
work-togeth*	2.59	2.33
priority*	2.52	2.58
next-seat*	3.20	2.33
get-togeth	2.57	2.34
involve*	2.43	2.55
inde-mar	0.24	2.53
cred-card	-1.34	2.48

* indicates inverted score. See Table 1 for item abbreviations.

ment to 'care by the family (9).' This was somewhat surprising because we anticipated that most respondents agree to care by a local government (or tax). This might indicate a specific thinking in Japanese people that accountability for care is on the side of the family, though some aids are needed for the family. Unfavorable responses, agree to no need for 'special aid (7)' and to 'priority (11)' was not necessarily small. These are also unexpected results. The data on 'community living (1)' indicates that the idea of normalization is not well accepted perfectly by the public, considering only 30% of respondents "strongly agree." In other words, over 70% of respondents have some hesitation about the idea to some degree. In 'hereditary threat (2),' there were two peaks which indicate some portion of respondents have a hesitation to candidly agree with the item. Items of 'working together (10),' 'involvement (14)' and 'next seat in school (12)' which are considered as 'anti-social questions' were not so unfavorable. This shows that all 'anti-social questions' do not always induce less favorable attitudes, indicating that the situation in Japan is improving.

Comparison with Previous Japanese Data

To get a clearer idea of the present situation, a comparison with the past or with other countries is especially useful. Part of our items had been employed by two previous studies; Zentokuren (1962) and Shirai et al. (1979). Since they are written in Japanese without an English summary, it should be useful to describe the studies in some detail. The study of Zentokuren was conducted nationally with a very large number of respondents ($n = 9600$). The people surveyed in the study were parents of children who were attending an elementary or junior high school, and teachers of these schools. The demographic character was similar to the present study with some differences. In Zentokuren the male proportion was 66.3%. Further, teachers were a large proportion (12.9%). In Shirai et al., respondents were selected from the same city as the present study (Kasugai), further, their ages were almost the same as in the present study. The people surveyed by Shirai et al. were mothers of children with ID, mothers of children without ID, and pregnant women. The data of mothers of children without ID ($n = 205$) will be compared with the present data.

Zentokuren (1962) measured attitudes; "agree," "uncertain" and "disagree." In order to make a comparison with those of Zentokuren, our results were converted to a 3-point scale: scores from -5 to -1 are pooled into -1 (corresponding to 'disagree' of Zentokuren; scores from 1 to 5 are pooled into 1 (corresponding to 'agree'); score 0 corresponds to 'uncertain.' The data of Shirai et al. (1979) were also converted into a 3-point scale. As our data were collected randomly in choice of school, we can infer confidence intervals (Kirk, 1978). Results in terms of the 95% confidence interval are presented in Figure 3 along with mean scores of Zentokuren and Shirai et al.

In the comparison between studies we must remember the unit is school means in the present study, while for Zentokuren (1962) and Shirai et al. (1979), it is the individual subject. As long as we compare the means among studies, the difference in the unit is not so problematic. Zentokuren gives us standard Japanese data of the 1960s. After the study by Zentokuren our society has been

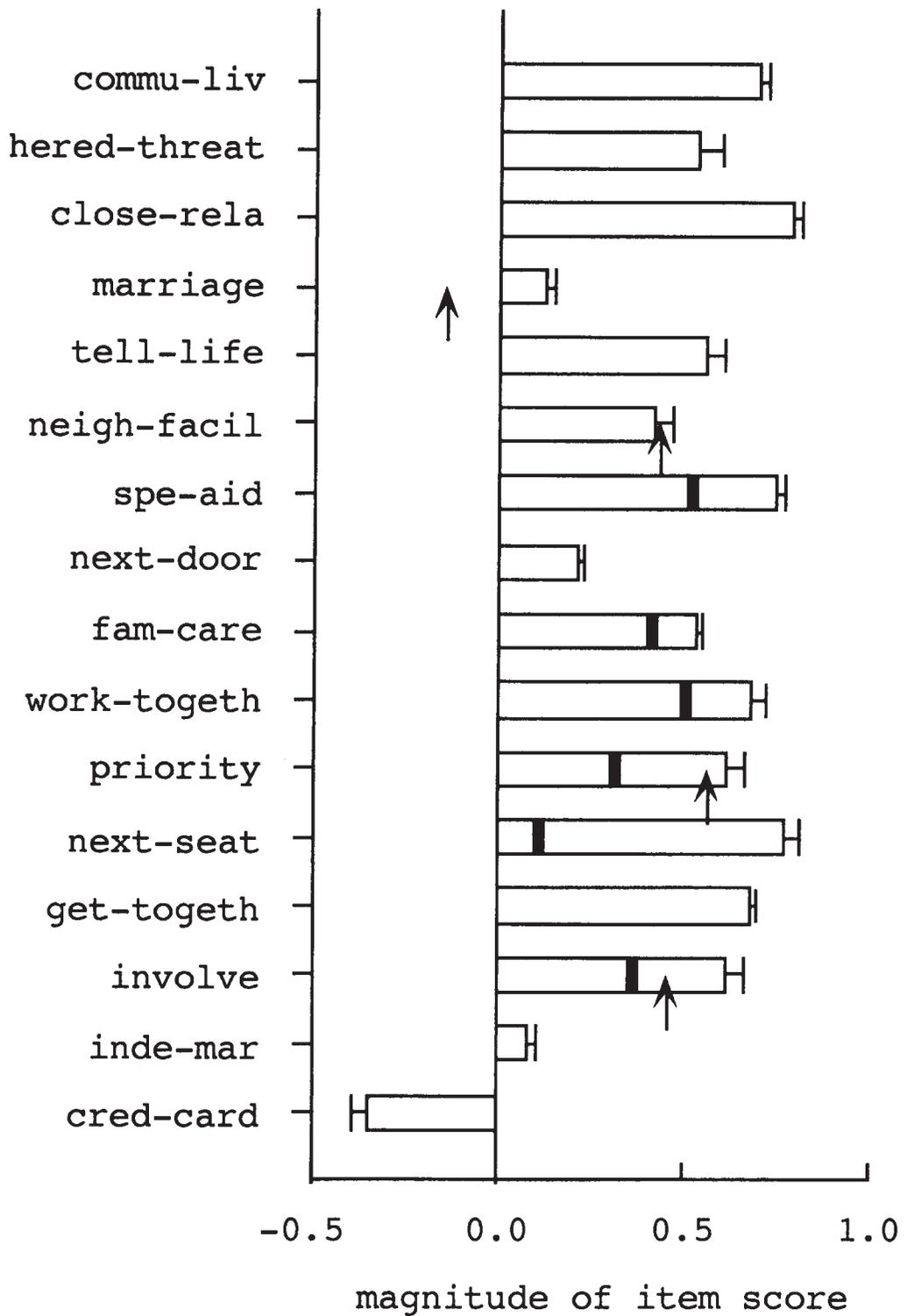


Figure 3. Comparison with two studies in terms of the 95% confidence interval of means for 16 items. A bar and an arrow indicate the results of Zentokuren (1962) and Shirai et al. (1979), respectively. See Table 1 for item abbreviations.

changing. The idea of normalization has become widely known. Interactive education programs and other educational programs to improve understanding of people with disability have been widely available in Japanese schools. Media campaigned for 'International Years of Disabled Persons.' Do attitudes towards persons with ID really shift over time in Japan? As can be seen in Figure 3, all items employed by Zentokuren about 40 years ago are greatly improving presently. The most improved attitude is 'next seat in school (12),' 'Priority (11),' 'involvement (14),' and 'special aid (7)' are also considerably improved. The item of 'care by the family (9)' was less well improved. As we discussed on 'special aid' in the previous section, this might be traditional thinking of Japanese people, though we have no direct evidence of the matter. Teachers were a large proportion (12.9%) of Zentokuren's study, which should have inflated the favorable attitude of the results in the study. Thus it would be better to reduce the number of teachers to the level of the natural proportion of typical adult Japanese. However, we have no such results in Zentokuren. Despite the supposed influence of the greater proportion of teachers, our data indicate clearly that attitudes toward people with ID are improving from the time of Zentokuren's study.

Our respondents have a greater portion of women (90.3%) in comparison with those of Zentokuren (36.6%). This reflects the difference in climate of the two times. About 40 years ago, many men (fathers) had the idea that they must answer the questionnaire brought from the child's school as the representative of the family. Nowadays, men have no such idea and they place the task of answering the questionnaire on their wives. As women (mothers) usually have a stronger feeling of duty for their child's schooling, they undertake the task. They seem to have responded to the questionnaire not as the family representative but as an individual. Since Zentokuren (1962) asserted that there was no difference in attitudes between gender, whether the difference in the proportion of gender should be taken into our interpretation of attitude improvement is not clear.

In comparing the present results with those

of Shirai et al. (1979), the degree of improvement is not so large as that shown by the Zentokuren (1962) comparison. This may be due to the difference in length of time (about 40 and 20 years). 'Marriage problem (4)' and 'involvement (14)' have been greatly improved but are still at a lower level in comparison with the other items. 'Priority (11)' is not largely improved. 'Neighborhood facility (6)' has not changed from the time of Shirai's study. Since less favorable ideas for 'marriage problem (4),' 'involvement (14),' and 'neighborhood facility (6)' are anticipated to be rooted deeply in respondents, we were less surprised by these results. On the other hand, we have no idea why the response to 'priority (11),' which is a pro-social norm question, has been greatly improved from the time of Shirai's study.

Comparison with Results Obtained in the U.S.

Comparison of the common items between the present study and other studies in the U.S. should be interesting (Antonak et al., 1993; Antonak & Harth, 1994; Henry et al., 1996). In the U.S. data, the sample is small because the purpose of these studies was not to get representative data of all people from the U.S. Furthermore, most participants were students. In Antonak et al., the scores were assigned the range from -3 to +3, and in Antonak and Harth they were assigned from 1 to 4. Henry et al. used the range from 1 to 6 (strongly disagree 1 to strongly agree 6). On the other hand, our data were assigned the range from -5 to +5. Thus, using a linear method, we converted the U.S. means to the scale used in our study. The converted means are plotted in Figure 4, indicating Antonak et al. as black bars, Antonak and Harth as a wedge, and Henry et al. as arrows. Our data are presented in terms of the 95% confidence interval.

All mean scores in the present study were smaller than those in the U.S. studies. A direct comparison might not be useful, as results of the U.S. studies do not necessarily represent the public of the U.S. Thus, it is difficult to assert that Japanese people have less favorable attitudes than Americans have. However, it gives us a possibly more adequate international standard for comparison in future studies.

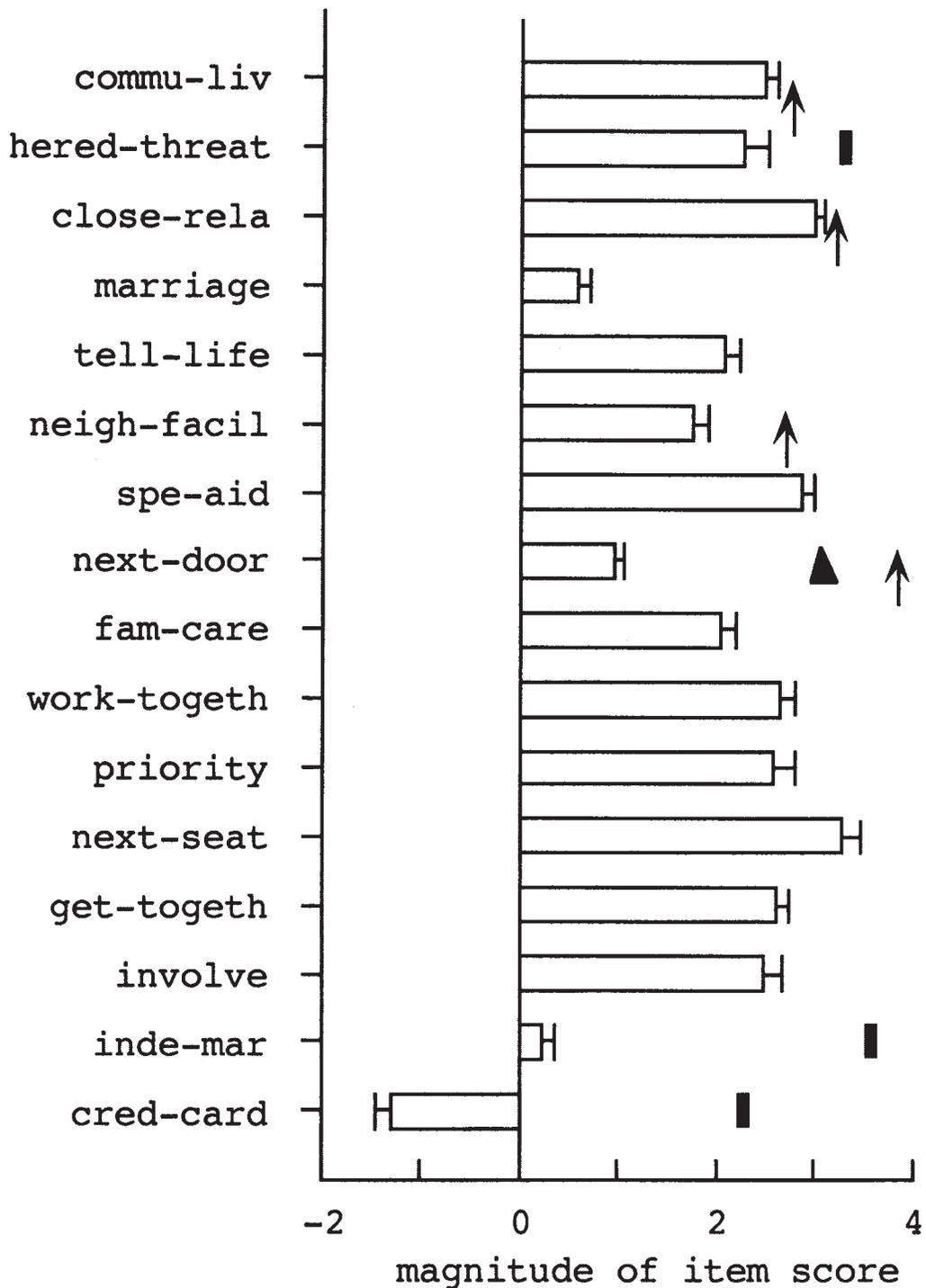


Figure 4. Comparison with three studies conducted in the U.S. with the 95% confidence interval of mean for 16 items. A bar, a wedge, and an arrow indicate results of Antonak et al. (1993), Antonak and Harth (1994) and Henry et al. (1996), respectively. See Table 1 for item abbreviations.

References

- Antonak, R. F., Fielder, C. R., & Mulick, J. A. (1993). A scale of attitudes toward the application of eugenics to the treatment of people with mental retardation. *Journal of Intellectual Disability Research, 37*, 75–83.
- Antonak, R. F., & Harth, R. (1994). Psychometric analysis and revision of the Mental Retardation Attitude Inventory. *Mental Retardation, 32*, 272–280.
- Henry, D., Keys, C., Jopp, D., & Alcazar, F., (1996). *The Community Living Attitudes Scale*, Mental Retardation: Development and psychometric properties. *Mental Retardation, 34*, 149–158.
- Kirk, R. E. (1978). *Introductory statistics*. Monterey CA: Brooks/Cole.
- Shirai, Y., Shirai, I., Fujiki, N., & Tsukahara, R. (1979). Structure of prejudice toward the socially weaker members: III. Attitude of married females toward children with mental or physical disability [in Japanese]. *Annual report of Department of Social Welfare, Institute for Developmental Research, Aichi Prefectural Colony, 4*, 33–46.
- Tachibana, T., & Watanabe, K. (2002). Japanese studies on attitudes toward persons with mental retardation. *Mental Retardation, 40*, 245–251.
- Tachibana, T., & Watanabe, K. (2003). Attitude toward persons with intellectual disability in Japan: The effect of schemata concerning intellectual disability on attitudes. *Psychological Reports, 93*, 1161–1172.
- Tachibana, T., & Watanabe, K. (2004). Attitudes of Japanese adults toward persons with intellectual disability: Relationship between attitudes and demographic variables. *Education and Training in Developmental Disabilities, 39*, 109–126.
- Zentokuren. (1962). The report of survey on attitude toward people with mental retardation [in Japanese]. *Seishin-Hakujachuji Kenkyu, 41*, 1–42.

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