

The influence of economic environments and residential areas of high school students on their choice of going on to medical schools: Recognition of the guidance counselors

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Introduction

The majority of Japanese medical school students will become physicians in the future. Consequently, the impact of medical school entrance examinations (hereinafter entrance exams) on society is considerable.

The problem is that these entrance exams mostly focus on taking the measure of academic achievement by paper tests. For this reason, most of the enrolled students are the graduates of distinguished high schools and/or preparatory cram schools in big cities.

The Japanese government and the Japan Society for Medical Education have repeatedly made recommendations that the situation be improved. In order to satisfy them, other measurements such as interviews, records of high school activities have been introduced little by little in the selection process.

Methods

We conducted a nation-wide survey by sending a questionnaire to 1,746 high schools in Japan and asked the guidance counselors to answer it. The questions were developed from the discussions in an international symposium, our research group, and previous studies. We collected the answer data and analyzed them by descriptive statistics.

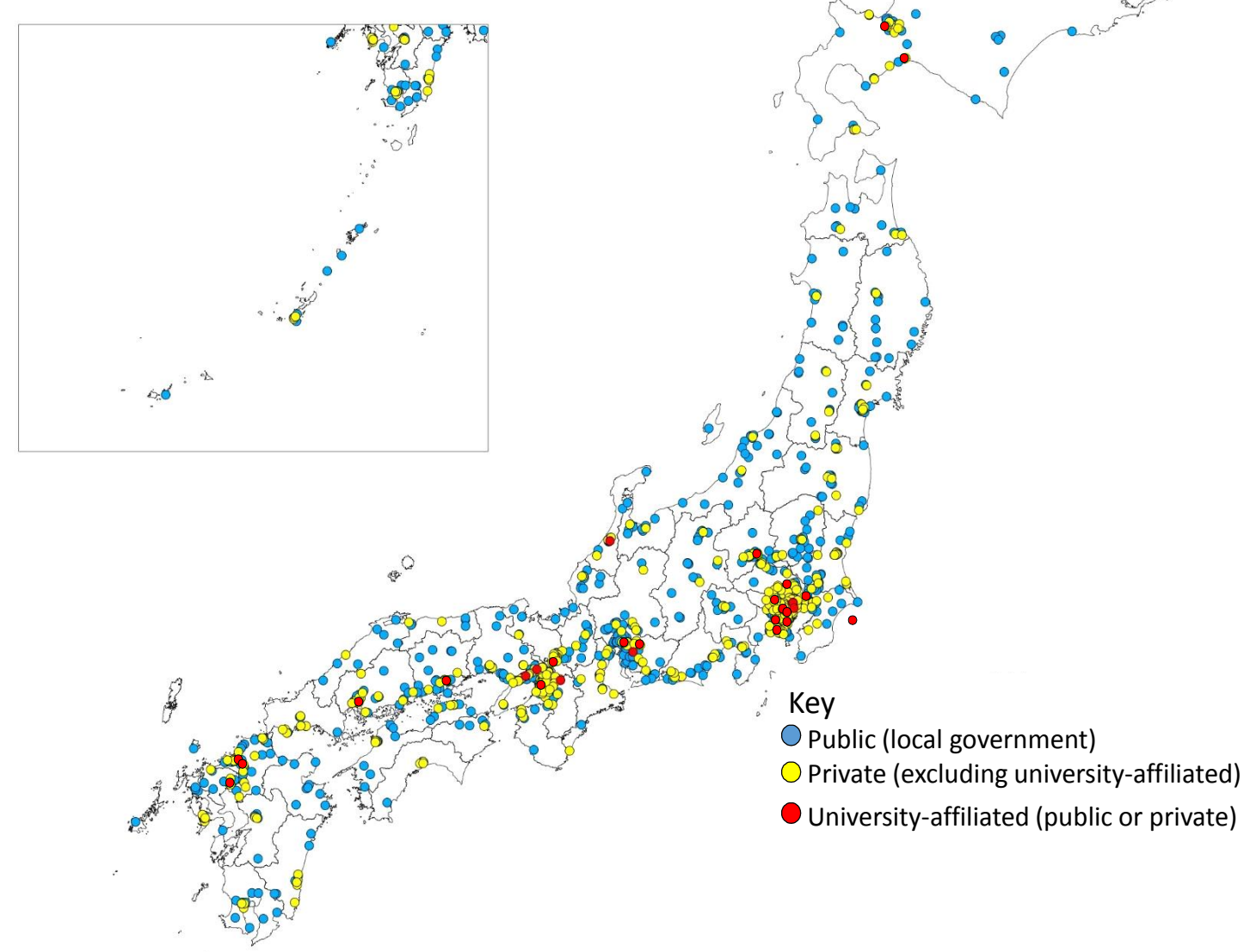
Results

Responses were obtained from 1094 guidance counselors (response rate: 62.7%). While 731 (66.8% of respondent) answered it is relatively difficult for economically disadvantaged students to go on to medical schools, 670 (61.2%) answered it is relatively easy for those who live in urban areas to do so. 448 (41.0%) answered there were students who gave up medical school enrollment for economic reasons.

Types of high school attended by respondents (n = 1094)

Public (local government)	662 schools (60.5%)
Private (excluding university-affiliated)	330 (30.2)
University-affiliated (public or private)	102 (9.3)

Location of high school attended by the respondent (n = 1094)



Number of graduates going on to medical school in an average year

No. of graduates going on to medical school	Number of schools (%)
21 or more	68 (6.2%)
11–20	68 (6.2%)
6–10	78 (7.1%)
2–5	212 (19.4%)
1 or none	665 (60.8%)
Others	3 (0.3%)

Tuition fees paid to high school over 3-year period

Tuition fees paid to high school	Number of schools (%)
¥3 million or more	44 (4.0%)
¥2–¥2.99 million	143 (13.1%)
¥1–¥1.99 million	203 (18.6%)
¥500,000–¥999,999	210 (19.2%)
Less than ¥500,000	324 (29.6%)
Unknown	112 (10.2%)
No answer	58 (5.3%)

Population of city or town in which the high school is located

Population of city or town	Number of schools (%)
Over 1 million	248 (22.7%)
500,000–999,999	104 (9.5%)
200,000–499,999	268 (24.5%)
100,000–199,999	198 (18.1%)
Less than 99,999	276 (25.2%)

Proportion of students applying to medical school with a parent who is a doctor or dentist

Proportion of students with a parent who is a doctor or dentist	Number of schools (%)
50% or more	255 (23.3%)
10–49%	166 (15.2%)
9% or less	257 (23.5%)
Unknown	390 (35.6%)
No answer	26 (2.4%)

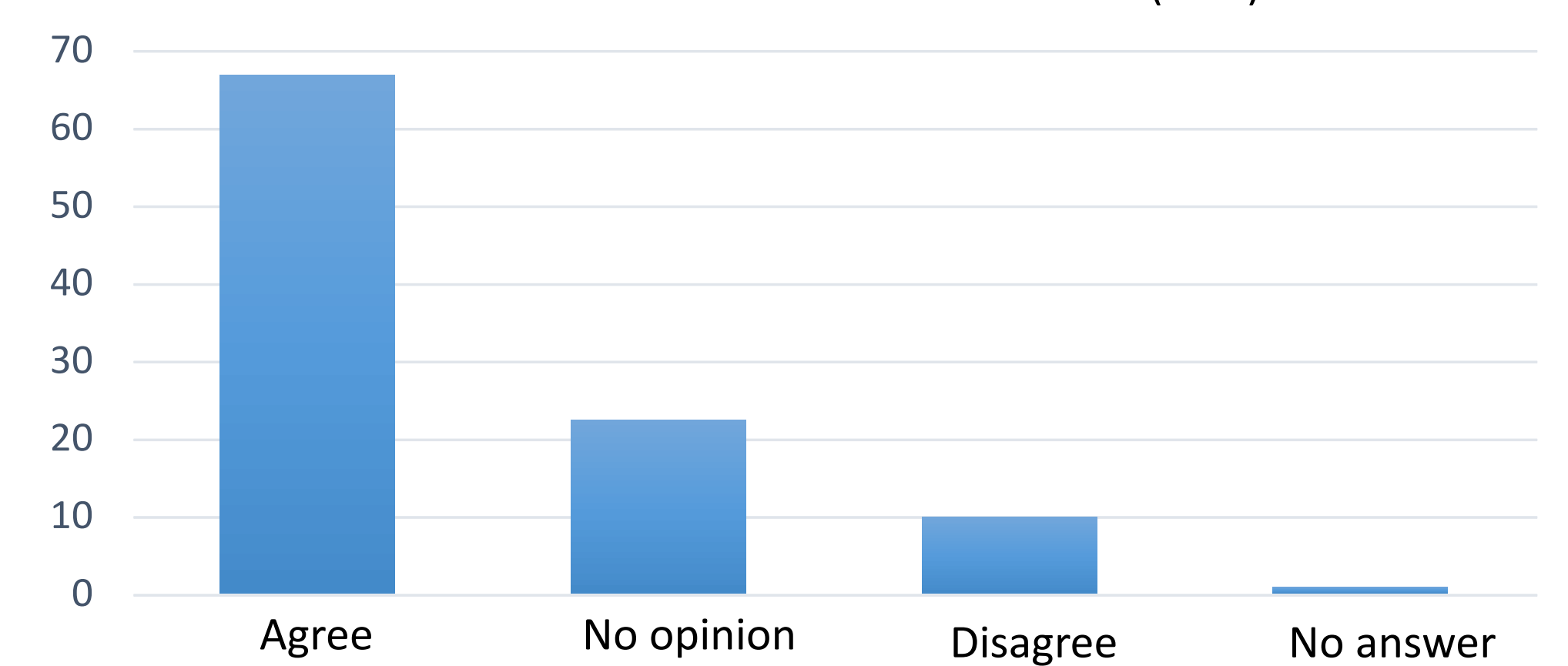
Proportion of third-year students attending preparatory cram schools to go on to medical school

Proportion of third-year students attending preparatory cram schools	Number of schools (%)
80% or more	236 (21.6%)
20–79%	163 (14.9%)
19% or less	236 (21.6%)
Unknown	428 (39.1%)
No answer	31 (2.8%)

Respondents' awareness of the environment in which medical school entrance examinations take place

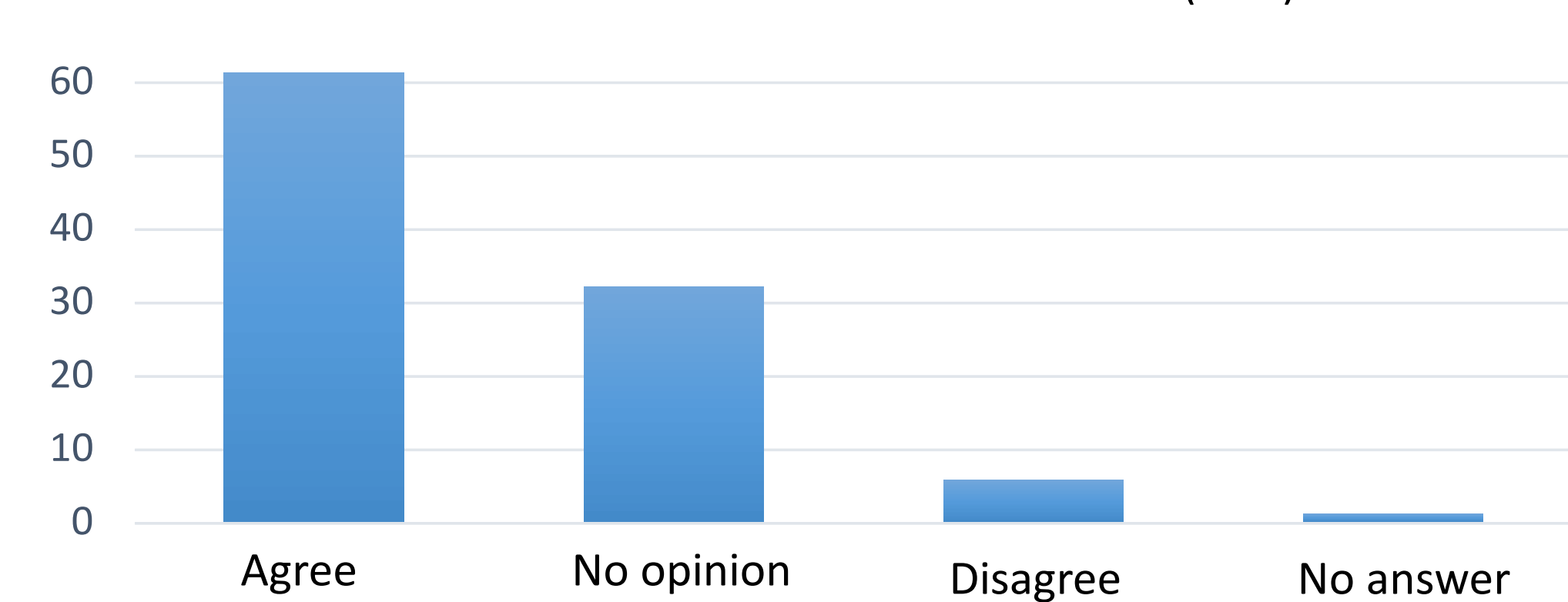
It is difficult for students who come from less well-off families to get into medical school (n = 1094)

Agree (completely – somewhat)	731 schools (66.8%)
No opinion	245 (22.4%)
Disagree (completely – somewhat)	108 (9.9%)
No answer	10 (0.9%)



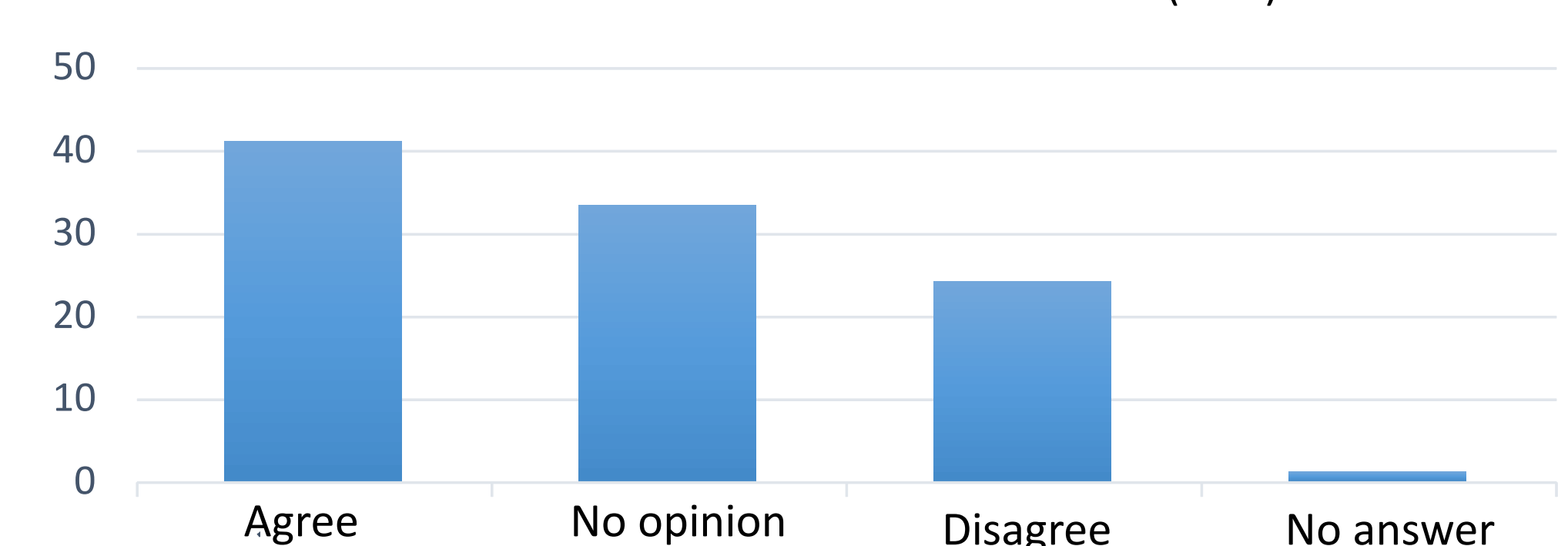
It is easier for students who live in cities to get into medical school (n = 1094)

Agree (completely – somewhat)	670 schools (61.2%)
No opinion	350 (32.0%)
Disagree (completely – somewhat)	62 (5.7%)
No answer	12 (1.1%)



Some students give up the idea of going to medical school because they cannot afford it financially (n = 1094)

Agree (completely – somewhat)	448 schools (41.0%)
No opinion	364 (33.3%)
Disagree (completely – somewhat)	264 (24.1%)
No answer	18 (1.6%)



Discussion

From this study, the influence of economic environments and residential areas of high school students on their choice of going on to medical schools was suggested.

The majority of Japanese medical school students will become physicians in the future. Consequently, the impact of medical school entrance examinations (hereinafter entrance exams) on society is considerable.

The problem is that these examinations mostly focus on taking the measure of academic achievement. The Japanese government and the Japan Society for Medical Education have repeatedly made recommendations that the situation be improved. In order to satisfy them, other measurements such as interviews, records of high school activities have been introduced little by little in the selection process.

In reviewing the methodology of examinations including ones for medical schools, three viewpoints are regarded as especially important: "reliability," "feasibility" and "acceptability." The tendency in Japan is to emphasize reliability over validity. The current national licensure examination for physician involves neither interviews nor tests of skill.

The aim of our research project is to investigate the validity of medical school entrance examinations in Japan from various perspectives and sharing information which will be helpful to explore an optimal way.

Currently, we are primarily investigating the following two points of contention.

1. Validity of measuring high academic ability

In Japan, a rural quota system has been introduced as a policy measure whereby applicants from areas with a shortage of doctors are preferentially admitted to medical school, and in some universities such applicants account for the majority of those admitted. Roughly 9100 students in total are admitted to medical school each year, with over 1400 (approximately 15%) of them admitted under this quota system.

For example, must the entrance examination scores required of applicants under this special system be set at the same level as the examination scores required of those applying under the general admission system?

2. Effect of the education gap

Social inequality is becoming a major issue in Japan, and educational inequality is also worsening. The current medical school entrance examinations are extremely difficult to pass unless students are both among those gaining top grades at high schools oriented to preparing students for university entrance examinations and also have the opportunity to study test-taking strategies at cram schools.

There are concerns that individuals from wealthy families and those from urban areas with large numbers of high schools dedicated to preparing students for university entrance examinations are at an advantage in entering medical school.

Take-home message

Many of guidance counselors in Japan recognize that students of wealthy families of urban areas have advantage of going on to medical schools.