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Do Involuntary Enrollees in Teacher Training Courses Aspire to Teach? A Survey of First-Year Students at a Japanese National University

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Abstract

This study examines whether students who entered a teacher training university in Japan as a second or subsequent choice still aspire to become teachers. Specifically, the study conducted a questionnaire survey that targeted first-year students in the teacher training course at a national university with multiple campuses. The study analyzed the association between admission categories, university or campus preferences, and career aspirations using a log-linear model. The analysis of 675 responses showed significant associations between admission categories and university preferences, and between university preferences and career aspirations. Parameter estimation showed that students who were admitted through recommendation selection had a lower rate of involuntary enrollment, whereas those who were admitted in the second round in the general selection had a higher rate of involuntary enrollment. More importantly, involuntary university-level enrollees showed a lower rate of teacher aspirations than voluntary enrollees, whereas involuntary campus-level enrollees showed a rate of teacher aspirations that was similar to those of voluntary enrollees. These results suggest that by designing an entrance examination that discourages involuntary enrollment from other universities, it is possible to select a higher rate of students who aspire to become teachers.

Keywords: admissions reform, involuntary enrollment, log-linear model, teacher training

1 Introduction

1.1 Challenges for Japanese National Teacher Training Universities and Faculties

At present, the teacher shortage in primary and secondary education is a problem that needs to be solved on a global scale. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has reported that there is a global shortage of 44 million teachers if the United Nations' sustainable development goal of ensuring that all people have access to quality education is to be achieved by 2030 [1]; moreover, only 40% of countries will be able to secure the number of teachers they need for primary education, and around 16% for secondary education.

Japan is also facing a growing teacher shortage. A 2021 survey by the Ministry of Education, Culture, Sports, Science and Technology revealed more than 1,500 elementary and junior high schools were experiencing a shortage of teachers, where the number of teachers

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allocated to each school did not meet the required number [2]. In a subsequent panel survey, over 80% of Japan's education boards responded that the teacher shortage situation was either unchanged or had worsened compared to the previous year. Amid this worsening teacher shortage, the employment rate and number of applicants for Japanese teacher recruitment exams are on a downward trend [3]. The employment rate for public school teacher recruitment exams in Japan has been on a continuous decline since peaking in 2000 and was at a record low in the 2024 examination since 1979.

Resolving Japan's current teacher shortage is one of the most important tasks for Japan's national teacher training universities. In March 2024, the employment rate for graduates of Japan's national teacher training universities and faculties was 69.0% [4]. Although the employment rate for teachers has been on the rise in recent years, approximately 30% of graduates still do not choose teaching as their career path. To address this situation, teacher training universities are urged to provide evidence that will contribute to measures that can improve the employment rate of teachers. This study examines involuntary enrollment in teacher training courses at a Japanese national university to gain insights into the kinds of entrance exam reforms that need to be implemented to select students who aspire to become teachers.

1.2 Involuntary Enrollment and Its Impacts

Enrollment in higher education institutions is increasing worldwide. According to the UNESCO Institute for Statistics, the global enrollment rate in higher education rose from 19% to 40% between 2000 and 2020 [5]. In Japan, the enrollment rate in higher education institutions was 87.3% in 2024, and the enrollment rate in universities was 59.1%, both of which were the highest ever recorded [6]. However, not all students are able to join the university of their choice. In fact, a survey of over 500,000 students attending four-year public and private universities in the United States showed that around 40% of students were not enrolled in their university of choice, meaning that they were enrolled involuntarily [7]. A survey of over 10,000 students at 15 public universities in Beijing, China, asked students whether the university and major they were enrolled in were their first choice or not [8]. In this survey, approximately 17% of the students responded that the university was not their first choice, and approximately 37% responded that their current major was not their first choice. These results show a mismatch between university and major preferences. In Japan, a survey of over 8,000 students at national universities showed that around 36% of students were enrolled involuntarily [9]. Therefore, it is evident that a significant percentage of students in Japan are involuntarily enrolled.

How does involuntary enrollment affect university students? First, involuntary enrollment can reduce satisfaction with university life. Students who are unable to join their university of choice may feel a loss of autonomy [10] or experience relative deprivation through comparison with others [11]. As a result, they may develop negative perceptions and emotions toward their university, and their satisfaction with university life is expected to decrease. A large-scale survey of public and private universities in the United States has confirmed that involuntary enrollees are less satisfied with their university than those who enrolled in their university of choice [12]. A more precise analysis of Chinese public universities using propensity score matching has also shown that involuntary enrollment lowers university satisfaction [8]. A survey of students at Japanese national and private universities also showed that involuntary enrollees tended to have lower satisfaction with their university

[13]. Therefore, establishing an entrance examination system that reduces the number of involuntary enrollees and provides necessary support for students who have enrolled involuntarily would be meaningful for improving students' satisfaction with their university.

1.3 Entrance Examinations at Japanese National Universities

Section 1.2 showed that a certain number of students at Japanese national universities are involuntary enrollees [9]. Is there an association between involuntary enrollment and teacher aspirations at national teacher training universities and faculties? To examine this question, it is first necessary to understand the selection process for students entering Japanese national universities. This section provides an overview of the admission categories for entrance examinations at Japanese national universities [14].

As of 2024, there are 787 universities in Japan: 82 national universities, 100 public universities, and 605 private universities. The admission categories for national universities are broadly divided into three types: general selection (first and second round), school recommendation selection, and comprehensive selection.

In the general selection, the results of the Common Test for University Admissions, which is held simultaneously across the country, and the scores of the university's own Individual Achievement Test, which is held afterward, are used to determine whether the applicant is accepted. Separate and divided method is used for the first and second rounds of the entrance examinations; the first round is held in late February and the second in mid-March after the results of the first round have been announced. The school recommendation selection and comprehensive selection are carried out earlier than general selection; the results are announced and the enrollment procedures are completed before the first round. The results of these admission categories are mainly determined by short essays, interviews, and extracurricular activities.

Regarding the above admission categories, there are some important points to consider in the context of involuntary enrollment at Japanese national universities. First, successful candidates for school recommendation selection and comprehensive selection are, in principle, unable to decline their offer of admission. As a result, successful candidates for both of these selections are effectively enrolled at the university of their choice, and the rate of involuntary enrollment is expected to be lower than that of students admitted through general selection.

Second, it should be noted that the first round, second round, and the school recommendation selection only allow students to apply to one university or faculty. As national university tuition fees are generally cheaper than those of private universities, and depending on the financial situation of the applicant, there may be cases where applicants can only enter a national university. If the applicant scores lower than expected on the Common Test, they may apply to a national university with lower entrance exam difficulty, even though it is not their original university preference. Furthermore, even if they get a satisfactory score in the Common Test but fail to get into their university of choice in the first round, they may apply to universities with lower entrance exam difficulty levels in the second round. It is important to note that to secure students early the second round is on the decline and being abolished nationwide; therefore, if students fail to get into their university of choice in the first round, they may find themselves in a situation where they have no choice but to enroll in another university.

1.4 Purpose of This Study

This study posits that there is an association between admission categories and involuntary enrollment at Japanese national universities; specifically, that the rate of involuntary enrollment will be higher in the following order: second round > first round > school recommendation selection/comprehensive selection. Further, surveys of students at Japanese national universities have partially demonstrated this [9].

In addition, we posit that there is a relationship between whether students are enrolled in a university against their will and whether they aspire to be a teacher, as the entrance exams for national teacher training universities are generally less difficult than those for national comprehensive universities, such as the former Imperial Universities. This could occur because of students prioritizing admission to a national university over one that offers their preferred major. This could lead to students who do not have teacher aspirations being admitted to a teacher training university. Therefore, we predict that the rate of teacher aspiration will be lower for involuntary enrollees than for voluntary ones.

Demonstrating the above relationship would provide valuable insights for reforming entrance examinations with the aim of increasing the number of students with teacher aspirations; however, few studies that have examined this. The main purpose of this study is to examine whether involuntary enrollees in each admission category at national teacher training universities in Japan have teacher aspirations. In this study, we focus on a national teacher training university with multiple campuses. The selected university has a teacher training course (a course that requires a teaching license as a graduation requirement) at each of its three geographically separate campuses. The admission categories at each campus mainly consist of the first and second rounds for general selection and school recommendation selection.

According to the rankings of major Japanese cram schools, the difficulty of this university's entrance exams is slightly below the average of national universities, and there are universities in the neighborhood with higher selectivity than this university. More importantly, the entrance exams of the three campuses of the university have different difficult levels. This indicates that involuntary enrollment can occur at not only the university level but also campus level at this university. Specifically, it is possible that a student attempted the Common Test to join a campus with higher admission requirements but had to enroll in a campus with lower admission requirements at the same university as they did not do well.

Compared to the involuntary enrollment from other universities, the rate of teacher aspirations among involuntary enrollees from other campuses is expected to be relatively high. This is because although they may not have applied to study at their campus of choice to avoid the risk of failing the entrance exam, they are still applying to a teacher training course, which is the same as voluntary enrollment. To verify the above predictions, this study conducted a questionnaire survey of new students at three national teacher training university campuses. More specifically, we used a log-linear model to analyze the association between three variables: *admission categories* (first round, second round, and recommendation selection) × *university preferences* (voluntary enrollment, involuntary enrollment [university], and involuntary enrollment [campus]) × *career aspirations* (teacher and non-teacher aspirations).

2 Methods

2.1 Participants and Procedures

A questionnaire survey was conducted in April 2024 with 1,262 first-year students at a Japanese national university. Of the students surveyed, 734 were first-year students who had enrolled in the university's teacher training course at 1 of its 3 campuses through the first round, second round, or recommendation selection; 686 students responded to the survey. The data of 675 students (323 male and 352 female) who completed the survey items described below (university preferences and career aspirations) were used for the analysis. The average age of respondents was 18.2 years (SD = 1.4). R version 4.4.1. was used for the data analysis.

This survey was approved by the ethics review committee of the affiliated institution. Participants were clearly informed that personal information would not be disclosed, responding to the questions was optional, there are no disadvantages to not responding, and the responses would be analyzed together with other institutional data.

2.2 Variables

The questionnaire asked the respondents to provide their student ID numbers so that we could match the survey data with the student data held by other departments based on admission categories. Subsequently, we measured the students' university preferences and career aspirations. In the following sections, we discuss the variables for admission categories, university preferences, and career aspirations that we used to examine associations in this analysis.

The following is a summary of the admission categories for the 2024 academic year at the universities included in our analysis. The content of the selection process for each admission category at the three campuses was generally the same, although there were some differences in the weighting of the tests. General selection was based on the sum of the scores of the Common Test and the Individual Achievement Test. The first round of the Individual Achievement Test focused on Japanese, Mathematics, and English, and the second round was an interview. The ratio of the Common Test and the Individual Achievement Test was about 7:3. The recommendation selection was based on the results of a written investigation and a recommendation from the applicant's high school, an interview, and a practical test.

The number of valid responses by admission category was 405 for the first round (valid response rate: 91.2%), 142 for the second round (valid response rate: 92.2%), and 128 for the recommendation selection (valid response rate: 94.1%). The results of the chi-squared test showed no significant association between the admission categories and whether the responses were valid or not (χ^2 (2) = 1.20, p = .548). Therefore, the subsequent analysis was conducted assuming that there was no bias in the responses owing to the admission categories.

The question about university preference asked respondents to choose which university was their first choice. If the university they entered was their first choice, they were asked which campus was their first choice. Respondents who chose their own campus as their first choice were labeled "voluntary enrollment," while those who chose a different university were labeled "involuntary enrollment (university)"; those who chose a different campus

from the one they were enrolled in as their first choice were labeled "involuntary enrollment (campus)."

For the question "What is your current career aspiration? (Please choose your first choice)," respondents were asked to choose one answer from the following options: "teacher," "national civil servant," "local civil servant," "company/organization employee," "self-employed," "further education," and "other." For the analysis, respondents who chose "teacher" were classified as "teacher aspirations," and those who chose an answer other than "teacher" were classified as "non-teacher aspirations."

3 Results

3.1 Contingency Table

Table 1 presents a contingency table for the three variables: admission categories, university preferences, and career aspirations. Before analyzing the association using a log-linear model, we calculated the campus-level involuntary enrollment rate for students at the three campuses as a supplementary analysis. The three campuses were ranked in the order of the difficulty of the entrance exam (Campus X > Campus Y > Campus Z). The rate of involuntary enrollment at the campus level was lowest for Campus X, which had the highest entrance exam difficulty (0.4%), followed by Campus Y, which had a medium level of difficulty (10.9%), and highest for Campus Z, which had the lowest entrance exam difficulty (30.5%). Furthermore, the results confirmed that although involuntary enrollment from campuses with higher entrance exam difficulty to campuses with lower entrance exam difficulty occurs (X → Y: 10.5%, X → Z: 15.2%, Y → Z: 13.5%), the opposite is almost never the case (Y → X: 0.4%, Z → X: 0.0%, Z → Y: 0.0%). These results suggest that involuntary enrollment at the campus level occurs as a result of applicants prioritizing their chances of passing over their own preferences. In the analysis using the log-linear model in Section 3.2, we did not include the campus variable in the model to avoid modeling complexity and ethical concerns.

Table 1: Contingency table of admission category × university preference × career aspiration

Admission Category	University Preference	Career Aspiration			
		Teacher aspiration		Non-teacher aspiration	
General selection (First round)	Voluntary enrollment	299	(92.9%)	23	(7.1%)
	Involuntary enrollment (university)	28	(71.8%)	11	(28.2%)
	Involuntary enrollment (campus)	43	(97.7%)	1	(2.3%)
General selection (Second round)	Voluntary enrollment	48	(90.6%)	5	(9.4%)
	Involuntary enrollment (university)	38	(69.1%)	17	(30.9%)
	Involuntary enrollment (campus)	34	(100.0%)	0	(0.0%)
Recommendation selection	Voluntary enrollment	120	(94.5%)	7	(5.5%)
	Involuntary enrollment (university)	0	(- %)	0	(- %)
	Involuntary enrollment (campus)	1	(100.0%)	0	(0.0%)

Note. The number in the cell indicates the number of respondents in that cell, and the number in parentheses indicates the percentage of respondents in each row.

3.2 Log-Linear Model

3.2.1 Model comparison

To examine the association between the three variables of admission categories, university preferences, and career aspirations, we conducted an analysis using a log-linear model. It models the change in the size of the cell frequency according to the level of the categorical variable [15]. More specifically, the log-linear model explains the logarithm of the expected cell frequency in a contingency table using the sum of parameters representing the main effects and interaction effects of each variable. Log-linear models treat all variables symmetrically, making them particularly suitable for analyzing multivariate contingency tables that aim to understand patterns of relationships among categorical variables.

In the case of a log-linear model with three variables used in this analysis, nine models can be assumed depending on the combination of interactions that express the association between variables. Among these models, the simplest model is the mutually independent model, which consists only of the intercept and main effects. Let μ_{ijk} be the expected frequency of the cell in the contingency table and let λ be the intercept, λ_i^A be the main effect for *admission category* level *i*, λ_j^U be the main effect for *university preference* level *j*, and λ_k^C be the main effect for *career aspiration* level *k*. In this case, the mutually independent model can be expressed by Equation (1).

$$log\mu_{ijk} = \lambda + \lambda_i^A + \lambda_j^U + \lambda_k^C \tag{1}$$

As the mutually independent model does not include interactions, if the independent model fits the data, it suggests that there is no association between the variables. The saturated model, which includes all interactions between the variables, is assumed to be the most complex log-linear model. In this analysis, the one-way interactions between the levels of each variable are assumed to be λ_{ij}^{AU}, λ_{ik}^{AC}, and λ_{jk}^{UC}, and the two-way interaction is assumed to be λ_{ijk}^{AUC}. In this case, the saturated model can be expressed by Equation (2).

$$log\mu_{ijk} = \lambda + \lambda_i^A + \lambda_j^U + \lambda_k^C + \lambda_{ij}^{AU} + \lambda_{ik}^{AC} + \lambda_{jk}^{UC} + \lambda_{ijk}^{AUC} \tag{2}$$

Table 2 compares the goodness of fit of the nine models from the independent to the saturated model. *Model 6*, which includes the interaction between admission categories × university preferences and university preferences × career aspirations, shows the lowest value for the Akaike information criterion (AIC = 27.2) and the Bayesian information criterion (BIC = 81.4). Furthermore, as the results of the likelihood ratio test for *Model 6* were non-significant ($\chi^2(6) = 3.2$, $p = .785$), we adopted this model as the best model and estimated the parameters.

3.2.2 Parameter estimation

We estimated the parameters for *Model 6*, which we adopted based on the results of the model comparison (Table 3). When estimating the parameters, we used dummy coding for each variable. The reference cell was set to the cell for the first round × voluntary enrollment × non-teacher aspirations to facilitate interpretation of the results. We smoothed the cells with 0 frequencies by adding 0.5.

Table 2: Comparison of log-linear models for admission category × university preference × career aspiration

no.	Model	G^2	*df*	*p*	AIC	BIC
1	(A, U, C)	198.9	12	< .001	210.9	238.1
2	(A, UC)	157.2	10	< .001	173.2	209.4
3	(U, AC)	191.2	10	< .001	207.2	243.3
4	(C, AU)	44.9	8	< .001	64.9	110.1
5	(AU, AC)	37.1	6	< .001	61.1	115.3
6	(AU, UC)	3.2	6	.785	27.2	81.4
7	(AC, UC)	149.4	8	< .001	169.4	214.6
8	(AU, AC, UC)	2.8	4	.596	30.8	94.0
9	(AUC)	0.0	0	-	36.0	117.3

Note. The letters "A," "U," and "C" in the table indicate admission categories, university preferences, and career aspirations, respectively. *Model 1* is a mutually independent model, and *Model 9* is a saturated model. The symbols in the Model column indicate the combination of effects of each parameter. For example, "*Model 2* (A, UC)" represents a model consisting of the main effects of the three variables and the interaction between university preference and career aspiration.

Table 3: Parameter estimates for the log-linear model

Parameter		Estimate	*SE*	*p*
(Intercept)		3.11	0.17	< .001
A: Admission Category *Ref. = A1: First round*	A2: Second round	−1.80	0.15	< .001
	A3: Recommendation selection	−0.93	0.10	< .001
U: University Preference *Ref. = U1: Voluntary enrollment*	U2: Involuntary enrollment (university)	−0.65	0.28	.021
	U3: Involuntary enrollment (campus)	−3.02	0.73	< .001
C: Career Aspiration *Ref. = C1: Non-teacher aspiration*	C2: Teacher aspiration	2.59	0.18	< .001
Interaction between A & U	A2 × U2	2.15	0.26	< .001
	A3 × U2	−2.73	1.02	.007
	A2 × U3	1.56	0.27	< .001
	A3 × U3	−2.45	0.84	.003
Interaction between U & C	U2 × C2	−1.74	0.28	< .001
	U3 × C2	1.07	0.74	.146

Note. This table shows the estimated parameters for each effect in the log-linear model that includes the interaction between admission categories × university preferences and university preferences × career aspirations (*Model 6* in Table 2).

The results show that the interaction that expresses the association between variables is significant. First, the interaction between admission categories and university preference showed significant results for all combinations of levels. Specifically, the estimated values for the interaction between the second round × involuntary enrollment (university) and the second round × involuntary enrollment (campus) showed a significant positive effect (λ = 2.15, 95% CI: 1.65–2.66); λ = 1.56, 95% CI: 1.03–2.09). In other words, regardless of career aspirations, it was clear that the proportion of involuntary enrollees in the second round tended to be larger than that in the first round. However, the interaction between recommendation selection × involuntary enrollment (university) and recommendation selection × involuntary enrollment (campus) showed a significant negative effect (λ = −2.73, 95% CI: −5.69–−1.19; λ = −2.45, 95% CI: −4.64–−1.12). This indicates that, regardless of career aspirations, the proportion of involuntary enrollees was smaller for the recommendation

selection than for the first round.

For the parameter university preference × career aspiration, involuntary enrollment (university) × career aspiration showed a significant negative effect ($\lambda = -1.74$, 95% CI: −2.30–−1.18). In other words, regardless of the admissions category, involuntary university-level enrollees tended to have lower teacher aspirations. However, we found no significant association between involuntary enrollment (campus) and career aspirations ($\lambda = 1.07$, 95% CI: −0.14–2.90). This indicates that, regardless of the admission category, there was no statistical difference in teacher aspirations between voluntary enrollees and involuntary campus-level enrollees.

4 Discussion

This study conducted a questionnaire survey of first-year students at a multi-campus teacher training university to gain insights into what type of entrance exam reform would be effective in attracting students who aspire to become teachers. Specifically, we asked first-year students who entered the teacher training course through general selection (first and second rounds) or recommendation selection about their university preferences (voluntary enrollment, involuntary enrollment [university], and involuntary enrollment [campus]) and career aspirations (teacher aspiration and non-teacher aspiration). We used loglinear models to examine the association between admission categories, university preferences, and career aspirations. After comparing the goodness of fit of all the models, the model that included the two interactions of "admission categories × university preferences," and "university preferences × career aspirations" was selected as the best model. As predicted, we found differences in the proportion of involuntary enrollees according to admission categories, as well as differences in the rate of teacher aspirations according to university preferences.

4.1 Implications

For the adopted model, a parameter estimation was carried out after dummy coding was performed with the reference cell set to "first round × voluntary enrollment × non-teacher aspirations." First, the interaction between "recommendation selection × involuntary enrollment (university)" and "recommendation selection × involuntary enrollment (campus)" showed a significant negative effect. Therefore, regardless of whether the respondent had a teacher aspiration or not, the results confirmed that the ratio of involuntary enrollment was smaller for students who entered through the recommendation selection than for those who entered through the first round. This result reflects the fact that school recommendation selection is conducted earlier than general selection, and that successful candidates always enroll at that university [14]. This is consistent with previous research that showed that students who were admitted through recommendation selection or comprehensive selection at national universities across Japan had a lower rate of involuntary enrollment than those who were admitted through general selection [9].

The estimated value of the interaction between "second round × involuntary enrollment (university)" and "second round × involuntary enrollment (campus)" showed a significant positive effect. In other words, the results confirmed that the proportion of involuntary enrollees in the second round was higher than that in the first round, regardless of career aspirations, at both a university and campus level. This result reflects the fact that applicants

become more risk-averse when applying for the second round than for the first round, as well as the nationwide trend of reducing or abolishing the second round. Furthermore, for both the recommendation selection and second round, the pattern of involuntary enrollment at a campus level was the same as at a university level. Almost all changes in applications between campuses occurred in the direction of switching from campuses with high examination difficulty to those with low difficulty. These results indicate that even at a campus level, students tend to apply to campuses where they have a better chance of being accepted rather than to the campus of their choice.

Regarding the interaction between university preference and career aspiration, which is the main topic of this analysis, "involuntary enrollment (university) × career aspiration" showed a significant negative effect. In other words, compared to voluntary enrollment, the rate of teacher aspiration among involuntary university-level enrollees was significantly lower. Among national universities, the university in question has a relatively low entrance exam difficulty level, and there are other universities in the area with higher selectivity. In addition, unlike private universities, national universities do not allow students to apply to other national universities in the same admission categories, and the tuition fees are lower. Considering these factors, the above results may reflect the enrollment of students who had no intention of becoming teachers but prioritized admission to a national university over their own interests and concerns.

We also found no significant association between involuntary enrollment (campus) and career aspirations. In other words, there was no significant difference in teacher aspirations between involuntary and voluntary enrollment at a campus level; therefore, even for involuntary enrollees, there was a difference in teacher aspiration rates depending on whether their original first choice was another university or another campus of the same university. This difference could be explained by the fact that involuntary enrollees change their preferences at a campus level, focusing on the possibility of passing the university entrance exam, while maintaining their aspirations in terms of entering a teacher training course.

The above results suggest that to select students with high teacher aspirations, entrance exams that reduce the number of involuntary enrollees from other universities should be designed. One method would be to reduce the number of applicants for the second round and allocate them to other admission categories. In Japan's national universities, the separate and divided method means that the second round is the last chance for applicants who failed to pass the first round to enter a national university that year. Students who prioritize entering a national university over getting their preferred major tend to apply to universities with lower examination difficulty in the second round. Reducing or discontinuing the second round could prevent the involuntary enrollment of students with low teacher aspirations.

Another method would be to reduce the ratio of examination scores for academic ability and raise the ratio of scores for teacher motivation and aptitude in the first and second rounds' admissions decisions. As involuntary enrollees from other universities are those who originally had university preferences with higher entrance examination difficulty, they tend to have higher academic ability in school subjects than voluntary enrollees. Therefore, there is a possibility of securing students with high teacher aspirations by implementing a selection process that does not emphasize academic ability. However, even if this method can solve the problem of the *quantity* of students with teacher aspirations, it is still unknown whether it can guarantee their *quality*. For secondary school teachers, academic ability in their subject is a particularly important element of their quality as a teacher. Given these concerns, if one

considers that it is easier to improve basic academic skills than strengthen teacher aspirations after admission, then the above selection process based on the motivation for teaching may be effective.

Unlike the involuntary enrollment at a university level, the involuntary enrollment at a campus level showed the same level of teacher aspiration as voluntary enrollment. Therefore, from the perspective of admissions reform to select students with strong teacher aspirations, there is little need for efforts to reduce the number of campus-level involuntary enrollments. In contrast, research has repeatedly confirmed that involuntary enrollment is associated with low satisfaction with the university [8] [12] [13]. Even if students feel satisfied that they were able to enroll in a teacher training course, they may experience relative deprivation and loss of autonomy as they had to choose a campus with lower entrance exam difficulty [10] [11]. Therefore, providing the necessary support for campus-level involuntary enrollment is needed to improve student satisfaction with the university.

4.2 Limitations

This study is significant as an institutional research project in that it provides recommendations on how to reform the admissions process to increase teacher aspiration rates from the perspective of involuntary enrollment. However, this study has some limitations. First, the sample of this study was not representative, as it comprised first-year students at a single teacher training university in Japan. Future research should be conducted on a broader sample to increase the generalizability of the findings. Second, the mechanism of the occurrence of involuntary enrollment assumed in this study was based solely on speculation and has not been directly tested. This can be clarified by qualitatively and quantitatively examining the reasons and motivations for students entering their university. Third, this study only examined teacher aspirations at the time of university entrance through a single-choice item; whether these aspirations change during the course of study, or whether students take the teacher recruitment examination and become teachers has not been verified. We plan to investigate these questions by conducting a follow-up survey, incorporating scaled or open-ended items to gain more nuanced insights into students' aspirations.

4.3 Conclusions

As teacher shortages are increasing worldwide, Japan's national teacher-training universities are under strong social pressure to increase the number of teachers employed. This study shows that it is possible to select students with high teacher aspirations by designing entrance examinations in a way that reduces involuntary enrollment from other universities. Reducing involuntary enrollment will not only increase teacher aspiration rates but also prevent mismatches between students and universities/majors, which may lead to increased university satisfaction. Thus, this study is significant as an institutional research project as it provides practical suggestions for solving the problems faced by teacher training universities and faculties and for realizing better education.

References

[1] UNESCO, "Global report on teachers: Addressing teacher shortages and transforming the profession," Feb. 2024; https://unesdoc.unesco.org/ark:/48223/pf0000388832. Accessed: Apr. 8, 2025.

[2] MEXT, "Survey on the actual situation of teacher shortages," Jan. 2022; https://www.mext.go.jp/a_menu/shotou/kyoin/mext_00003.html. Accessed: Apr. 8, 2025. (in Japanese)

[3] MEXT, "Regarding the implementation of the selection examination for the employment of public-school teachers in 2024 (implemented in 2023)," Jan. 2025; https://www.mext.go.jp/a_menu/shotou/senkou/1416039_00012.html. Accessed: Apr. 8, 2025. (in Japanese)

[4] MEXT, "Information on the employment situation, etc. of graduates and completers of national teacher training universities and faculties, as well as private and public graduate schools of education, March 2024," Dec. 2024; https://www.mext.go.jp/a_menu/koutou/kyoushoku/kyoushoku/1413296_00009.htm. Accessed: Apr. 8, 2025. (in Japanese)

[5] UNESCO, "Higher education global data report, working document," May. 2022; https://unesdoc.unesco.org/ark:/48223/pf0000389859. Accessed: Apr. 8, 2025.

[6] MEXT, "Publication of the 2024 school basic survey," Dec. 2024; https://www.mext.go.jp/content/20241213-mxt_chousa01-000037551_01.pdf. Accessed: Apr. 8, 2025. (in Japanese)

[7] Ruffalo Noel Levitz, "2019 national student satisfaction and priorities report: A focus on trends over the past 10 years," 2019; http://files.eric.ed.gov/fulltext/ED606624.pdf. Accessed: Apr. 8, 2025.

[8] Y. Huang, M. Huang, H. Wang, Z. Chen, and X. Liu, "Do college entrance examination admission characteristics influence students' college satisfaction? Evidence from China," *Front. Psychol.*, vol. 14, Mar. 2023; doi.org/10.3389/fpsyg.2023.1115867.

[9] G. Kobayashi, "Unwilling attenders in Japanese national universities," *Annu. Rep. Kansai Kyoiku Gakkai*, vol. 45, pp. 131–135, Aug. 2021. (in Japanese)

[10] R. M. Ryan and E. L. Deci, "Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions," *Contemp. Educ. Psychol.*, vol. 61, Apr. 2020; doi.org/10.1016/j.cedpsych.2020.101860.

[11] H. J. Smith, T. F. Pettigrew, G. M. Pippin, and S. Bialosiewicz, "Relative deprivation: A theoretical and meta-analytic review," *Pers. Soc. Psychol. Rev.*, vol. 16, no. 3, pp. 203–232, Aug. 2012.

[12] Ruffalo Noel Levitz, "2018 national student satisfaction and priorities report: Focusing on satisfaction levels for demographic subpopulations," 2018; http://files.eric.ed.gov/fulltext/ED606626.pdf. Accessed: Apr. 8, 2025.

[13] M. Ito, "An attempt in classifying the unwilling matriculate and analyses of some relevant factors," *Jpn. J. Adolesc. Psychol.*, vol. 7, pp. 30–41, Jul. 1995. (in Japanese)

[14] The Japan Association of National Universities, "Implementation guidelines for the 2026 entrance examination for national universities," Jun. 2024; https://www.janu.jp/wp/wp-content/uploads/2024/06/nyuushi_2026.pdf. Accessed: Apr. 8, 2025. (in Japanese)

[15] A. Agresti, *Categorical data analysis*, 3rd ed. Hoboken, NJ, USA: Wiley. 2013.