

Self-determination Degree Difference Analysis According to the Subject Selection Criteria of General High School Students

Eun-Mi, Kim

**Doctor, Education Assignment Institute, Jeonbuk National University, Jeonju-si, Jeollabuk-do, Korea
lyly524@naver.com*

Abstract

The purpose of this study is to analyze the difference in the degree of self-determination between the criteria that general high school students consider important when selecting subjects (hereinafter referred to as 'importance') and the criteria that are actually applied when selecting subjects (hereinafter referred to as 'implementation'), based on the existing motivation type discrimination scale and subject selection criteria scale. As a result of analysis based on the data of a total of 786 high school students, the degree of self-determination was found to be different for all 34 questions and 8 factors in importance and implementation. In general, the questions and factors showed a simple structure with the motivation types and showed the lowest correlation with the motivations at both ends of the self-determination continuum. Among the factors that students consider important when selecting subjects and the factors that are actually applied, the 'SAT' factor showed the highest positive correlation with identification control. In addition, it was found that autonomous subject selection was more preferred than subject selection based on extrinsic motivation. These results are not only meaningful as the first study to analyze the degree of self-determination in the subject selection of high school students, but also can be used as useful data for customized subject selection guidance according to the degree of self-determination. The implications of this study and suggestions for follow-up studies were discussed.

Keywords: Degree of Self-Determination, Subject Selection Criteria, Importance and Implementation, General High School Student

1. INTRODUCTION

The high school credit system is being promoted with the goal of full implementation by 2025 to further expand student-centered course selection options [1]. In this choice-centered curriculum, it is desirable and ideal for students to choose a subject according to their intrinsic motivation, such as their career path, interest, and aptitude [2]. Nevertheless, due to environmental factors such as rapid creation and disappearance of jobs,

internationalization and globalization, and job instability, the influence of learners' extrinsic motivation in subject selection cannot be excluded. It is a time when the need for customized subject selection guidance is required according to the degree of self-determination that affects subject selection [3].

Students have individual differences. Depending on individual differences, the criteria for subject selection are also different. Subject selection criteria differ depending on the degree of self-determination. Therefore, the subject selection guidance considering autonomy can be a customized subject selection guidance considering the individual differences of students.

Previous studies on subject selection so far have mainly approached the subject selection criteria from the viewpoint of priority [4-8]. However, in this study to differentiate itself from prior research, it focuses on analyzing the difference in the degree of self-determination between the criteria considered important when selecting subjects (hereinafter referred to as 'importance') and the criteria actually applied when selecting subjects (hereinafter referred to as 'implementation').

To this end, the purpose of this study was to analyze the difference in the degree of self-determination between the importance of the subject selection criteria and the degree of execution of general high school students by using the existing motivation type discrimination scale and the subject selection criterion scale as test tools [9-10].

Specific research questions are as follows. First, what is the relationship between the importance of subject selection and self-determination? Second, what is the relationship between subject selection implementation and self-determination? Third, is there a difference in the degree of self-determination in the importance and implementation of subject selection?

By examining whether the students consider internal factors such as interest and aptitude with a high degree of autonomy as the most important in both the importance and implementation of the subject selection, or, whether external factors such as the low degree of autonomy, such as SAT and academic scores, suggestion from other people, and teachers, are considered more important, it can help in providing customized subject selection guidance considering individual differences. In addition, the analysis data can be used as useful data to reduce the gap between the importance of the subject selection criteria and its implementation, as well as to find what is necessary to internalize extrinsic motivation at the same time. It can also be helpful to find the ideal subject selection guidance method.

2. SUBJECT SELECTION CRITERIA AND SELF-DETERMINATION

2.1 Subject Selection Criteria

The 2015 Humanities and Science Integrated Curriculum and the 2025 High School Credit System are characterized by a student-selection-centered curriculum to enhance students' choice of subjects [11-12]. In this study, the subject selection criteria refers to the criteria that students apply when selecting subjects in each selection-oriented curriculum.

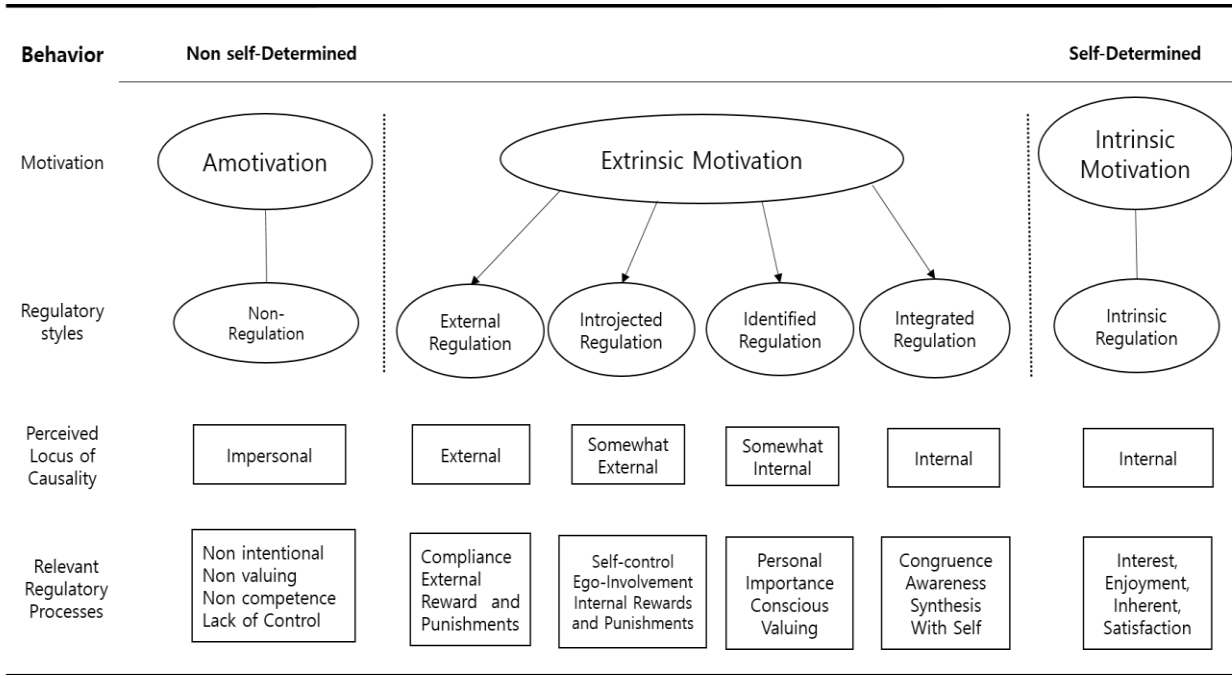
Unlike college liberal arts courses, elective subjects are not just about getting good grades. Depending on which subjects you choose, you can make a big difference in college entrance exam results and change your career path, so you need to make a careful decision. Currently, general high schools operate a liberal arts and science integrated curriculum, and the standard for dividing the former into liberal arts and sciences depends on which general and career subjects students directly select. In this changed curriculum and entrance exam, the criteria that students apply when selecting subjects are the subject selection criteria.

2.2 Self-Determination

Self-determination has the characteristic of determining the choice to the extent that one's will is used. Therefore, self-determination is accepted as a concept similar to autonomy because it is necessary to decide what action to take [13].

The degree of self-determination is the degree to which one decides for oneself. Depending on the degree of

self-determination, Deci and Ryan have identified a total of six learning motivation classification systems, which are classified into amotivation, external external regulation, introjected regulation, identified regulation, integrated regulation and intrinsic motivation in figure 1 [13].



(Ryan & Deci, 2000)

Figure 1. Classification of Motivation According to Self-Determination

When students' learning motivation types are classified in descending order from low to low self-determination intervention, amotivation with no self-determination or will for behavioral control, extrinsic regulatory motivation, imposed(introjected) regulatory motivation, identification control motivation, and integrated regulatory motivation, intrinsic motivation lies on a continuum.

Self-determination motives do not see extrinsic and intrinsic motives as being divided and opposing, but place the two motives on a single continuity and classify them sequentially according to the degree of self-determination.

3. RESEARCH METHOD

3.1 Subject Selection Criteria Scale

In this study, to analyze the degree of self-determination of the subject selection criteria, the developed subject selection criteria scale was used [10].

As shown in Table 1, the subject selection criteria scale consisted of 8 sub-factors and 34 items. Response categories ranged from 'Definitely not' (1) to 'Strongly not' (2), 'Slightly not' (3), 'Slightly yes' (4), 'Strongly agree' (5), 'Definitely yes' (6). It was done on a 6-point Likert scale.

Table 1. Subject selection criteria scale

Factor	Item No.	Item
SAT-oriented	1	Subjects suitable for reaching the lowest grade
	2	Subjects that can get good grades in the SAT
	3	Subjects designated as SAT subjects
	4	Subjects designated by the desired university
	5	Subjects that give additional points at the desired university
	6	Subjects with good grades in the mock exam
Academic achievement	7	Subjects designated in the comprehensive student record screening
	8	Subjects that overlap with school transcripts
	9	Subjects with good grades
	10	A subject with a large number of students
Ability orientation	11	Subjects suitable for my learning level
	12	Subjects that are easy to learn
	13	Subjects familiar with previous studies
Pursuit of interest	14	subject of interest
	15	my favorite subject
	16	Subjects suitable for my aptitude
	17	interesting subjects
Teacher orientation	18	my favorite teacher's subject
	19	Subjects that you think your teacher teaches well
	20	A teacher's subject that I teach the way I like
	21	Subjects from teachers popular with students
Career development	22	Subjects related to my career
	23	Subjects related to the department you wish to enter
	24	Subjects related to promising careers
	25	Subjects to help you get your desired job
	26	Subjects related to various occupations in common
Others' recommendation	27	Subjects recommended by seniors
	28	Subjects recommended by parents
	29	Subjects recommended by the teacher
	30	Subjects recommended by a friend
Subject availability	31	Courses opened through joint cooperation between schools
	32	Subjects designated by the school itself
	33	Courses opened according to class organization adjustment
	34	Courses opened in consideration of the order of each learning stage

3.2 Self-Determination Scale

Another self-determination scale was applied in this study [9]. This scale presents students' behaviors related to school work in general, such as homework, discussion/presentation during class, test preparation, and overall effort to do well in school, by item.

Then, a total of 24 items were presented and were divided into six types (amotivation, extrinsic motivation,

introjective regulation, confirmed regulation, integrated regulation, intrinsic motivation) collected through responses in the place most similar to one's own thoughts. It is a questionnaire that allows you to mark it on a 6 point rating scale. Response categories ranged from 'Definitely not' (1) to 'Strongly not' (2), 'Slightly not' (3), 'Slightly yes' (4), 'Strongly agree' (5), 'Definitely yes' (6). It was done on a 6-point Likert scale.

3.3 Correlation Analysis of Subject Selection Criteria and Self-Determination

When students select a subject, the degree of self-determination may vary according to individual differences. Therefore, considering the degree of self-determination according to the selection criteria for each subject when guiding subject selection, it can help students in career guidance. From this point of view, we would like to investigate the degree of self-determination according to the subject selection criteria.

The developed self-determination scale can be used to analyze the extent to which six types of motivation appear in the subject selection criteria items [9,13]. In addition, the degree of self-determination shown in the subject selection criteria is analyzed by calculating the correlation coefficient between the 8 factors of the subject selection criteria and the 6 factors of the self-determination scale.

4. RESULTS

4.1 Analysis of the Relationship between the Importance of Subject Selection and Self-Determination

Subject selection importance refers to the criteria (importance) that students perceive to be important before actually applying them when selecting a subject.

As shown in Table 2, the degree of self-determination was different in all items of the subject selection criteria scale. According to the degree of self-determination, among the six motives, the items showed high correlation with adjacent motives and low correlation with relatively distant motives. The degree of self-determination shows the characteristics of the distinctive qualities that classify the subject selection criteria scale items.

Table 2. The importance of subject selection and self-determination

Items	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Motivation
1	-0.139***	-0.076	0.032	0.278***	0.194***	0.027
2	-0.107*	-0.104*	0.005	0.299***	0.222***	0.073
3	-0.129**	-0.086*	-0.022	0.265***	0.212***	0.128**
4	-0.187***	-0.169***	-0.114**	0.300***	0.219***	0.150***
5	-0.133**	-0.108*	-0.073	0.250***	0.199***	0.140***
6	-0.156***	-0.064	0.019	0.290***	0.251***	0.128**
7	-0.105*	-0.001	0.075	0.317***	0.197***	0.106*
8	-0.068	0.004	0.115**	0.304***	0.226***	0.122**
9	-0.086*	0.009	0.093*	0.278***	0.201***	0.105*
10	-0.037	0.063	0.151***	0.197***	0.144***	0.058
11	-0.06	-0.065	0.091*	0.267***	0.228***	0.081
12	0.058	0.107*	0.159***	0.051	0.06	0.022
13	-0.077	0.002	0.039	0.193***	0.133**	0.069
14	-0.146***	-0.154***	-0.065	0.243***	0.215***	0.137**
15	-0.069	-0.087*	-0.043	0.176***	0.164***	0.146***
16	-0.074	-0.124**	-0.047	0.242***	0.198***	0.079

17	0.06	0.057	0.117**	0.087*	0.063	0.095*
18	0.004	0.077	0.126**	-0.04	0.021	0.145***
19	0.029	0.120**	0.192***	-0.022	-0.018	0.090*
20	0.053	0.121**	0.179***	-0.024	-0.035	0.049
21	0.105*	0.195***	0.199***	-0.084	-0.037	0.128**
22	-0.144***	-0.145***	-0.066	0.277***	0.195***	0.049
23	-0.174***	-0.139**	-0.06	0.229***	0.152***	0.043
24	-0.019	0.008	0.049	0.056	0.06	0.055
25	-0.108*	-0.133**	-0.031	0.200***	0.146***	0.077
26	-0.003	-0.007	0.091*	0.132**	0.099*	0.052
27	0.112*	0.211***	0.218***	-0.015	0.02	0.055
28	0.044	0.172***	0.212***	-0.011	0.028	0.063
29	0.033	0.122**	0.131**	0.036	0.056	0.064
30	0.144***	0.194***	0.224***	-0.045	0.015	0.086*
31	-0.006	0.076	0.082	-0.009	0.034	0.144***
32	-0.046	0.042	0.098*	-0.02	0.046	0.157***
33	0.053	0.136**	0.103*	-0.03	0.011	0.108*
34	-0.016	0.047	0.087*	0.071	0.078	0.087*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Such characteristics are well shown in Question 5, “subjects that give extra points at the desired university,” with a low degree of self-determination and Question 14, “subject of interest” with a high degree of self-determination.

In the relationship between the subject selection importance factor and self-determination presented in Table 3, the characteristics between the items were also found among the factors.

Table 3. Subject selection importance factors and self-determination

Importance factors	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Motivation
SAT-oriented	-0.196**	-0.140***	-0.036	0.388***	0.299***	0.150***
Academic achievement	-0.027	0.026	0.123**	0.201***	0.167***	0.068
Ability orientation	-0.064	-0.086	-0.004	0.221***	0.189***	0.139***
Pursuit of interest	-0.095*	0.024	0.139***	0.351***	0.245***	0.125**
Teacher orientation	0.055	0.151***	0.207***	-0.050	-0.020	0.123**
Career development	-0.108*	-0.099*	0.005	0.224***	0.165***	0.073
Others' recommendation	0.096*	0.205***	0.230***	-0.009	0.036	0.079
Subject availability	-0.004	0.088*	0.108*	0.003	0.049	0.145***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The adjacent amotivation, external regulation and introjected regulation with low self-determination among the six motives on the continuum were classified as heteronomial motive complexes, while identified regulation, integrated regulation and intrinsic motives with strong self-determination were classified as

autonomic motive complexes [9].

In the subject selection criteria, the strong external factor 'others' recommendation' reflects this classification well. It shows a significant positive (+) relationship in the heteronomial complex, and a weak correlation in the autonomic complex. Conversely, in the subject selection criteria, the 'SAT' factor with a strong internal factor showed a significant positive relationship in the autonomous motive complex, and showed a weak correlation in the heteronomial motive complex with a strong extrinsic factor.

4.2 Analysis of Subject Selection Implementation and Self-Determination Relationship

The implementation level of subject selection refers to the criteria that students actually apply when selecting subjects. As shown in Table 4, the degree of self-determination was different in all items of the subject selection criteria scale.

Implementation also shows characteristics similar to importance. According to the degree of self-determination, among the six motives, the items showed high correlation with adjacent motives and low correlation with relatively distant motives. The degree of self-determination shows the characteristics of the distinctive qualities that classify the subject selection criteria scale items.

Table 4. The implementation of subject selection and self-determination

Items	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Motivation
1	-0.174***	-0.076	-0.020	0.289***	0.242***	0.054
2	-0.191***	-0.109*	0.009	0.343***	0.266***	0.119**
3	-0.194***	-0.111*	-0.031	0.274***	0.258***	0.185***
4	-0.219***	-0.170***	-0.100*	0.283***	0.247***	0.166***
5	-0.166***	-0.064	-0.013	0.270***	0.250***	0.223***
6	-0.171***	-0.118**	-0.041	0.272***	0.280***	0.149***
7	-0.147***	-0.016	0.073	0.320***	0.255***	0.154***
8	-0.145***	-0.047	0.087*	0.311***	0.259***	0.139**
9	-0.130**	0.024	0.104*	0.312***	0.227***	0.157***
10	-0.068	0.018	0.128**	0.219***	0.190***	0.054
11	-0.100*	-0.089*	-0.010	0.234***	0.178***	0.115**
12	-0.068	0.046	0.088*	0.136**	0.095*	0.059
13	-0.120**	0.006	0.034	0.224***	0.158***	0.125**
14	-0.165***	-0.179***	-0.161***	0.174***	0.166***	0.152**
15	-0.158***	-0.131**	-0.073	0.166***	0.145***	0.182***
16	-0.140***	-0.130**	-0.090*	0.201***	0.144***	0.112*
17	0.011	-0.003	0.029	0.074	0.044	0.092*
18	0.010	0.049	0.130**	-0.042	0.013	0.106*
19	0.003	0.090*	0.113*	0.016	0.000	0.050

20	0.006	0.090*	0.148***	-0.012	-0.008	0.053
21	0.092*	0.207***	0.183***	-0.05	-0.019	0.099*
22	-0.209***	-0.184***	-0.077	0.288***	0.232***	0.088*
23	-0.222	-0.189***	-0.058	0.282***	0.242***	0.107*
24	-0.077	-0.021	0.001	0.148***	0.170***	0.114**
25	-0.159***	-0.161***	-0.023	0.253***	0.186***	0.113*
26	-0.055	-0.025	0.060	0.155***	0.168***	0.115**
27	0.056	0.212***	0.195***	0.036	0.077	0.078
28	0.063	0.201***	0.190***	0.015	0.030	0.048
29	0.005	0.091*	0.108*	0.122**	0.136**	0.118**
30	0.139***	0.236***	0.228***	0.031	0.078	0.047
31	0.003	0.100*	0.114**	0.057	0.109*	0.130**
32	-0.037	0.078	0.116**	0.090*	0.132**	0.154***
33	0.055	0.089*	0.135**	0.061	0.098*	0.106*
34	0.049	0.108*	0.112*	0.05	0.099*	0.086*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Item 14, 'subject of interest', showed a significant negative (-) correlation with the heteronomous motivation complex with a strong degree of self-determination and a significant positive (+) relationship with the autonomous motivation complex. It also shows that the degree of self-determination varies according to the individual differences of the students for each item.

Table 5 shows the characteristics of each item in the relationship between the implementation factor of subject selection and self-determination performance.

Table 5. Subject selection implementation factors and self-determination

Implementation factors	Amotivation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Motivation
SAT-oriented	-0.247***	-0.143***	-0.043	0.384***	0.343***	0.199***
Academic achievement	-0.155***	-0.006	0.123**	0.368***	0.294***	0.160***
Ability orientation	-0.118**	-0.011	0.05	0.242***	0.175***	0.121**
Pursuit of interest	-0.130**	-0.128**	-0.085	0.179***	0.145***	0.158***
Teacher orientation	0.032	0.129**	0.173***	-0.026	-0.004	0.093*
Career development	-0.183***	-0.144***	-0.022	0.289***	0.259***	0.141***
Others' recommendation	0.076	0.217***	0.212***	0.062	0.096*	0.088*
Subject availability	0.021	0.110*	0.140***	0.075	0.128**	0.139***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In the implementation chart of subject selection, the 'career development' factor with a strong internal factor showed a significant positive (+) relationship in the autonomous motive complex, and a significant negative (-) correlation in the heteronomous motive complex. Also, a correlation similar to that of the 'career development' factor was found in the 'SAT' factor.

4.3 Analysis of the Difference in the Degree of Self-Determination between the Importance of Subject Selection and Its Implementation

By analyzing the difference in the degree of self-determination between items and factors and by motive according to importance and implementation, it is possible to check how the criteria recognized as important when selecting a subject change when actually selecting a subject.

In Table 6, the average, standard deviation, and self-determination level of each item's importance and implementation are presented.

Table 6. Differences in the self-determination of importance and implementation

Item	Average		S.E		Level	
	Importance	Implementation	Importance	Implementation	Importance	Implementation
1	4.75	4.46	1.11	1.26	10	13
2	4.87	4.59	1.1	1.20	7	8
3	4.82	4.55	1.08	1.18	8	9
4	5.08	4.76	1.08	1.17	3	6
5	4.63	4.31	1.2	1.29	14	17
6	4.63	4.44	1.13	1.23	14	14
7	4.35	4.08	1.31	1.38	20	22
8	4.68	4.48	1.18	1.21	12	12
9	4.68	4.51	1.26	1.29	13	10
10	4.46	4.31	1.29	1.27	18	17
11	4.71	4.49	1.07	1.13	11	11
12	4.1	4.15	1.32	1.35	22	19
13	4.47	4.42	1.18	1.20	17	15
14	4.98	4.79	1.07	1.19	5	4
15	4.81	4.68	1.08	1.17	9	7
16	5.02	4.82	0.93	1.12	4	3
17	4.53	4.37	1.23	1.27	16	16
18	3.22	3.22	1.57	1.56	26	26
19	3.6	3.55	1.56	1.50	24	23
20	3.64	3.51	1.54	1.50	23	24
21	2.52	2.51	1.44	1.38	32	32
22	5.19	4.99	0.98	1.11	2	2
23	5.21	5	0.98	1.11	1	1
24	4.28	4.11	1.33	1.38	21	21
25	4.95	4.77	1.03	1.13	6	5
26	4.37	4.15	1.22	1.24	19	19
27	2.5	2.5	1.32	1.36	33	33
28	2.72	2.67	1.41	1.38	31	31
29	3.18	3.06	1.47	1.45	27	27
30	2.5	2.49	1.34	1.29	33	34
31	2.97	2.87	1.37	1.36	29	30
32	3.08	2.97	1.41	1.39	28	29

33	2.94	2.98	1.39	1.43	30	28
34	3.31	3.26	1.4	1.38	25	25

Except for item 27, 'subjects recommended by seniors', the degree of self-determination of importance and implementation was different in all items. It can be seen that the criteria that are important when selecting a subject change when actually selecting a subject.

The standard deviation of item 18 'my favorite teacher's subject' was found to have the highest level of importance and implementation. Some students tend to be overly dependent on their teachers for subject selection. In terms of importance and implementation, item 23, 'Subjects related to the department you wish to enter' showed the highest degree of self-determination. In subject selection, internal factors related to one's career are more important than external factors.

Table 7 and figure 2 present the mean and standard deviation of the degree of self-determination of importance and performance for each factor.

Table 7. Differences in the self-determination of importance and implementation by factor

factor	Self Determination			
	Importance		Implementation	
	M	SD	M	SD
SAT-oriented	4.833	.883	4.519	.916
Academic achievement	4.395	.898	4.667	1.004
Ability orientation	4.833	.883	4.354	.988
Pursuit of interest	4.540	.981	4.345	1.019
Teacher orientation	3.244	1.280	3.197	1.222
Career development	4.803	.837	4.605	.908
Others' recommendation	2.725	1.172	2.678	1.154
Subject availability	3.074	1.188	3.020	1.187

As shown in Figure 2, the difference in the degree of self-determination for each factor reflects the characteristics of each item. The degree of self-determination of the SAT-oriented factor was highest in importance, but the academic achievement factor was the highest in the implementation chart. And the career factors that considered subjects related to the desired job as important were high. On the other hand, the factor of encouraging others had the lowest degree of self-determination in both importance and performance. It can be seen that autonomous subject selection is preferred over selection based on external factors in subject selection.

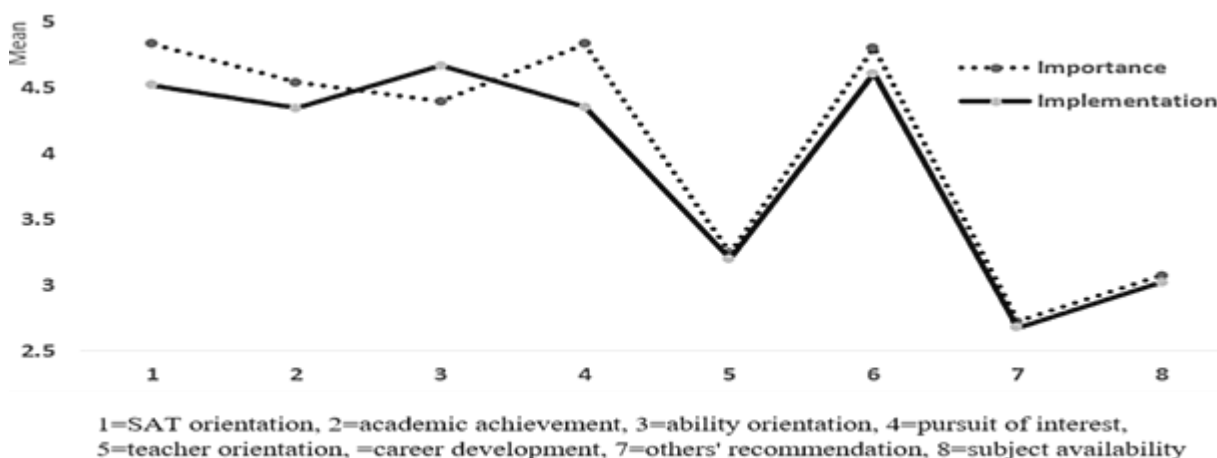


Figure 2. Self-Determination Average Chart of Importance and Implementation by Factor

5. CONCLUSION AND IMPLICATIONS

Self-determination affecting subject choice is another name for autonomy. The act of choice itself presupposes self-determination and responsibility. The selection of subjects that students are responsible for requires more attention and guidance from teachers. From this point of view, the purpose of this study is to analyze the difference in the degree of self-determination between importance, which is a criterion considered important when selecting subjects, and implementation, which is a criterion applied when actually selecting subjects, to find a customized course selection guidance method that takes into account individual differences.

In the analysis of the degree of self-determination of importance and implementation presented as a research question, the degree of difference was found to be different for each item and factor. It can be confirmed that the degree of self-determination of subject selection differs according to individual differences, and accordingly, customized subject selection guidance considering individual differences is necessary. In the course selection, the intrinsic motivation was emphasized, but the practical subject selection that did not ignore the factors affecting college admission was reflected in the difference between importance and implementation. Above all, the fact that the 'SAT' factor shows the highest positive correlation with identification control in importance and performance reflects the realistic problem in the general high school of going to college. It is possible to predict how much influence the college admissions process has on subject selection.

An interesting phenomenon revealed as an incidental result of the study was that the six motives were not clearly distinguished according to the degree of self-determination on a continuum, as revealed in the previous study [9]. In this study, unlike the self-determination theory and the previous research results [9], the degree of self-determination for each subject selection criterion in the autonomous motivation complex was found to be the highest in most identified regulation. As suggested in the previous study [9], the concept of amotivation, external regulation, and introjective regulation are maintained in terms of self-determination, but identified regulation, integrated regulation, and intrinsic motivation can be combined into an autonomous motivation complex. Considering these characteristics, if students show any one of identified regulation, integrated regulation, and intrinsic motivation when selecting subjects, it can be interpreted as subject selection by self-regulation.

Although this study is meaningful as the first study to analyze the difference in the degree of self-determination according to the subject selection criteria of high school students, the following limitations and

research tasks will be suggested.

First, although this study is meaningful as a study on the subject choice guidance method considering the individual differences and autonomy of students, it can be pointed out as a limitation of the study that it overlooks the importance of subject selection and the time lag in implementation.

Second, in the relationship between the subject selection criterion factor and the degree of self-determination, the standard deviation of the teacher factor was high, indicating that the teacher had a large influence on the subject selection of some students. It is judged that the larger the standard deviation, the more extrinsic factors than intrinsic factors influence the subject selection criteria. While respecting the student's right to choose, it is necessary to meticulously understand the students' career paths, aptitudes, interests, and abilities, then expand the range of customized subject selections taking into account individual differences, and provide professional career counseling and appropriate teacher intervention.

Third, although students place importance on the intrinsic motivational interest-seeking factor in subject selection, the degree of self-determination was high in the subject selection criteria related to various occupations by item. It is necessary to operate a curriculum that can open various subjects taking into account individual differences.

Finally, students with a low degree of self-determination, that is, students with strong extrinsic motivation, cannot overcome failure without external help, and as a result, they have difficulties in coping or adapting passively [14]. Therefore, if a subject is selected as a factor of 'others' recommendation', careful guidance and counseling are needed to internalize extrinsic motivation in the adaptation process after selection.

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