

Analysis of perceptions of school life among elementary, middle, and high school students in Daejeon

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Overview

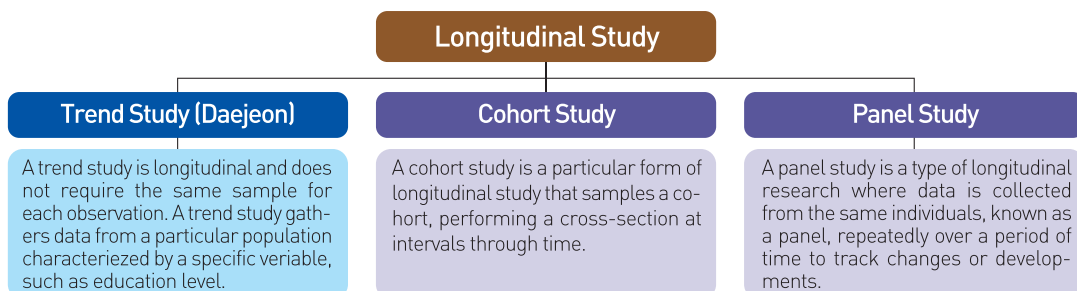
- This issue examined the overall perceptions of elementary, middle, and high school students in Daejeon toward school life using student data from the 1st Preliminary Survey of the 2023 Daejeon Education Longitudinal Study. Descriptive statistics and cross-tabulation analysis were used to comparatively analyze by students' school level and background variables (gender, residence).
- Subjects of analysis:** 8,646 students participated in the 1st Preliminary Survey of the 2023 Daejeon Education Longitudinal Study (5th grade in elementary school: 4,172, 2nd year in middle school: 2,681, 2nd year in high school: 1,793)
- Data collection period:** May 11 – 18, 2023.
- Content of analysis:** Analyzed 18 out of 143 items for students in the 1st Preliminary Survey of the 2023 Daejeon Education Longitudinal Study.

Domain	Item ¹⁾
1. School	① I enjoy going to school.
2. Relationships	② I get along well with friends at school. ③ My homeroom teacher shows me love and interest.
3. Teacher expertise	④ The teachers teach diligently in class. ⑤ The teachers check how well students understand the lesson during class.
4. Learning habits and attitudes	⑥ I pay attention and listen in class for most subjects. ⑦ I actively participate in experiments/exercises/discussions/small-group activities in class. ⑧ I ask questions about the lesson during or before/after class. ⑨ I review what I learned in class. ⑩ I preview what I will learn in class.
5. School facilities and environment	⑪ There is a classroom environment where digital lessons can be conducted. ⑫ There is enough space for rest on school grounds. ⑬ The classrooms are well-equipped with air conditioning and heating. ⑭ The area around school and the way to and from school are safe from traffic accidents. ⑮ Measures can be taken properly in case of disasters such as earthquakes, typhoons, and fires. ⑯ Our school meals are satisfactory.
6. After-school activities	⑰ Participation in after-school activities. ⑱ After-school programs are being faithfully implemented.

Daejeon Education Longitudinal Study

Types of longitudinal study

- Trend study** (repeated cross-sectional study) with the characteristics of panel research, which overcomes the shortcomings of panel research while **maximizing actual effectiveness compared to budget**
- Developed items with high explanatory power and yet fewer items than other city/provincial offices of education to reduce the burden on site. **Can horizontally compare items with other cities/provinces and vertically compare items by year**
- Can be analyzed in association with data from the 'Longitudinal Study on Support for Student Growth and Adaptation System' (2022-2023) in response to COVID-19
- Performance briefing sessions (annual briefing sessions, academic conferences, etc.) are held to disclose research findings and enhance research competencies of on-site faculty



1) 5-point Likert scale; Strongly disagree (1), disagree (2), Neutral (3), Agree (4), Strongly agree (5)

1 School

Perceive
that they
enjoy
going to
school

① I enjoy going to school

- **Elementary, middle, and high school students in Daejeon generally enjoy going to school** (overall mean 3.83, SD 1.12). Elementary school students enjoy going to school the most, followed by middle school students and high school students.

<Table 1-1> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more	Response rate for 'Strongly disagree'
Elementary	3.94	1.14	4,172	68.4%	4.9%
Middle	3.79	1.12	2,681	63.5%	4.6%
High	3.75	1.09	1,793	63.1%	4.8%
Overall	3.83	1.12	8,646	65.0%	4.8%

- <Table 1-2> shows the results of analyzing differences by 'gender' of elementary, middle, and high school students. There was statistical significance in elementary school students at $\chi^2=35.19$ (significance level .001), middle school students at $\chi^2=12.69$ (significance level .05), and high school students at $\chi^2=14.35$ (significance level .05).
- Considering the response rate for 'Agree' or more, in **elementary and middle school, female students enjoyed going to school more than male students**, whereas in **high school, male students enjoy going to school more than female students**.

<Table 1-2> Results of gender difference analysis

Subject	Gender		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Overall	χ^2
5th grade in elementary school	Female students	Actual frequency	62	113	417	585	865	2,042	35.19***
		Row percentage	3.04	5.53	20.42	28.65	42.36	100	
	Male students	Actual frequency	143	141	444	552	850	2,130	
		Row percentage	6.71	6.62	20.85	25.92	39.91	100	
2nd year in middle school	Female students	Actual frequency	49	109	340	411	488	1,397	12.69*
		Row percentage	3.51	7.80	24.34	29.42	34.93	100	
	Male students	Actual frequency	73	110	297	409	395	1,284	
		Row percentage	5.69	8.57	23.13	31.85	30.76	100	
2nd year in high school	Female students	Actual frequency	33	67	212	289	196	797	14.35*
		Row percentage	4.14	8.41	26.60	36.26	24.59	100	
	Male students	Actual frequency	53	61	235	334	313	996	
		Row percentage	5.32	6.12	23.59	33.53	31.43	100	

* $p \leq .05$, *** $p \leq .001$



Perceive that they get along well with friends and that the teachers love them

② I get along well with friends at school

- Elementary, middle, and high school students in Daejeon generally get along well with friends at school. Elementary school students showed the highest mean at 4.22, followed by middle school students and high school students.

<Table 2-1> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.22	0.92	4,172	79.3%
Middle	4.09	0.90	2,681	76.2%
High	4.02	0.87	1,793	76.3%
Overall	4.11	0.90	8,646	77.3%

③ My homeroom teacher shows me love and interest

- Regarding whether 'My homeroom teacher shows me love and interest', students in Daejeon generally have positive perceptions toward their relationship with their homeroom teachers. Elementary school students perceive their relationship with teachers the most positively.

<Table 2-2> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.07	0.94	4,172	71.4%
Middle	3.92	0.95	2,681	66.1%
High	4.00	0.87	1,793	73.2%
Overall	4.00	0.92	8,646	69.2%

- <Table 2-3> shows the results of analyzing differences by 'gender', and there was statistical significance. Considering the response rate for 'Agree' or more, in all of elementary, middle, and high school students, female students more positively perceive their relationship with the teachers than male students.

<Table 2-3> Results of gender difference analysis

Subject	Gender		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Overall	χ^2
5th grade in elementary school	Female students	Actual frequency	19	47	444	614	918	2,042	38.93***
		Row percentage	0.93	2.30	21.74	30.07	44.96	100	
	Male students	Actual frequency	34	76	574	665	781	2,130	
		Row percentage	1.60	3.57	26.95	31.22	36.67	100	
2nd year in middle school	Female students	Actual frequency	18	41	377	461	500	1,397	16.48**
		Row percentage	1.29	2.93	26.99	33.00	35.79	100	
	Male students	Actual frequency	28	44	402	433	377	1,284	
		Row percentage	2.18	3.43	31.31	33.72	29.36	100	
2nd year in high school	Female students	Actual frequency	7	11	171	317	291	797	20.58***
		Row percentage	0.88	1.38	21.46	39.77	36.51	100	
	Male students	Actual frequency	19	21	251	433	272	996	
		Row percentage	1.91	2.11	25.20	43.47	27.31	100	

p<.01, *p<.001

④ The teachers teach diligently in class

- Regarding whether the teachers teach diligently in class, all of elementary, middle, and high school students in Daejeon responded that they 'Strongly agree'. Elementary school students showed the highest mean at 4.8, followed by middle school students and high school students.

<Table 3-1> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.80	0.51	4,172	96.4%
Middle	4.47	0.75	2,681	89.7%
High	4.31	0.79	1,793	87.0%
Overall	4.53	0.68	8,646	91.0%

⑤ The teachers check how well students understand the lesson during class

- Regarding whether the teachers check how well students understand the lesson during class, elementary school students in Daejeon said they 'Strongly agree', and middle and high school students said they 'Agree', indicating that formative assessment is made properly during class in all school levels.

<Table 3-2> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.57	0.68	4,172	91.6%
Middle	4.10	0.89	2,681	76.6%
High	4.00	0.92	1,793	72.1%
Overall	4.22	0.83	8,646	80.1%



4

Learning
habits
and
attitudes

Pay
attention
in class
and
participate
actively,
but do
not tend
to ask
many
questions
related
to class

⑥ I pay attention and listen in class for most subjects

- Students in Daejeon generally pay attention in class. Elementary school students pay attention in class the most, followed by high school students and middle school students.

<Table 4-1> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.88	0.98	4,172	64.8%
Middle	3.66	1.01	2,681	58.9%
High	3.71	0.98	1,793	60.0%
Overall	3.75	0.99	8,646	61.2%

⑦ I actively participate in experiments / exercises / discussions / small-group activities in class

- Regarding whether they actively participate in class, students in Daejeon generally participate actively in class.

<Table 4-2> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.88	1.05	4,172	63.1%
Middle	3.64	1.03	2,681	56.8%
High	3.65	0.99	1,793	56.3%
Overall	3.72	1.02	8,646	58.7%

⑧ I ask questions about the lesson during or before / after class

- Regarding whether they ask questions about the lesson during or before/after class, students in Daejeon showed a 'neutral' attitude in asking questions.

<Table 4-3> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.35	1.16	4,172	44.2%
Middle	2.95	1.15	2,681	29.8%
High	3.13	1.14	1,793	36.8%
Overall	3.14	1.15	8,646	36.3%

⑨ I review what I learned in class

- Regarding whether they review what they learned in class, **students in Daejeon are generally 'neutral'** (overall mean 3.26, SD 1.13). Elementary school students review their lesson the most, followed by high school students and middle school students.

<Table 4-4> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.33	1.20	4,172	43.0%
Middle	3.17	1.12	2,681	37.3%
High	3.28	1.07	1,793	41.8%
Overall	3.26	1.13	8,646	40.7%

- <Table 4-5> shows the results of analyzing differences by 'gender' of elementary and middle school students. Considering the response rate for 'Agree' or more, **female students in elementary and middle school review their lessons more than male students.**

<Table 4-5> Results of gender difference analysis

Subject	Gender		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Overall	χ^2
5th grade in elementary school	Female students	Actual frequency	112	332	656	485	457	2,042	34.09***
		Row percentage	5.48	16.26	32.13	23.75	22.38	100	
	Male students	Actual frequency	195	384	701	400	450	2,130	
		Row percentage	9.15	18.03	32.91	18.78	21.13	100	
2nd year in middle school	Female students	Actual frequency	82	269	501	343	202	1,397	10.47*
		Row percentage	5.87	19.26	35.86	24.55	14.46	100	
	Male students	Actual frequency	106	280	442	279	177	1,284	
		Row percentage	8.26	21.81	34.42	21.73	13.79	100	

* $p \leq .05$, *** $p \leq .001$

⑩ I preview what I will learn in class

- Regarding whether they preview what they will learn in class, **students in Daejeon are generally 'neutral'** (overall mean 3.15, SD 1.20). Elementary school students preview their lesson the most, followed by middle school students and high school students.

<Table 4-6> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.48	1.31	4,172	51.3%
Middle	3.05	1.17	2,681	34.8%
High	2.91	1.12	1,793	29.3%
Overall	3.15	1.20	8,646	38.5%

5

School facilities and environment

Satisfied with digital learning environment and air conditioning and heating facilities in the classroom / Neutral about rest area on school grounds

⑪ There is a classroom environment where digital lessons can be conducted

- Regarding whether there is a classroom environment established where digital lessons can be conducted, elementary, middle, and high school students showed the mean of 3.91(SD 0.94), indicating that **students in Daejeon perceive that the environment for digital learning is established. Elementary school students the most highly perceive the digital learning environment, followed by high school students and middle school students.**

<Table 5-1> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.10	0.90	4,172	72.8%
Middle	3.80	0.95	2,681	64.6%
High	3.83	0.97	1,793	67.0%
Overall	3.91	0.94	8,646	68.1%

⑫ There is enough space for rest on school grounds

- Regarding whether there is enough space for rest on school grounds, elementary, middle, and high school **students in Daejeon are generally 'neutral'.** Elementary school students are the most satisfied with rest area, followed by middle school students and high school students.

<Table 5-2> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	3.86	1.12	4,172	63.5%
Middle	3.39	1.12	2,681	48.3%
High	3.19	1.17	1,793	40.8%
Overall	3.48	1.14	8,646	50.9%

⑬ The classrooms are well-equipped with air conditioning and heating

- Regarding air conditioning and heating facilities in the classroom, **students in Daejeon are satisfied with air conditioning and heating facilities in the classroom. In particular, elementary school students showed the mean of 4.14, showing the most satisfaction with classroom air conditioning and heating facilities.**

<Table 5-3> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.14	0.97	4,172	74.2%
Middle	3.57	1.12	2,681	58.3%
High	3.61	1.09	1,793	59.6%
Overall	3.77	1.06	8,646	64.0%

⑭ The area around school and the way to and from school are safe from traffic accidents

- Students in Daejeon perceive that the area around school and the way to and from school are safe from traffic accidents. Elementary school students the most highly perceive the safety, followed by middle school students and high school students.

< Table 5-4 > Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.27	0.88	4,172	80.5%
Middle	3.87	0.98	2,681	66.9%
High	3.62	1.04	1,793	56.7%
Overall	3.92	0.97	8,646	68.0%

- < Table 5-5 > shows the results of comparing the correlation between 'gender' and 'traffic safety' of elementary, middle, and high school students. Considering the response rate for 'Agree' or more, **in elementary school, female students think they are safer from traffic accidents than male students, and in middle and high school, male students think they are safer from traffic accidents than female students.**

< Table 5-5 > Results of gender difference analysis

Subject	Gender		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Overall	χ^2
5th grade in elementary school	Female students	Actual frequency	10	58	315	654	1,005	2,042	10.84*
		Row percentage	0.49	2.84	15.43	32.03	49.22	100	
	Male students	Actual frequency	21	68	342	598	1,101	2,130	
		Row percentage	0.99	3.19	16.06	28.08	51.69	100	
2nd year in middle school	Female students	Actual frequency	30	91	350	561	365	1,397	29.12***
		Row percentage	2.15	6.51	25.05	40.16	26.13	100	
	Male students	Actual frequency	24	64	328	422	446	1,284	
		Row percentage	1.87	4.98	25.55	32.87	34.74	100	
2nd year in high school	Female students	Actual frequency	19	101	248	281	148	797	18.36*
		Row percentage	2.38	12.67	31.12	35.26	18.57	100	
	Male students	Actual frequency	36	89	284	335	252	996	
		Row percentage	3.61	8.94	28.51	33.63	25.30	100	

*p≤.05, ***p≤.001

⑮ In case of disasters such as earthquakes, typhoons, and fires, it can be handled well

- Students in Daejeon think that they can handle properly in case of disasters. Elementary school students most highly perceive this, followed by middle school students and high school students.

< Table 5-6 > Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.37	0.83	4,172	84.6%
Middle	3.86	0.89	2,681	66.0%
High	3.74	0.90	1,793	60.1%
Overall	3.99	0.87	8,646	70.2%

5

School facilities and environment

Satisfied with school meals

6

After-school activities

Students participating in after-school activities are satisfied with after-school programs

⑩ Our school meals are satisfactory

- Students in Daejeon are satisfied with their school meals. In particular, elementary school students are the most satisfied with their school meals with the mean of 4.09.

<Table 5-7> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.09	1.10	4,172	73.1%
Middle	3.68	1.16	2,681	59.4%
High	3.66	1.06	1,793	60.2%
Overall	3.81	1.11	8,646	64.2%

⑪ Participation in after-school activities

- 3,970 (45.9%) out of 8,645 survey participants participated in after-school activities. Most were in elementary school (54.6%), followed by high school (42.4%) and middle school (34.8%).

<Table 6-1> Comparison of means by school level

By school level	Participating (%)	Not participating (%)	No. of cases (%)
Elementary	2,277 (54.6)	1,895 (45.4)	4,172 (100)
Middle	933 (34.8)	1,748 (65.2)	2,681 (100)
High	760 (42.4)	1,033 (57.6)	1,793 (100)
Overall	3,970 (45.9%)	4,676 (54.1%)	8,646 (100)

⑫ After-school programs are being faithfully implemented

- Students participating in after-school activities are generally satisfied with after-school programs. In particular, elementary school students are the most satisfied with after-school programs.

<Table 6-2> Comparison of means by school level

By school level	Mean	SD	No. of cases	Response rate for 'Agree' or more
Elementary	4.17	1.01	2,277	74.6%
Middle	3.73	0.92	933	56.7%
High	3.72	0.90	760	58.9%
Overall	3.87	0.94	3,970	63.4%



Results

- The results of analyzing the overall perceptions of elementary, middle, and high school students in Daejeon toward school life are as follows.

Domain	Content of analysis	Results of analysis
1. School	① Joy of school life	• Students in Daejeon generally enjoy going to school. • Female students in elementary and middle school enjoy going to school more than male students, and male students in high school enjoy going to school more than female students.
2. Relation- ships	② Relationship with friends at school	• Students in Daejeon consider themselves to be getting along well with friends. • Female students in middle school consider themselves to be getting along well with friends more than male students.
	③ Relationship with homeroom teacher	• Students in Daejeon generally have positive perceptions toward their relationship with homeroom teachers. • Female students highly perceive their relationship with teachers more than male students in all of elementary, middle, and high school.
3. Teacher expertise	④ Teacher's teaching expertise	• Elementary, middle, and high school students in Daejeon think that their teachers teach diligently in class. • Elementary school students most highly perceive this, followed by middle school students and high school students.
	⑤ Teacher's assessment expertise	• Students perceive that the teachers check how well students understand the lesson during class. • Formative assessment is made well in class at all school levels.
4. Learning habits and attitudes	⑥ Paying attention in class	• Students in Daejeon are generally paying attention in class.
	⑦ Participating in class	• Students in Daejeon are generally participating actively in class.
	⑧ Asking questions	• Students in Daejeon are average level about asking questions in class. • Male students ask more questions than female students in all of elementary, middle, and high school.
	⑨ Review	• Students in Daejeon generally consider their reviewing habits to be at a 'moderate' level.
	⑩ Preview	• Students in Daejeon generally consider their habit of preparing for lessons to be 'average'.
5. School facilities and environ- ment	⑪ Digital learning environment	• Students in Daejeon perceive that they have an environment established for digital learning.
	⑫ Rest area on school grounds	• Students in Daejeon generally perceive the school's relaxation spaces as 'average'.
	⑬ Air conditioning and heating facilities	• Students in Daejeon are generally satisfied with air conditioning and heating facilities in the classroom.
	⑭ Traffic safety	• Students in Daejeon perceive that the areas around their school and the routes to and from school are safe from traffic accidents.
	⑮ Disaster response	• Students in Daejeon think that they can satisfactorily handle disasters when they occur.
	⑯ School meals	• Students in Daejeon are satisfied with school meals.
6. After- school activities	⑰ Participation in after-school activities	• Out of 8,645 survey participants, elementary school students (54.6%) participate the most in after-school activities, followed by high school students (42.4%) and middle school students (34.8%).
	⑱ After-school programs	• Students participating in after-school programs are satisfied with after-school programs.

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