

## A Preliminary Study of the School and Family Environment of Japanese Junior High School and High School Students

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### Abstract

The present study was conducted as a preliminary analysis of a 3-year longitudinal Global COE student survey. A questionnaire survey was conducted with 397 junior high school students and 484 high school students. From the result of bivariate correlational analysis, it was indicated that some differences between junior high school students and high school students exist between the relational elements of the environment (parental involvement, family relationship, student-teacher relationship, classroom disorderliness) and outcome variables such as academic achievement and quality of life. Our study also discusses the implications for future analysis using longitudinal data.

**Key words:** School Environment, Family Environment, Academic Achievement, Quality of Life

For some time now, the widening gaps in the quality of the environment where developing person is embedded have been identified as a serious social problem in Japan. Researchers and policy makers are seeking ways to close these gaps, and in order to do so, they consider it imperative to reveal the reality of these disparities, and to analyze the possible subsequent problems that they could afflict children and youth. Therefore, an analysis of how and why these gaps are generated, and what effects children experience as a result of them is necessary, but has yet to be undertaken.

Gaps among school-aged children have drawn considerable societal attention of late, because they are considered to be a possible root of other widening gaps in society. This calls for the need to analyze the process that creates these gaps among school-aged children. The conceptual model that would best explain this process may be constructed by referring to the NICHD Early Child Care Research Network's Study (NICHD ECCRN, 2002). Their model proposes "better care-quality, [and] better outcomes for young children", and as they divide "care-quality" into two elements, *structure* and *process*, they examine the effect model of "*structure* → *process* → *outcome*" in a child-care setting (NICHD ECCRN, 2002). In

this model, structure and process represent distal and proximal characteristics of environment, respectively (Friedman & Amadeo, 1999; NICHD ECCRN, 2002). This is a mediation effect model, where *process* factors experienced by children (proximal), have direct effects on them, whereas *structural* factors, which are not experienced by children (distal), have an indirect effect through process factors.

The home and school environment are two prominent and influential contexts for school-aged children; therefore, it is necessary to consider both environments when analyzing the model. Structural elements, also referred to as constructive elements, include the family structure and socio-economic status as constructive familial elements. School system and education level of teachers could be categorized as constructive school elements. Process elements include the features of relationships between school-aged children and the people who surround them, such as parental involvement, parenting style, and student-teacher relationship. Lastly, the outcome features of school-aged children include academic achievement, a key developmental outcome for school-aged children, and overall satisfaction in their everyday life.

Findings from the Out-of-school Educational Activity Survey (Benesse Educational Research & Development Center, 2009) show that high-income families can pay up to triple that of the amount of low-income families for extra-curricular educational activities. This may lead to differences in children’s experiences, both in terms of quality and quantity, eventually resulting in developmental gaps.

There have been several studies examining the relationship between structural elements and process elements. For example, in their study of poverty and maternal responsiveness, Evans, Boxhill, and Pinkava (2008) showed a link between poverty and maternal responsiveness, with maternal stress and social networks as mediating factors. At the same time, studies have analyzed the relationship between process elements and outcome variables. From the result of their meta-analysis on the extant research on parental involvement among middle school students, Hill and Tyson (2009) concluded that parental involvement and academic achievement were in a positive relationship, with the exception of homework help. Among the types of involvement, academic socialization had the strongest positive relationship with the academic achievement of middle school students (Hill & Tyson, 2009). A fair amount of studies have been conducted on the relationship between socioeconomic status (structural elements) and academic achievement (outcomes). In his meta-analysis, Sirin (2005) reviewed journal articles on socio-economic status and academic achievement published between 1990 and 2000, and concluded that the family’s socio-economic status is the most influential factor on a student’s academic achievement.

**Present Study**

Based on these existing research findings, we constructed the conceptual model shown in Figure 1. Constructive elements and relational elements are both divided into “home/family” and “school” sub-categories, since these are substantial environments for school aged children, as was mentioned earlier. We posit that constructive home/family elements are directly related to relational home/family elements, and constructive school elements are directly related to relational school elements, but this may be interchangeable; i.e.,

constructive home/family elements may be linked to relational school elements. The relational elements then connect to developmental outcomes. In our study, academic achievement and general life satisfaction are set as developmental outcomes, since these aspects are especially significant for school-aged children.

Ours is an exploratory analysis to elucidate which relational features of junior high school and high school students are positively associated with academic achievement and general life satisfaction. The purpose of the present study, then, is to conduct a preliminary analysis in order to test this hypothetical model using data from the Global COE school survey.

**METHOD**

**Global COE School Survey**

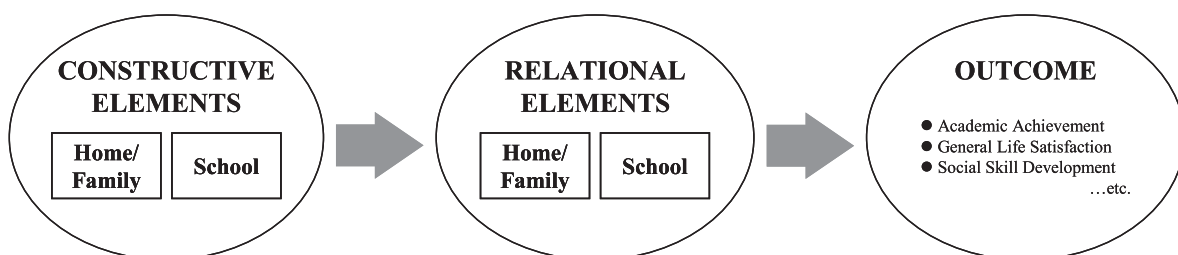
This article uses data from the Global COE School Survey, a longitudinal survey begun in 2008. The candidate schools for this survey were contacted by a letter that introduced the Global COE School Survey Project. First year students from three high schools and three junior high schools agreed to participate in the 3-year longitudinal study and were registered as a sample group. Their parents and classroom teachers answered a questionnaire every year. This article uses data obtained when these students were in their first year.

**Participants**

The sample group included 397 first-year junior high school students (boys: 45.9%, girls: 54.1%) and 484 first-year high school students (boys: 52.9%, girls: 47.1%). The students’ age ranged from 12 to 14 ( $M = 12.9$ ;  $SD = .31$ ) in junior high school and 14 to 17 ( $M = 15.9$ ;  $SD = .27$ ) in high school. Students’ parents and classroom teachers were also included in the study sample.

**Procedure**

Questionnaires were used to collect data. A questionnaire about family demographics, school, activities, and quality of life was distributed to each student in the class. Students completed the questionnaire and returned it to their classroom teachers to collect. Classroom teachers also completed questionnaires about themselves and their classes. Teachers in charge of the



**Figure 1** Conceptual Model

survey completed questionnaires about the school system and demographics. In addition, each student took home a packet containing instructions, a consent form, and questionnaires for their primary caregiver and secondary caregiver to complete independently. After completing the questionnaire, parents sealed the questionnaire in envelopes and returned them to classroom teachers for collection. Participation for this survey was totally voluntary, and those who agreed to participate signed a consent form before filling out the questionnaire.

## Measures

### *Process features: Home environment*

**Parental Involvement:** Parental involvement was measured by 18 items that were originally developed for this survey. Students answered each item separately for each parent, using a 5-point Likert scale ranging from 1 = never to 5 = always. These items are tentatively grouped into three major categories, namely, *academic*, *social life involvement*, and *general parental attitude*. There are 6 items regarding academic involvement, 2 items regarding *Parents' academic surveillance* ("Encourages me/insists that I study (e.g., "Asks 'Have you done your homework yet?'," "Checks my exams and report cards every time."), 3 items regarding *Parents' academic coaching* (e.g., "Helps me with homework, exam preparations", "Helps me with planning study schedule for exams", "Gets my study room organized"), and one *Parents' academic socialization* item ("Discusses school admission and future career with me"). Regarding parental involvement in children's social life, there are six items. Three are under the heading of *Friendship* ("Knows about my close friends", "Comments on my close friends", "Discusses our (me and my friends) plans with me"), and three describe *Extra-curricular activities* ("Knows what I am doing after school/weekends", "Advises me on how to spend my time after school/weekends", "Spends time with after school/weekends"). For *General parental attitude*, there are six items, such as "Worries too much about me (reverse-coded)", "Allows me to do anything I want".

**Family Relationship:** The familial relationship was measured by 5 items that referred back to the Family Adaptation and Cohesion Scales (FACES-III; Olson, Porter, & Levee, 1985; Sadaki, Kayano, & Okada, 1992; Sugawara, Yagishita, Takuma, Koizumi, Sechiyama, Sugawara, & Kitamura, 2002). Students answered each question using a 5-point Likert scale. Internal consistencies of  $\alpha = .89$  were found both in the junior high school and high school sample, which were at an acceptable level. The total score of five items yielded the indicator of the family relationship in which the higher the score, better the family relationship.

### *Process features: School environment*

**Student-Teacher relationship:** Students answered three items concerning the student-teacher relationship with a 4-point Likert Scale ranging from 1(disagree) to 4(agree). These items regarding their relationships with classroom teachers had internal consistencies of  $\alpha = .72$  in the junior high school sample and  $\alpha = .74$  in the high school sample, which were at an acceptable level. The total score of three items were used as the indicator of teacher-student relationship.

**Classroom disorderliness:** Students answered five items regarding classroom atmosphere on a 4-point Likert Scale ranging from 1 (disagree) to 4 (agree). The internal consistencies of these items were  $\alpha = .77$  in the junior high school sample and  $\alpha = .75$  in the high school sample, which were an acceptable level on which to construct scales. The total score of five items was used as an indicator of disorderliness in the classroom, with a higher score representing a more disorganized classroom.

### *General life satisfaction*

The self-reporting form of the Japanese version (Furusho, 2007) of Kiddo-KINDL<sup>R</sup> (Teenagers' Version: 12-16 year-old) was used to measure students' general satisfaction with life, i.e., their quality of life. The original version of Kid-KINDL was developed by Ravens-Sieberer and Bullinger (1998), and was translated by Furusho (2007) into Japanese. Twenty-four items were rated on a 5-point Likert-type scale (1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = all the time). The form was composed of six sub-groups of items relating to physical well-being, emotional well-being, self-esteem, family, friends, and everyday functioning at school. The score of these six sub-groups can be summed up to produce a total score. Scores of each sub-group and total score were then transformed to range from 0 to 100.

### *Academic achievement*

Academic achievements for core five subjects (Japanese, Math, English, Science, Social Studies) were self-reported on a 4-point Likert-type scale with 4 = good (usually 4 or 5), 3 = average (usually 3 or 4), 2 = less than average (usually 2 or 3), 1 = poor (usually 1 or 2). The numbers in the parentheses correspond to the numbers of the five-grade evaluation system, which is common in Japan. The score of these five subjects can be added up to yield a total score.

## RESULTS

### **Data analysis plan**

This article presents a preliminary analysis of the variables included in the questionnaire. We first calculated descriptive statistics for each variable, and then conducted a preliminary bivariate correlation analysis between relational features and outcomes,

namely, students' academic achievement and quality of life, to develop a foundation on which to examine the conceptual model (Figure 1).

**Descriptive Analyses**

The scores for the parental relationship are shown in Table 1. Some items showed a somewhat skewed distribution (floor/ceiling effects). For example, the item,

"Helps me with planning my study schedule for exams" received a very low mean score for both junior high school and high school students, indicating that very few parents create a study schedule with their children. In addition, in items regarding children's social lives, fathers' scores were relatively low compared to those of mothers. This implies that fathers have little information about how and with whom their children spend their time after

**Table 1** Descriptive statistics for parental involvement

		Junior High School		High School		
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
My father...	<Academic involvement>					
	Helps me with school work	2.89	1.32	1.88	1.16	
	Helps me with planning study schedule for exams	1.54	0.97	1.17	0.51	
	Gets my study room organized	1.66	1.10	1.46	0.93	
	Encourages/insists me of studying	2.69	1.42	2.02	1.21	
	Checks my exams and report cards every time	3.87	1.43	2.83	1.59	
	Discusses school admission and future career with me	2.53	1.33	2.63	1.30	
	<Social Life involvement>					
	Knows about my close friends	3.08	1.44	2.59	1.35	
	Comments on my close friends	1.71	1.03	1.52	0.91	
	Discusses our (me and my friends') plans with me	1.84	1.11	1.57	0.92	
	Knows what I am doing after school/weekends	2.84	1.43	2.80	1.48	
	Advices me of how to spend my time after school/weekends	1.98	1.12	1.70	1.02	
	Spends time together afterschool/weekends	2.83	1.34	2.26	1.17	
	<General Parental Attitude>					
	Talks to me in warm, gentle way	3.45	1.31	3.33	1.33	
	Allows me to do anything I want	3.49	1.27	3.79	1.24	
	Meddles in everything what I do	2.37	1.25	2.11	1.20	
	Is willing to have conversation with me	3.29	1.32	3.25	1.33	
	Never praises me	2.25	1.20	2.33	1.18	
	Worries too much about me	2.28	1.23	2.35	1.24	
	My mother...	<Academic involvement>				
		Helps me with school work	2.93	1.31	1.67	1.00
		Helps me with planning study schedule for exams	1.96	1.29	1.28	0.72
		Gets my study room organized	2.74	1.42	2.61	1.34
		Encourages/insists me of studying	3.69	1.31	2.87	1.42
		Checks my exams and report cards every time	4.43	1.03	3.36	1.57
Discusses school admission and future career with me		3.03	1.32	3.14	1.22	
<Social Life involvement>						
Knows about my close friends		4.09	1.10	3.58	1.23	
Comments on my close friends		2.22	1.28	1.86	1.10	
Discusses our (me and my friends') plans with me		2.56	1.40	2.02	1.19	
Knows what I am doing after school/weekends		3.64	1.38	3.53	1.41	
Advices me of how to spend my time after school/weekends		2.36	1.27	1.97	1.15	
Spends time together afterschool/weekends		3.46	1.24	2.75	1.22	
<General Parental Attitude>						
Talks to me in warm, gentle way		3.74	1.16	3.50	1.21	
Allows me to do anything I want		3.57	1.12	3.78	1.13	
Meddles in everything what I do		2.98	1.33	2.65	1.30	
Is willing to have conversation with me		3.67	1.17	3.59	1.19	
Never praises me		2.25	1.14	2.37	1.14	
Worries too much about me		2.69	1.30	2.87	1.33	

school and on weekends. On the other hand, the score of “Checks my exams and report cards every time” was high, especially among mothers of junior high school students. Considering that their children have just entered junior high school, academic performance is quite a concern for mothers.

Descriptive data for other measures are shown in Table 2. The mean score for the familial relationship was higher in junior high school (junior high school:  $M = 17.97$ ,  $SD = 4.70$ ; high school:  $M = 17.06$ ,  $SD = 4.66$ ), but both groups showed higher means than operational means (15). Regarding the student-teacher relationship, the difference in mean score between the group of junior high school students group and that of high school students group was small, but the junior high school students did score higher ( $M = 7.23$ ,  $SD = 1.97$ ), than did the high school students ( $M = 6.74$ ,  $SD = 2.23$ ). A slight difference was found between the mean score of junior high school students and high school students in terms of classroom disorderliness, for which junior high school students showed a slightly higher score ( $M = 12.80$ ,  $SD = 3.09$ ) than high school students ( $M = 12.03$ ,  $SD = 3.13$ ). The total score on the quality of life scale showed a higher score for junior high school students ( $M = 62.18$ ,  $SD = 12.56$ ) than for high school students ( $M = 59.23$ ,  $SD = 12.41$ ). Mean and standard deviations for sub-groups of items are also shown. The scores for self-esteem were the lowest among sub-groups;  $M = 35.93$ ,  $SD = 21.97$  for junior high school students and  $M = 33.86$ ,  $SD = 21.90$  for high school students. Regarding other sub-group variables, in all except for family variables, junior high school students marked higher scores than did high school students. Academic achievement scores were higher for junior high school students ( $M = 15.44$ ,  $SD = 3.44$ ) than for high school students ( $M = 13.90$ ,  $SD = 3.48$ ).

**Bivariate Analysis**

Bivariate correlation with relational features and outcome variables are shown in Table 3, 4, and 5. Table 3

shows bivariate correlation between parental involvement and academic achievement. In both junior high school and high school groups, parental encouragement related negatively to academic achievement (Father:  $r = -.10$ ,  $p < .05$  for junior high school;  $r = -.13$ ,  $p < .01$  for high school; Mother:  $r = -.13$ ,  $p < .01$  for junior high school;  $r = -.14$ ,  $p < .01$  for high school). Checking exams and report cards was positively related to academic achievement, but the father’s correlation coefficient was larger in junior high school students ( $r = .16$ ,  $p < .01$ ) than in high school students ( $r = .10$ ,  $p < .05$ ); the correlation coefficient for mothers showed no difference between junior high school and high school students ( $r = .11$ ,  $p < .05$ ).

In junior high school groups, academic achievement was positively related to certain aspects regarding the fathers’ knowing their children’s close friends ( $r = .11$ ,  $p < .05$ ) and being familiar with their after-school activities ( $r = .19$ ,  $p < .01$ ). In the high school group, the parents’ involvement in their children’s social life had little correlation with academic achievement, although mothers’ knowledge of children’s after-school activities did show a significant correlation ( $r = .10$ ,  $p < .05$ ). Spending time with fathers showed a positive relationship with academic achievement both in junior high school students ( $r = .15$ ,  $p < .01$ ) and high school students ( $r = .10$ ,  $p < .05$ ).

In terms of general attitude towards parenting, parental willingness to have conversations with their children consistently showed a positive relationship with academic achievement in both junior high school and high school groups (Father:  $r = .14$ ,  $p < .01$  for junior high school;  $r = .12$ ,  $p < .05$  for high school; Mother:  $r = .16$ ,  $p < .01$  for junior high school;  $r = .11$ ,  $p < .05$  for high school). A warm and gentle attitude toward children had a significant positive relationship with junior high school students’ academic achievement (Father:  $r = .16$ ,  $p < .01$  for junior high school;  $r = .12$ ,  $p < .05$  for high school; Mother:  $r = .15$ ,  $p < .01$  for junior high school), although this was not the case for high school students and their mothers ( $r = .08$ , *n.s.*). It is noteworthy that parental

**Table 2** Descriptive statistics for variables included in the analysis

	Junior High School		High School	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Family Relationship	17.97	4.70	17.06	4.66
Relationship with teacher	7.23	1.97	6.74	2.23
Classroom Disorderliness	12.80	3.09	12.03	3.13
Quality of life (total)	62.18	12.56	59.23	12.41
physical well-being	64.30	19.95	62.23	20.49
emotional well-being	78.34	17.31	72.99	18.80
self-esteem	35.93	21.97	33.86	21.90
family	67.71	19.76	70.84	18.12
friends	74.19	17.58	69.00	18.10
everyday functioning at school	53.04	19.08	46.10	18.29
Academic Achievement	15.44	3.44	13.90	3.48

\* QOL scores were transformed scores which range from 0 to 100.

Table 3 Bivariate Correlation between parental involvement and Academic Achievement

		Academic Achievement	
		Junior High School	High School
My father...	<Academic involvement>		
	Helps me with school work	.01	.05
	Helps me with planning study schedule for exams	.07	-.04
	Gets my study room organized	.01	.01
	Encourages/insists me of studying	-.10 *	-.13 **
	Checks my exams and report cards every time	.16 **	.10 *
	Discusses school admission and future career with me	.07	.04
	<Social Life involvement>		
	Knows about my close friends	.11 *	.05
	Comments on my close friends	.04	-.08
	Discusses our (me and my friends') plans with me	.10	-.02
	Knows what I am doing after school/weekends	.19 **	.08
	Advices me of how to spend my time after school/weekends	.05	-.05
	Spends time together afterschool/weekends	.15 **	.10 *
	<General Parental Attitude>		
	Talks to me in warm, gentle way	.16 **	.12 *
	Allows me to do anything I want	.08	.15 **
	Meddles in everything what I do	-.09	-.11 *
	Is willing to have conversation with me	.14 **	.12 *
	Never praises me	-.11 *	-.09
	Worries too much about me	-0.00	-.07
My mother...	<Academic involvement>		
	Helps me with school work	.01	.08
	Helps me with planning study schedule for exams	.09	-.06
	Gets my study room organized	.07	.07
	Encourages/insists me of studying	-.13 **	-.14 **
	Checks my exams and report cards every time	.11 *	.11 *
	Discusses school admission and future career with me	.05	.08
	<Social Life involvement>		
	Knows about my close friends	-.02	.07
	Comments on my close friends	.07	-.05
	Discusses our (me and my friends') plans with me	.07	.01
	Knows what I am doing after school/weekends	.04	.10 *
	Advices me of how to spend my time after school/weekends	-.01	-.07
	Spends time together afterschool/weekends	.07	.08
	<General Parental Attitude>		
	Talks to me in warm, gentle way	.15 **	.08
	Allows me to do anything I want	.08	.15 **
	Meddles in everything what I do	-.08	-.10 *
	Is willing to have conversation with me	.16 **	.11 *
	Never praises me	-.11 *	-.03
	Worries too much about me	.05	-.05

\*\*  $p < .01$ ; \*  $p < .05$

respect for children's autonomy was positively associated with high school students' academic achievement ( $r_s = .15$ ,  $p < .01$  for both mothers and fathers). Parental attitudes that had negative relationships with students' academic achievement differed between junior high school and high school students. For junior high school students, "not praising" was negatively related to

academic achievement ( $r_s = -.11$ ,  $p < .05$  for both mothers and fathers), whereas parental meddling had negative effects on academic achievement among high school students ( $r_s = -.11$  and  $-.10$ , for fathers and mothers respectively,  $p < .05$ ).

Bivariate correlation coefficients between other relational features and academic achievement are shown

**Table 4** Bivariate Correlation between parental involvement and Quality of Life

		Quality of Life	
		Junior High School	High School
My father...	<b>&lt;Academic involvement&gt;</b>		
	Helps me with school work	.18 **	-.00
	Helps me with planning study schedule for exams	.07	-.00
	Gets my study room organized	.10	.04
	Encourages/insists me of studying	-.13 *	-.06
	Checks my exams and report cards every time	.12 *	.06
	Discusses school admission and future career with me	.09	.12 *
	<b>&lt;Social Life involvement&gt;</b>		
	Knows about my close friends	.26 **	.23 **
	Comments on my close friends	.05	-.06
	Discusses our (me and my friends') plans with me	.19 **	.07
	Knows what I am doing after school/weekends	.22 **	.18 **
	Advices me of how to spend my time after school/weekends	.18 **	.07
	Spends time together afterschool/weekends	.28 **	.17 **
	<b>&lt;General Parental Attitude&gt;</b>		
	Talks to me in warm, gentle way	.33 **	.29 **
	Allows me to do anything I want	.27 **	.29 **
	Meddles in everything what I do	-.22 **	-.16 **
	Is willing to have conversation with me	.30 **	.28 **
	Never praises me	-.33 **	-.18 **
Worries too much about me	-.05	-.16 **	
My mother...	<b>&lt;Academic involvement&gt;</b>		
	Helps me with school work	.16 **	.05
	Helps me with planning study schedule for exams	.07	-.03
	Gets my study room organized	.17 **	-.00
	Encourages/insists me of studying	-.15 **	-.08
	Checks my exams and report cards every time	.08	.03
	Discusses school admission and future career with me	.13 *	.06
	<b>&lt;Social Life involvement&gt;</b>		
	Knows about my close friends	.29 **	.16 **
	Comments on my close friends	.02	-.06
	Discusses our (me and my friends') plans with me	.14 **	.04
	Knows what I am doing after school/weekends	.17 **	.15 **
	Advices me of how to spend my time after school/weekends	.09	.02
	Spends time together afterschool/weekends	.30 **	.11 *
	<b>&lt;General Parental Attitude&gt;</b>		
	Talks to me in warm, gentle way	.39 **	.28 **
	Allows me to do anything I want	.31 **	.27 **
	Meddles in everything what I do	-.27 **	-.25 **
	Is willing to have conversation with me	.36 **	.31 **
	Never praises me	-.36 **	-.24 **
Worries too much about me	-.12 *	-.15 **	

\*\*  $p < .01$ ; \*  $p < .05$

in Table 5. Family relationships and student-teacher relationships had consistently positive relationships with academic achievement in both junior high school and high school (Family relationship:  $r_s = .25$  and  $.21$ , for junior high school and high school respectively,  $p < .01$ ; student-teacher relationship:  $r_s = .20$  and  $.14$ , for junior high school and high school respectively,  $p < .01$ ). Classroom

disorderliness showed no relationship to academic achievement.

In Table 4, bivariate correlation between parental involvement and children's quality of life (total score) are shown. Cases of parents helping junior high school students with their school work showed a positive relationship to children's quality of life ( $r = .18$ ,  $p < .01$  for

Table 5 Bivariate Correlation between Relational Features and Outcome variables

	Academic Achievement		Quality of Life	
	Junior High School	High School	Junior High School	High School
Family relationship	.25 **	.21 **	.44 **	.37 **
Student-teacher relationship	.20 **	.14 **	.37 **	.27 **
Classroom disorderliness	.01	-.01	-.28 **	-.12 *

\*\*  $p < .01$ ; \*  $p < .05$

fathers,  $r = .16$ ,  $p < .05$  for mothers), but encouraging or insisting that children study had a negative relationship with quality of life ( $r = -.13$ ,  $p < .05$  for fathers,  $r = -.15$ ,  $p < .05$  for mothers). For junior high school students, fathers' checking of exams and report cards had positive relationship to their quality of life ( $r = .12$ ,  $p < .05$ ), and mothers organizing children's rooms and discussing their future plans had positive relationship with children's quality of life ( $r = .17$ ,  $p < .01$ ,  $r = .13$ ,  $p < .05$ , respectively). For high school students, only one aspect of parental academic involvement showed a significant relationship to quality of life; discussions with fathers about future plans showed a positive relationship ( $r = .12$ ,  $p < .05$ ).

Parents' comments on their children's close friends had no significant relationship to quality of life, but junior high school students and high school students showed the opposite relation; junior high school students displayed a positive relationship ( $r = .05$ , *n.s.* for fathers,  $r = .02$ , *n.s.* for mothers), and the high school group showed a negative relationship ( $r = -.06$ , *n.s.* for fathers and mothers). In the junior high school group, fathers' social involvement held a positive relationship with quality of life except for their "commenting on close friends." Mothers' advice on afterschool and weekend time management had no relationship to junior high school students' quality of life. For high school students, the relationship between parental social involvement and children's quality of life showed a consistent pattern between mothers and fathers. Parental familiarity with children's close friends and afterschool/weekends activities, along with spending time together, showed a positive relationship to children's quality of life. Most of general parental attitude showed a significant relationship to children's quality of life. Meddling in children's activities, criticizing, and worrying too much displayed a negative relationship to children's quality of life.

Bivariate correlations between other relational features and children's quality of life are summarized in Table 5. Relationships with family and teachers showed a positive association with children's quality of life (Family relationship:  $r_s = .44$  and  $.37$ , for junior high school and high school respectively,  $p < .01$ ; student-teacher relationship:  $r_s = .37$  and  $.27$ , for junior high school and high school respectively,  $p < .01$ ) and classroom

disorderliness showed a negative relationship to children's quality of life in both junior high school and high school students ( $r = -.28$ ,  $p < .01$  for junior high school;  $r = -.12$ ,  $p < .05$  for high school).

## DISCUSSION

The purpose of the present study is to conduct a preliminary analysis of the first-wave cross-sectional data of the G-COE School Survey, in order to prepare for the analysis of longitudinal data to follow. The result of bivariate correlational analysis showed that relational elements displayed different associations with outcome variables between junior high school and high school students.

As previous studies have shown, the effects of parental involvement on academic achievement differ depending on the child's developmental stage. For example, helping with homework becomes less effective as children grow older, and instead, academic socialization becomes a more effective strategy (Hill et. al., 2009). The present data showed similar changes between junior high school students and high school students.

Not only academic achievement, but general life satisfaction (quality of life) showed some difference in correlational patterns between junior high school and high school students. It seems that some part of junior high school students' general satisfaction with their lives depends on the child-parent relationship, especially regarding academic involvement. High school students tend to seek more autonomy, and parental attitudes that secure and promote these feelings may have a positive relationship with children's developmental outcomes.

Since the present study used cross-sectional data, it is impossible to infer the causal relationships shown in Figure 1, but several suggestive results were obtained from this preliminary analysis. Based on these results, we suggest conducting additional longitudinal data analysis to clarify these causal relationships.

## References

- Benesse Educational Research & Development Center (2009). Out-of-School Educational Activity Survey [in Japanese]. Retrieved December 15, 2009 from <http://www.benesse.jp/>



- berd/center/open/report/kyoikuhi/databook/databook\_04.html.
- Evans, G.W., Boxhill, L., & Pinkava, M. (2008). Poverty and maternal responsiveness: The role of maternal stress and social resources. *International Journal of Behavioral Development, 32*(3), 232-237.
- Friedman, S., & Amadeo, J. (1999). The child-care environment: Conceptualizations, assessments, and issues. In S.L., Friedman & T.D., Wachs (Eds.), *Measuring environment across the lifespan* (pp. 127-165). Washington, DC: American Psychological Association.
- Furusho, J. (2007). Examination of Present Condition of Japanese School Age Children: Using the Kiddo-KINDL-R Questionnaire for Measuring Health-Related Quality of Life in Children, Revised Version [in Japanese]. *Psychiatria et neurologia paediatrica Japonica, 47*(4), 233-243.
- Hill, N.E., & Tyson, D.F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology, 45*(3), 740-763.
- NICHD Early Child Care Research Network (2002). CHILD-CARE STRUCTURE → PROCESS → OUTCOME: Direct and indirect effects of child-care quality on young children's development. *Psychological Science, 13*(3), 199-206.
- Olson, D.H., Porter, J., & Levee, Y. (1985). FACES-III. Minneapolis, MN: University of Minnesota.
- Ravens-Sieberer, U., & Bullinger, M. (1998). Assessing health-related quality of life in chronically ill children with the German KINDL: first psychometric and content analytical results. *Quality of Life Research, 7*(5), 399-407.
- Sadaki, T., Kayano, J., & Okada, H. (1992). Family Functioning and Mental Health [in Japanese]. *Journal of Japanese clinical psychology, 10*(2), 74-79.
- Sirin, S.R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417-453.
- Sugawara, M., Yagishita, A., Takuma, N., Koizumi, T., Sechiyama, H., Sugawara, K., & Kitamura, T. (2002). Marital Relations and Depression in School-Age Children: Links with Family Functioning and Parental Attitudes Toward Child Rearing [in Japanese]. *The Japanese journal of educational psychology, 50*(2), 129-140.

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