Development of Children's Self-Esteem at the Elementary School and School Adjustment

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Introduction

Self-esteem is a fundamental part of a child's psychological function. Teacher approval, peer approval, and physical appearance have been identified as important sources of children's self-esteem (Harter, 1999). Self-esteem is typically conceived of as being crucial to adaptive and effective personal management in everyday life during childhood and early adolescence. For this reason, self-esteem is regarded as a core discipline in education across elementary education curricula (Baloglu & Koçak, 2006). Self-esteem development in classrooms proceeds through developmental steps in childhood which children are confronted with a progression of stage-salient developmental tasks such as formation of their self-value and achievement of effective peer relationships. As each of these developmental tasks emerge, they make efforts to adapt themselves to school atmosphere, and the quality of the resolution of the developmental challenge influences adaptation in subsequent developmental periods during childhood and early adolescence (Flynn, Cicchetti, & Rogosch, 2014). As previous literature provides plenty of research on self-esteem in childhood, we know that children's self-esteem has an influence on school adjustment.

Further, we know that children's self-esteem during childhood (age 7-12) has implications for interventions aimed at improving psychological functioning of the school atmosphere. However, results of previous self-esteem scales are not enough to survey various developmental aspects of self-esteem in childhood.

Therefore, this article provides a rationale for using the Self-Esteem Scale in classrooms at elementary schools in Japan to promote children's self-esteem within the school setting. In Japan, children enter elementary school at the age of 7 and graduate at the age of 12. In this study, we focus on children who study in the public elementary schools in Tokyo. The goal of the current study was to evaluate the Japanese version of the Self-Esteem Scale (Tokyo Metropolitan Board of Education, 2013), which was created by Tokyo prefectural educational organization to apply to elementary and junior high school students from childhood to early adolescence in Tokyo.

Why is Self-esteem in Childhood Important for School Adjustment?

Self-esteem is a key affective variable which has an effect on schooling (Betz, 1978; Felson & Trudeau, 1991), occupational (Trice & Ogden, 1987) and overall life outcomes. For individuals with lower self-esteem, they tend to see their everyday lives as less important. If one's self-esteem declines, it triggers a withdrawal from domains reputed to be important for social integration and status, such as occupation and education.

From the 1960's, developmental psychologists, e.g. Erikson (1963) and Sroufe (1978), have emphasized the role of early affective experiences in determining an individual's sense of emotional self-worth (Pelham &

Swann, 1989). The sense of self-worth will not only serve as the foundation of self-esteem, it may also influence the way adults later see themselves and their worlds (Rosenberg, 1965).

Individuals who have high self-esteem indicate more positive effects (Pelham & Swann, 1989), high correlation with life satisfaction (Dinner, 1984), low anxiety (Fujii, 2013; Pyszczynski & Greenberg, 1987), low hopelessness (Crocker, Luhtanen, Blaine, & Broadnak, 1994), and lower likelihood of depression (Tennnen & Herzberger, 1987). Further, low self-esteem correlates strongly with depression and anxiety (Fujii, 2014), conversely, high self-esteem is closely related to mentally preferable tendencies, such as self-realization and high confidence (Rosenberg & Owens, 2001).

Developmental Aspects of Children's Self-esteem influenced by School Atmosphere

Since children spend their lives in schools, school atmosphere plays an important role in the development of the self-esteem of children. Schools which target self-esteem as a major school goal appear to be "more successful academically as well as in developing healthy self-esteem among their students" (California State Dept. of Education, Sacramento, 1990, p. 5).

The second source of creating and strengthening self-esteem is the vicarious experience provided by social models (Bandura, 1997). Seeing and playing with peers in classrooms raises children's beliefs that they too possess the capabilities to keep and grow their relationships. When children are not yet skilled at making accurate self-appraisals, they tend to depend on trusted others to provide evaluative feedback about their performance (Bandura, 1994).

To learn about how young children's self-esteem forms and develops in different classroom-learning situations, studies must involve children as active informants in classroom situations. To address these issues of promoting children's self-esteem, the first aim of the present study is to investigate young children's self-esteem in different developmental stages.

The Validity of Self-Esteem Scale

Previous research on validity indicated six distinguishable aspects of construct validity in the notion of validity as a unified concept (Messick, 1995). These are content, substantive, structural, generalizability, external, and consequential aspects of construct validity. In effect, these six aspects function as general validity criteria or standards for all educational and psychological measurement (Messick, 1989).

Here we focus on the structural aspect of validity, because in our study this component is important for analyzing our data. Thus, the internal structure of the assessment, such as interrelations among the scored aspects of task and subtask performance, should be consistent with what is known about the internal structure of the construct domain (Messick, 1989, 1995). Therefore, the second aim of this study is to examine the internal structure of the Self-Esteem Scale (Tokyo Metropolitan Board of Education, 2013), focusing on the structural aspect of validity.

Various self-report type scales to measure self-esteem have been so far developed. In Japan, the translations (e.g., Sakurai, 2000; Yamamoto, Matsui, & Yamanari, 1982) of Rosenberg's self-esteem scale (1965) have been widely used. Rosenberg's scale is easy to use because it consists of only ten items, but would make it difficult to address from a much

broader perspective. Further, for educational intervention to nurture self-esteem, it is indispensable to develop an effective scale to detect subtle changes of children's self-esteem.

In this sense, the Self-Esteem Scale (SES), which has been developed by the Tokyo Metropolitan Board of Education (2013) through the five years research plan (2008-2013), might deal with this issue. The SES, with 22 items, consists of three sub-scales: 'self-evaluation and proprioception', 'self in relatedness', and 'self-assertion and self-determination'. However, its reliability and validity has not been systematically inspected. For these reasons, we conducted the investigation of self-esteem in childhood (age 7-12) at the elementary school to test the reliability and validity of the SES.

Hypotheses

According to Pan (2015), who conducted a three-year longitudinal study among 321 Chinese seventh graders' self-esteem, self-esteem significantly increased with grade but no gender difference was found in the development of students' self-esteem. In relation to school subjects, in several articles, male students revealed higher self-esteem than females in some domains, e.g. mathematics and physics. On the other hand, the opposite phenomena was found in music and literature. However, there is no triangulated perspective on development of children's self-esteem in childhood. Referring to these results, we suppose the following two hypotheses in our research.

1. Hypothesis a. Children's self-esteem will increase with their grade.
2. Hypothesis b. Their self-esteem differs with gender.

Participants and Design

The study presented here is based on data collected in the cross-sectional way. The investigation was held in July and September of 2015.

In first, second, third, fourth, fifth, and sixth grades, we recruited students from a public elementary school in Tokyo. In total, 535 participants (male $n = 311$ and female $n = 224$) were included in the current study. These included 1st graders ($n = 96$; male $n = 58$ and female $n = 38$), 2nd graders ($n = 88$; male $n = 47$ and female $n = 41$), 3rd graders ($n = 96$; male $n = 51$ and female $n = 45$), 4th graders ($n = 81$; male $n = 50$ and female $n = 31$), 5th graders ($n = 76$; male $n = 46$ and female $n = 30$) and 6th graders ($n = 52$; male $n = 27$ and female $n = 25$).

Survey Administration

The sample consisted of Japanese pupils who participated in the *Project for the Enhancement of Self-esteem*. This project included an assessment to investigate the development of self-esteem. In the educational system of Japan, pupils enter elementary schools in the beginning of grade 1 and graduate in the end of grade 6.

Measure

Self-Esteem Scale (SES). The Japanese version of the Self-Esteem Scale (the Board of Education in Tokyo, 2013) is a 22-item instrument on which respondents indicate how descriptive each statement is of them. This scale has been developed by the Board of Education in Tokyo. It consists of three sub-scales, 'self-evaluation and proprioception' (8 items, e.g., "I am satisfied with myself as I am now"), 'self in relatedness' (7 items, e.g., "I appreciate others who watch over me"), and 'self-assertion and self-determination' (7 items, e.g., "Usually I can assert what I am

convinced of the truth"). The Self-esteem Scale is scored on a four-point Likert scale. Participants responded on a 1 (strongly disagree) to 4 (strongly agree) scale. Reverse code items No. 7, 13, 19 that are negatively worded so that a high value indicates the same type of response on the items. The survey contained these three different subscales which are summarized in Appendix A.

Procedures

In this study, the teachers in each classroom administered surveys to pupils and students during each class. Pupils were encouraged to ask questions about items they did not understand. They were informed that the information they provided would be confidential, and surveys were removed from the school building immediately following administration.

In this questionnaire participants were instructed to answer the question: "Please mark the most adequate number for you from 1 = 'I don't agree with it at all' to 4 = 'I agree with it strongly'".

Results

Prior to data analysis, screening was conducted for missing data. No missing responses were located in the Self-Esteem forms of these 535 participants.

Establishing Reliability and Validity of SES
Confirmatory Factor Analysis (CFA)

Confirmatory factor analyses validated the hypothesized three constructs 'self-evaluation and proprioception', 'self in relatedness', and 'self-assertion and self-determination' for SES. Consequently, the three factor model indicated model fit sufficiently ($\chi^2 = 669.05$ ($p < .01$), $df = 206$, GFI

= .89, AGFI = .86, RMSEA = .07, CFI = .92, AIC = 763.05). This three factor model provides us with a way to confirm the dimensionality of the hypothesized constructs. To compare the three factor model to the one factor model, we examined the one factor model next. The one factor model fit was $\chi^2 = 833.03$ ($p < .01$), $df = 209$, GFI = .85, AGFI = .82, RMSEA = .08, CFI = .90, AIC = 921.03, which was lower than the three factor model fit. Therefore, we validated the three factor model and analyzed our data using this model.

Internal Consistency

Internal consistency reliability estimate (coefficient alpha) for scores on the each sub-scales of the SES was over .87, with 95% confidence. All three subscales have been found to be reliable and valid in previous studies, with high Cronbach alpha measures of internal consistency,

Factor structure of the Self-Esteem Scale

The factor structure of the Self-Esteem Scale was assessed using CFA (Confirmatory Factor Analysis) on participants. The CFA model was

Table 1　The Fit Indices of Two Models on the Data Set

	Model 1 (one factor model)	Model 2 (three factor model)
χ^2/df	3.99 ($p < .01$)	3.25 ($p < .01$)
GFI	.85	.89
AGFI	.82	.86
CFI	.90	.92
RMSEA	.08	.07
AIC	921.03	763.05

Note: χ^2/df = Chi squared, with degrees of freedom; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; AIC = Akaike Information Criterion.

estimated with IBM SPSS Statistics Amos 19 using generalized least squares. Several indices were used to assess model fit. Table 1 presents the fit indices for the three factor model on this survey. The descriptive statistics of the three sub-scales of SES are indicated in Table 2.

Table 2　The Descriptive Statistics of $(N = 489)$

	1st grade		2nd grade		3rd grade		4th grade		5th grade		6th grade		
	maler	female	male	female	male	female	male	female	male	female	male	female	α
Self-evaluation and Proprioception	2.91	2.93	2.76	2.86	3.02	2.89	2.89	3.08	2.98	2.83	3.27	3.38	.87
	(0.92)	(0.92)	(0.72)	(0.80)	(0.49)	(0.58)	(0.84)	(0.78)	(0.59)	(0.69)	(0.58)	(0.66)	
Self in Relatedness	3.03	3.13	2.64	2.94	3.13	3.37	2.99	3.30	3.28	3.22	3.34	3.45	.88
	(0.92)	(0.99)	(0.94)	(1.01)	(0.45)	(0.47)	(0.72)	(0.62)	(0.47)	(0.56)	(0.49)	(0.45)	
Self-assertion and Self-determination	3.02	3.03	2.63	2.88	3.29	3.15	3.08	3.09	3.13	2.99	3.34	3.30	.87
	(0.89)	(0.85)	(0.92)	(0.86)	(0.45)	(0.46)	(0.78)	(0.69)	(0.56)	(0.60)	(0.55)	(0.52)	

Note: numbers in （　） means SD.

Intercorrelations among the three Self-esteem Dimensions

Additional analyses were conducted to determine the relationships among the three dimensions of the self-esteem scale（'self-evaluation and proprioception', 'self in relatedness', 'self-assertion and self-determination', see Table 3）. As predicted, there was moderately strong positive relationships among three sub-scales.

Table 3　Descriptive Statistics and Intercorrelations

	2	3	M	SD	α
1　Self-evaluation and Proprioception	.73**	.75**	2.96	0.74	.87
2　Self in Relatedness		.84**	3.12	0.75	.88
3　Self-assertion and Self-determination		—	3.06	0.73	.87

Analysis of Variance（ANOVA）

To examine whether there was an effect of grade and gender on the three sub-scales of SES, we used a 6(grade)×2(gender) design ANOVA with a between-subjects factor. A one-way analysis of variance （ANOVA）yielded two major findings concerning children's self-esteem. First, the ANOVA revealed a significant main effect of grade for 'self-evaluation and proprioception', F (5, 477) = 3.43, $p < .01$, $\eta^2 = .04$ （Fig. 1）. Tukey's honestly significant difference （HSD）post hoc tests discovered that 6th graders revealed higher self-esteem than 1th, 2th, 3th, and 5th graders.
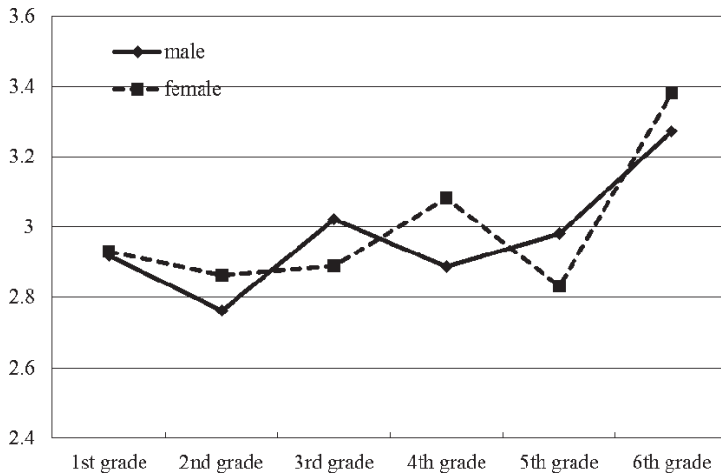

Fig. 1. *The Development of 'Self-evaluation and Proprioception'*

Subsequently, the ANOVA revealed a significant main effect of grade for 'self in relatedness', F (5, 477) = 6.27, $p < .01$, $\eta^2 = .06$, and a significant main effect of grade for 'self in relatedness', F (1, 477) = 5.89, $p < .01$, $\eta^2 = .01$. Tukey's honestly significant difference （HSD）post hoc tests discovered that 2nd graders revealed lower self-esteem than 3rd, 4th, 5th,

and 6th graders and that females demonstrated higher self-esteem than males (Fig. 2).
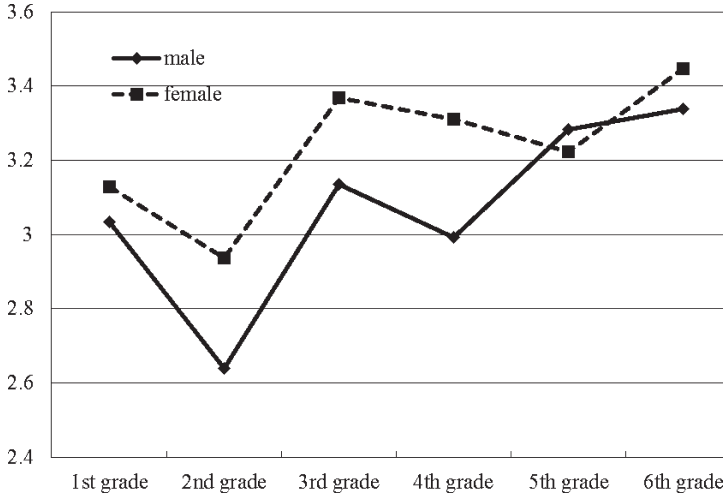

Fig. 2. The Development of 'Self in Relatedness'

Finally, the ANOVA revealed a significant main effect of grade for 'self-assertion and self-determination', F (5, 477) = 5.66, $p < .01$, $\eta^2 = .06$. Tukey's honestly significant difference (HSD) post hoc tests discovered that 2nd graders revealed lower self-esteem than 3rd, 4th, 5th, and 6th graders (Fig. 3).
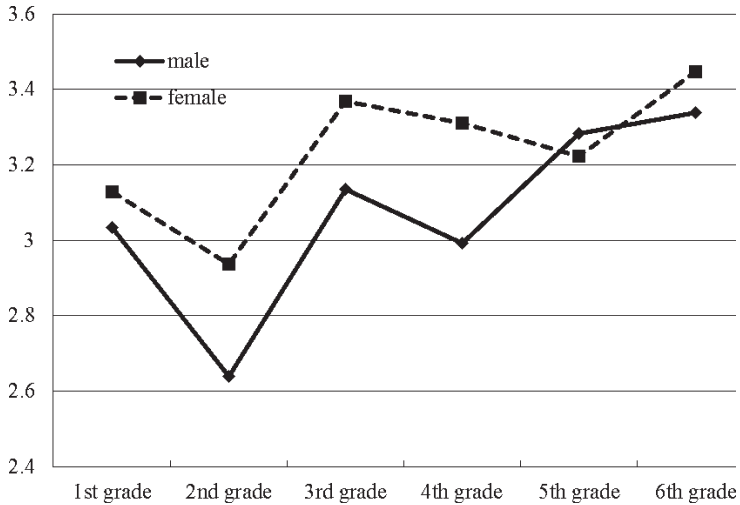
Fig. 3. *The Development of 'Self-assertion and Self-determination'*

As was expected, these findings suggest that developmental phase in childhood affected self-esteem among all the three sub-scales. No gender effect was indicated except in the sub-scale 'self in relatedness'.

Discussion

The purpose of the present study was to clarify whether the Self-Esteem Scale (SES) consists of the three factor structure, as supposed in the previous literature. Our hypotheses were a). Children's self-esteem will increase with their grade and b). Their self-esteem differs with gender. Within a larger framework of educational counseling, we aimed to investigate children's self-esteem at the elementary school in Tokyo within the developmental framework in the Japanese educational system. This was done by systematically comparing three-subscales of SES

among grades and between genders.

First of all, although the inter-correlations among the three sub-scales were relatively high, the confirmatory factor analysis indicated that the three factor model fit was higher than the one factor model. In Japan, so far, the translations (e.g., Sakurai, 2000; Yamamoto, Matsui, & Yamanari, 1982) of Rosenberg's self-esteem scale (1965) with 10 items have been widely used. However, more items are necessary to measure various aspects of self-esteem. In the future, advanced research studies using SES will be able to measure children's self-esteem in more multidimensional ways and to grasp fine developmental change. Practically as shown in the results of ANOVA, Tukey's honestly significant difference (HSD) post hoc tests demonstrated different results, depending on sub-scales and gender. These findings might not be detected by existing self-esteem scales thus far, with a small number of items.

In our study, hypothesis a). "Children's self-esteem will increase with their grade" was mostly supported. Hypothesis b). "Their self-esteem differs with gender" was partly supported in the second sub-scale 'self in relatedness'. Female students showed higher self-esteem than male in 'self in relatedness'. However, no gender differences were indicated in the other two sub-scales.

The Limitation of this Study and Conclusion

The results of this study should be considered in light of several limitations. First, data were collected at only one point, at a public elementary school in Tokyo. We examined children's self-esteem, but longitudinal designs may better capture variables that influence development of self-esteem and school adjustment. Also, one should interpret the Tukey's HSD differences among grades as relevant to developmental aspects

and phase in childhood or to the context of the elementary school which participated in our study. Researchers should replicate similar procedures in a variety of districts to determine whether grade and gender effects are common across a variety of school contexts.

Learning how successful it is to nurture children's self-esteem at the elementary school stage may be extremely informative and useful for promoting school adjustment for all students. Further research, especially with longitudinal data, are keenly needed to be done in future.

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Appendix A.

Self-esteem Scale (SES: the Board of Education in Tokyo, 2013)

Factor 1 Self-evaluation and Proprioception

1. I'm satisfied with myself as I am now.
4. I love myself.
7. I often think I am a no-good person. (#)
10. I can value my own existence.
13. I hate myself as I am now. (#)
16. I have my good points.
19. I am not convinced that I am a helpful person. (#)
22. I am as worthy as other people are.

Factor 2 Self in Relatedness

2. I can listen to other peoples' opinions.
5. I want to do my best for others.
8. I can sympathize with how others feel.
11. I have sympathetic supporters of mine.
14. I responsibly engage in what I decide to do in order to not make trouble for others.
17. I appreciate others who watch over me.
20. I have someone who needs me.

Factor 3 Self-assertion and Self-determination

3. I can make assertions that what I believe is correct, even if they are different from others' opinions.

6. I have the potential in me to be anything.

9. I can believe in my own decisions and behaviors.

12. I recognize my strong and weak points.

15. I yield to none in certain things.

18. I prefer to decide my own things by myself.

21. I would like to value my own individuality.

Note. # is a reverse item.