

The impact of academic competence and moderating effect of parenting factors on children's global self-worth

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This paper focuses on the effect of academic competence and parenting factors on children's global self-worth in children and their caregivers from childhood to early adolescence (grades 3 to 6), which is considered to be an important period in which global self-worth changes both qualitatively and quantitatively. The results showed a main effect of academic competence on global self-evaluation at all grade levels, but was moderated by parenting factors such as parental stress and disciplinary behaviors. Parenting stress was found to be a moderating variable in grades 3 to 5, and discipline behaviors in grades 5 and 6. It was suggested that the factors influencing the changeability of global self-worth shifted from external/emotional factors to internal/stable factors as development progressed.

Keywords: Global self-worth/self-esteem, academic competence, parenting factors, moderator, contingency of self-worth

Introduction

From early childhood, children are said to have a sense of global self-worth (self-esteem), as in "I'm doing a good job." However, the quality of this self-worth is not constant, and it is believed that the process that brings about global self-worth is related to the development of metacognitive ability and thinking

ability, and eventually changes to one that is based on an objective perspective and individual values. Harter (1999), for example, points out that during the so-called adolescent period, from late childhood to early adolescence, a child synthesizes various aspects of themselves, such as favorable and unfavorable aspects, and how they behave at school and at home. In doing so, they acquire the ability to perform a holistic self-assessment.

Qualitative changes in self-evaluation standards during adolescence expose children to the crisis of maintaining or declining global self-worth. For example, the possibility of objective self-evaluation can change from thinking, “I am doing good because I am recognized by people close to me,” to “I am doing good because I am recognized by many people (or because my results are being recognized by many people).” Thus, many children have lower overall self-esteem as only a limited number of children can produce results that are recognized by many. As proof of this situation, several previous studies in Japan and overseas have shown that children’s self-esteem declines during the period from puberty to adolescence (Robins et al., 2002; Oshio, Okada et al. 2014). Significant declines or fluctuations in global self-worth are recognized as a risk factor for mental health. In order to understand and support children in adolescence, it is considered important to accumulate knowledge about global self-worth during this period.

Schoolwork is one of the major activities for school-aged children. It is thought that children form concrete self-evaluation through schoolwork. Adolescence is also a period in which academic self-evaluation tends to decline as the intellectual level

of academic performance rises, and it is thought to be a factor in lowering adolescent global self-worth.

However, it is pointed out that the activities one engages in do not necessarily affect global self-worth. Crocker called the contingency of self-worth a person's tendency to associate overall self-worth with a particular domain. Previous studies on contingency of self-worth have shown that experience in the domain that accompanies self-worth affects changes in global self-worth (Crocker et al., 2003; Crocker et al., 2002), and it has been shown that having such a domain facilitates deterioration of mental health (Sargent et al., 2006; Burwell & Shirk, 2006; Crocker & Knight, 2005).

This study examines the factors of children's global self-worth, focusing on the influence of academic competence and their caregivers. Throughout childhood and adolescence, children aim to explore and establish their self-image, including self-worth. What is thought to be happening in parallel with this process is the question of what perspective the self is described from, what points it emphasizes, or how severe it is to conduct an evaluation of global self-worth and an integrated evaluation of self. It forms the standard of self-worth and describes the self-image. Formation of self-worth criteria is considered to be influenced by others and the environment as well as internal interests of individuals.

Schoolwork is the activity in which school-aged children spend the most time, and it is also the most important activity in the school environment. Therefore, it is considered to be a factor that easily accompanies self-worth. In addition, caregivers are the closest others to the children, and the attitudes and behavior of

caregivers are thought to affect children's self-worth standards and global self-worth. Parenting factors have long been emphasized in research contexts as factors that influence the formation of global self-worth. For example, warm parenting such as acceptance and concern, parenting that respects the child's autonomy, and caregiver involvement and support have been shown to increase self-esteem (Gecas & Schwalbe, 1986; Zakeri & Karimpour, 2011).

While academic achievement is thought to influence global self-worth through the formation of concrete value standards, parenting factors have been treated as influencing factors that directly influence global self-worth. However, parenting factors are thought to influence children's interpretation of the environment and may also be influential as moderating factors that explain individual differences in the areas and degrees of accompanying self-worth. In addition, it has been reported that the global self-worth increases with development (Trzesniewski et al., 2003). Therefore, it is expected that the influence of schoolwork and upbringing will change along with the child's development.

Based on the above, this study first examines the impact of academic competence and parenting on global self-worth by investigating the direct effects of related variables and their interactive effects. In particular, the analysis focuses on how the impact of academic competence is moderated by parenting factors. Second, we examine how the effects of schooling and parenting on global self-worth change with child development.

Methods

Research Participants and Ethical Considerations

The participants of this study's analysis was part of the research conducted in the Japan Children's Study (JCS)¹. Of the JCS collaborators, 139 children (69 boys, 70 girls) and their caregivers who consented for the observation and survey at the Mie Central Medical Center and gave permission to the use of data after the completion of the study, were analyzed in this study. The participants had cooperated with the survey since the child was an infant, but this research targeted the results of four surveys conducted between the child's grades 3 to 6.

Longitudinal studies, including this study, have undergone ethical review by various ethics committees, including those of the Japan Science and Technology Agency and the National Hospital Organization at Mie Central Medical Center for projects with children up to 3.5 years old, and by respective ethics committee of the National Hospital Organization at Mie Central Medical Center and Mukogawa Women's University for participants of 5 years and older. In addition, the research collaborators (caregivers) were informed about the research plan, the protection of personal information, and the ability to withdraw consent even after observation, etc., and signed the consent form to provide parental consent. In the questionnaire, we explained that the responses were voluntary, and we informed participants that the provision of a response constituted provision of consent to participation in the study.

¹ Japan Children's Study (JCS) is a birth cohort started in Japan in 2004. Yamagata et al. (2010) provide details for up to 3 years of age. *Epigenetics*, 3(2), 97-106.

Survey Item

All items below were used similarly in four surveys. We asked children to answer about global self-worth and academic competence and asked caregivers to respond to the content related to parenting.

Global Self-worth. The following three items— “I am confident in myself (I did well),” “I felt like I could do many things,” and “I was proud of myself (I like who I am)” —were asked on a five-point scale from never (0 points) to always (4 points) (Total score range: 0-12).

Academic Competence. Self-assessment of all activities conducted in school were surveyed. However, based on Eccles et al. (1989), we used four items that ask about self-evaluation of non-practical subjects, as children are believed to be much more concerned with practical subjects (Japanese, math, science, and social studies). Questions were phrased as, “Are you good at XX subject?” The question was asked on a three-point scale from “No, I am not” (1 point) to “Yes I am” (3 points) (Total score range: 4-12).

Parenting Factors. 1. Parenting attitudes: We referred to Baumrind’s (1967, 1971) classification of parenting attitudes and structural analysis of typical parenting behavior scales (Ito et al., 2014). We asked about 3 dimensions: Control (3 items; example item: “I tell them very firmly that bad things are bad”), Interest/involvement (4 items; example item: “I like working with my children”), and (over)protection/care (4 items; example item: “I think my child will be in trouble in the future without me”). Ratings were on a four-point scale from Disagree (1 point) to Agree

(4 points) (Total score range: 3-12 or 4-16).

2. Childcare stress: In order to examine the effects of caregivers' negative perceptions and emotions on childcare, we asked six items, such as "I don't know how to interact with them." The rating was on a four-point scale ranging from strongly disagree (1 point) to strongly agree (4 points) (Total score range: 6-24).

Results

Grade Difference in Children's Self-assessment Scores

Table 1 shows the mean and standard deviation of children's global self-worth and academic competence in each grade. A repeated measures analysis of variance revealed a significant *F* value for academic competence, and multiple comparisons showed that academic competence in children in grade 4 was lower than that in grade 6.

Table 1
Child self-assessment score by grade

	Grade 3	Grade 4	Grade 5	Grade 6	<i>F</i>	Multiple comparisons ^a
Global self-worth	7.25 (2.86)	7.15 (2.99)	6.55 (2.87)	7.00 (2.90)	2.08	<i>n.s.</i>
Academic competence	6.20 (1.55)	5.83 (1.76)	5.95 (1.87)	6.27 (1.73)	3.83 *	Grade 6 >4

(Note) Figures in parentheses are standard deviations.

^a Bonferroni adjustment

* $p < .05$

Effects of Academic Competence on Global Self-worth

In order to examine the overall effect of academic

competence on global self-worth, we conducted an analysis using a latent growth curve model. When we evaluated the model that assessed the effects of the initial value and slope of academic competence on the initial value and slope of global self-worth, the goodness of fit of the model was CFI=. 90, RMSEA=. 09, although not very good, it was considered to explain the sample covariance matrix satisfactorily to some extent.

Estimates of the effect were significant at the 0.1% level (standardized estimate =.60) in the effect of the initial value of academic competence on the initial value of global self-worth, and at the 10% level (standardized estimate =.55) for the effect of the slope of academic competence on the slope of global self-worth. The initial value of academic competence had no significant effect on the slope of global self-worth (standardized estimate = -.30).

Grade Differences in the Effects of Various Factors on Global Self-worth

To examine how the effects of academic competence and parenting factors differ by grade, a multiple regression model including main effects and interactions of factors was analyzed for each grade (Table 2). The results showed that all models were significant, and the main effect of academic competence was significant in all grades. In addition, the interaction between academic competence and parenting stress was significant in models other than the grade 6 model, and the interaction between academic competence and (over)protection/care was significant only in the grade 3 model. Furthermore, in the grades 5 and 6

Table 2
Effects of various factors on global self-worth (β)

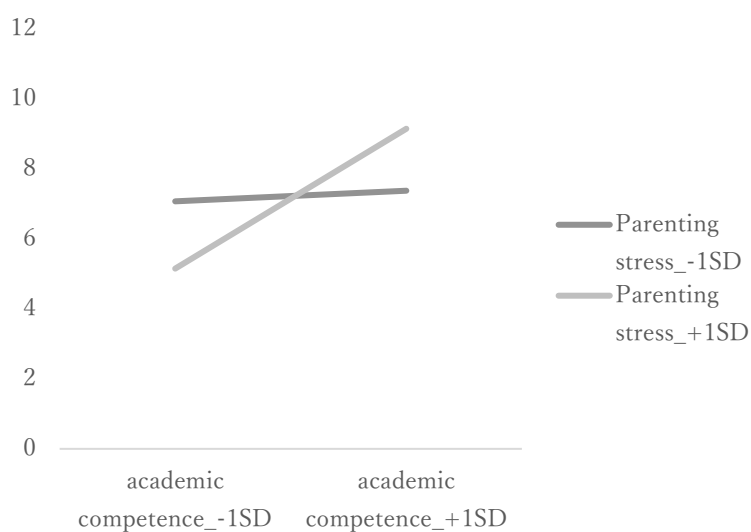
	Grade 3	Grade 4	Grade 5	Grade 6
Academic competence (C)	.38 ***	.32 **	.27 **	.24 *
Control (P)	-.06	.05	-.06	-.21 *
Interest/ involvement (P)	.10	.09	.00	.22 *
(Over) protection/ caring (P)	.03	-.05	.09	-.04
Parenting stress (P)	-.01	.05	.00	.14
Academic competence x parenting stress	.33 **	.40 ***	.21 *	.05
Academic competence x control	.01	-.08	-.19 †	-.22 *
Academic competence x interest/involvement	.12	.00	-.11	-.02
Academic competence x (over)caring	-.20 *	-.12	-.16	.05
<i>R</i> ²	.28 ***	.23 ***	.17 *	.17 *
ΔR^2	.22	.17	.09	.09

C: child rating, P: caregiver rating

* $p < .05$, ** $p < .01$, *** $p < .001$

models, the interaction between academic competence and control was significant or tended to be significant. The grade 6 model also

Figure 1
Interaction effect of academic competence and parenting stress (3rd grade)



showed that the negative effects of control and the positive effects of interest/involvement were significant.

Sub-tests for significant interactions revealed that high parenting stress had a positive effect on academic competence in

Figure 2
Interaction effect of academic competence and (over)protection/care (3rd grade)

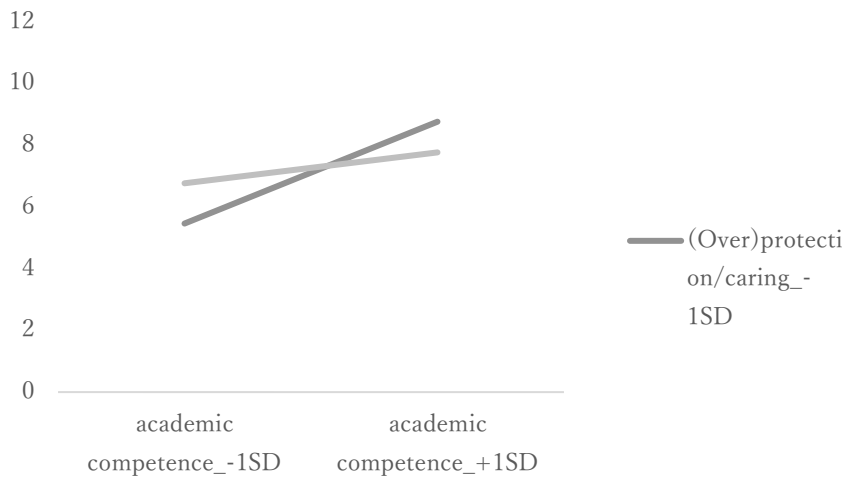
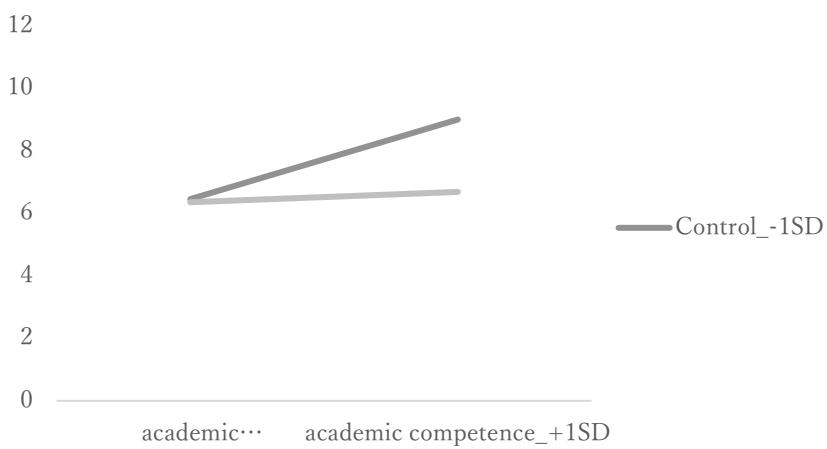


Figure 3
Interaction effects of academic competence and control (6th grade)



all grades (standardized coefficients for grades 3 to 6 were .71, .69, and .48 respectively, $ps < .01$, Figure 1). Moreover, in grade 3, when caregiver (over)protection/care was weak (.59, $p < .001$, Figure 2), and in grades 5 and 6, when caregiver control was weak (.47, .48, $ps < .05$, Figure 3), academic competence was shown to have a positive effect on global self-worth.

Discussion

In this study, we focused on the factors of academic competence and parenting as factors that explain changes in children's global self-worth and examined their main and interaction effects and the developmental differences. In the results of the analysis, with the caregiver's own parenting attitude/behavior and parenting stress as parenting factors, the main effect of academic competence was consistently shown, but the effect was moderated by different parenting factors in different grades.

Impact of Academic Competence at School Age

A latent growth curve model and multiple regression analysis showed that academic competence had a consistent and constant effect on global self-worth from grades 3 to 6 of elementary school. This result suggests that it is effective to consider the influence of academic context in order to understand and support global self-worth from childhood to early adolescence. Rosenberg (1986) noted some conflicting data on self-esteem around at the age of 12, as this is the transition period from

elementary to middle school. He points out that whether the extent of change due to school transition may explain the difference in changes in self-esteem.

Although the participants of this study were in the period from grades 3 to 6 in elementary school, which does not include school transition, it is believed that children are experiencing academic changes during this period as well. For example, in grade 4, the learning become more abstract and the number of children who experience learning difficulties increases, this is also called the “10-year-old wall” (Watanabe, 2011). Although no significant grade difference was observed in this study, the score of global self-worth was the lowest in grade 5, and the score of academic competence was the lowest in grade 4, showing a significant difference with grade 6.

Developmental Changes in Factors Affecting Global Self-worth

The effects of academic competence on global self-worth were moderated by caregiver’s parenting stress during grades 3 to 5. In other words, a significant effect was shown only when the caregiver felt severe parenting stress, and no effect of academic competence was observed when the parenting stress was mild. In addition, a significant effect of (over)protection/care was shown in grade 3, and academic competence was significantly affected in the case of mild control in grade 5 and 6.

The fact that academic competence has an influence on global self-worth means that global self-worth accompanies academic work. Therefore, the results suggest that children are

reading negative emotions and attitudes due to parenting stress from their caregivers, and receive less protection, care, and control. This is thought to strengthen the child's contingency of self-worth in the academic domain. When the caregiver's emotions and attitudes are negative, or the caregiver provides little protection or care, the child will strive to demonstrate the corresponding results in order to elicit a positive response from the caregiver and to be recognized for their worth. Caregiver control also gives the child a code of conduct. If control is weak and clear standards cannot be obtained, it is thought that self-evaluation standards will be acquired from activities that are easy to understand, such as schoolwork.

It can be said that the parenting stress that affected the global self-worth of students in grades 3 to 5 is not necessarily due to the child's own factors but an external and emotional factor influenced by the emotional state of the caregivers themselves. On the other hand, the control that affected the global self-worth of students in grades 5 and 6 is stably given by the values of the caregiver, and is thought to contribute to the child's internal self-worth formation. These findings suggest that children's global self-worth standards become internal as they develop, and that the acquisition of internal standards leads to the stability of global self-worth.

The Difference Between High Global Self-worth and Contingency

Academic competence has a positive effect on global self-worth, and not all results showed that global self-worth decreases

when academic competence is low, even under specific conditions such as high parenting stress. In terms of high global self-worth, the risks of having moderating factors seem to be unclear. However, it has been pointed out that high global self-worth and contingency each have a unique influence. For example, according to Crocker & Luhtanen (2003), high global self-worth predicts social problems such as friendships and romantic relationships, but academic difficulties and economic problems are predicted only by contingency.

In addition, in research on self-esteem, it has been pointed out that it is necessary to separate height and variability, and findings have suggested that variability in self-esteem is a risk factor for adaptation (Kernis et al., 1991). The contingency of self-worth in elementary school students has hardly been studied in Japan or abroad, but global self-worth, which fluctuates with academic competence, is expected to pose some risks even for elementary school students.

Limitations of this Research and Future Issues

In this study, we obtained results that suggest the possibility that parenting factors moderate the influence of academic competence on global self-worth. However, with regard to parenting factors, the influence of parenting attitudes and behaviors can only be dealt with individually, and the effects of combining multiple attitudes and behaviors have not been examined. Baumrind's (1967, 1971) classification of parenting attitudes distinguishes between "warm but controlling parenting (authoritative attitudes)" and "controlling and unresponsive

parenting (authoritarian attitudes).” Considering the possibility that the combination of multiple parenting factors may have different effects on children, it is necessary to conduct a more detailed examination.

In addition, this study targeted the period when the change in self-evaluation was considered to be large. From the obtained results, we were able to read a certain tendency, but whether the content suggested in this research is reliable or not depends on the formation of self-evaluation standards and when self-evaluation becomes more stable. It is considered necessary to examine the developmental stages beyond junior high school as well.

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