The Self-confidence and Performance of Young Learners in an EFL Environment: A Self-worth Perspective

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Abstract

The goal of the current paper is to provide empirical evidence to support the idea that praising students on their academic achievements is detrimental to the progress and self-confidence of those who have experienced failure under the same conditions. Based on the results of an experiment using crossword puzzle tests, which included puzzles that induced failure by being impossible to complete, and feedback from a sample of 74 young learners of English, the researcher argues that a combination of the experience of failure on behalf of the students and success-oriented praise from the teacher caused a lack of significant academic improvement and a salient decline in subjects’ confidence to complete future tasks. Furthermore, such praise did not bring about any significant increase in the self-confidence of those students who were able to complete the puzzles successfully. Drawing upon previous studies related to Covington’s (1992) Self-worth Theory, and achievement motivation literature (e.g., Dweck, 2006), the author concludes that for teachers of English in an English as a foreign language (EFL) environment, it is essential that praise for students be a reflection of their efforts, not of their ability to produce the correct answer.

1. Introduction

Since the commencement of Foreign Language Activities (FLA) classes at Japanese elementary schools in April 2011, and indeed in the years prior, there have been many discussions surrounding the goal of these classes: Which language skill should receive the most importance in FLA classes? Whose responsibility is it to create a strong link between foreign language education at elementary school and junior high school? How can elementary school teachers with limited training in foreign language education provide effective lessons for students? In previous papers, (Leis, 2012; 2013a), I have argued that in order for FLA classes to be successful in creating a strong base to prepare students for further foreign language education at junior and senior high school, teachers must focus on increasing the second language (L2) learning motivation of their
students. There remain questions, though, of how elementary school teachers, many of whom have limited training and experience in teaching foreign languages, can be the providers of the motivation necessary to improve the L2 performance and L2 self-confidence of their students. In this paper, referring to the ideas behind Covington’s (1992) Self-worth Theory, I focus on the effects of praise, and its repercussions on performance and self-confidence.

The research on which Covington based his Self-worth Theory upon was presented by Hoppe (1930), who concluded that human motivation hinged upon two main constructs: a drive for something better, and the necessity to avoid failure. Covington’s Self-worth Theory vindicates that “the protection of a sense of ability is the student’s highest priority (1992, p. 17).” Therefore, when students are faced with situations in which they feel they may fail, many make no effort on purpose so that they can protect their sense of ability by blaming their failure on their lack of motivation, rather than not being smart enough. Covington implores teachers to focus their efforts on increasing the importance of process, rather than simply looking at the final result.

The idea of concentrating on the process of doing a task, rather than the result, reflects earlier work conducted by Dweck and Reppucci (1973). Dweck and Reppucci conducted experiments to test learned helplessness, a phenomenon first introduced by Seligman and his colleagues (see Seligman et al., 1968). Dweck and Reppucci asked young children to replicate designs on cards using blocks they had been given. The puzzles included both possible and impossible puzzles to gain an understanding of children’s persistency in situations where they were failing. Dweck and Reppucci concluded that after the experience of failure, some children tended to give up, even though they were initially motivated and had the ability to complete the tasks. In a latter paper, Dweck (1975) argued that the most effective way to help children overcome the negative effects of failure was to “teach the children how to deal with it (p. 676).” Recently, Dweck (2006) advises educators to concentrate praise for children on the efforts they make, not on the results. If teachers praise results, children will yearn for more praise, only taking on simple tasks in the attempt to avoid situations where they may fail, and consequently not be praised. However, if teachers praise the effort students make, students will be more likely to challenge more difficult tasks, being willing to accept failure as an important part of their learning experience.

This paper will now report on an effort to understand the impact the experience of failure has on students in an EFL environment. In addition, it will look at praise in an English learning situation, and whether praise for results rather than effort does in fact have a detrimental effect on the performance and self-confidence of young learners of English.

2. Method

2.1 Research questions

The current paper purports to answer the following research questions:

1. Does the experience of failure affect subjects’ level of performance?
2. Does the experience of failure affect subjects’ level of self-confidence?

2.2 Participants

The participants in this study were 74 second-year junior high school students from northeast Japan. Their average age was 14.53 years old and there were 62 female and 12 male students. The subjects had had 16 months of formal English education according to the guidelines set by the Ministry of Education, Culture, Sports, Science and Technology in Japan, which requires students to take English lessons from their first year of junior high school. In addition to this, students had learned English for 12 months in their final year of elementary school as part of the FLA class, which was introduced to Japanese schools officially in April 2011. This limited experience with English suggested the students had a basic proficiency in the language.

Although this paper is concentrating on motivating students at the elementary school level, junior high school students were chosen for this study due to their ability to write English. As writing is not taught in FLA classes, it was thought that most elementary school students would not be able to participate in the experiment, giving unreliable results. In an attempt by the author to obtain results from students who had enough experience with English to write the words required in this experiment, and were close to the age of students in FLA classes, it was decided to use second-year junior high school students for this study.

2.3 Materials

In order to give subjects an experience of failing with the English language, the researcher created two varieties of crossword puzzle booklets. The booklets were 24 pages, with a cover page, a short questionnaire (Appendix A) related to students’ age, gender and attitudes towards study, a practice crossword puzzle, six sets of crossword puzzles used for this study and an evaluation page.

Before each crossword page, a separate page (Appendix B) was included asking subjects to indicate the confidence they felt in being able to complete the next puzzle on a scale from 0 (i.e., no confidence at all) to 6 (i.e., extremely confident). Figure 1 shows the crossword puzzle used in the example page in this study. In this case, students are required to complete the crossword using the words: soup, pizza, star and car. Below the crossword, there was a space for students to write the time it took them to complete the crossword and an instruction from the researcher, ordering subjects not to turn the page until told to do so. Each crossword page was similar to this, with four pictures and a blank crossword. See Appendix C for the complete set of crosswords used in the present study. Students were required to complete the crosswords using the pictures as clues to the words. The booklets also included an evaluation page (Appendix D) after each crossword page to allow students to reflect on their performance and reasons for being successful or unsuccessful in completing the crossword.
The two varieties of booklets were essentially the same. However, in one set (henceforth Control Group) all puzzles were possible, while in the other set (henceforth, Treatment Group) Puzzle 2 to Puzzle 5 had the crossword slightly altered to make it impossible to complete. Puzzle 1 and Puzzle 6 in both booklets used exactly the same words for completing the crossword. However, to create a different feeling to the problem, different pictures and different shaped crosswords were used. This method was based on the block-puzzles used by Dweck and Reppucci (1973), but with the added element of English.

The final page of the puzzle booklet included two items asking students to evaluate their performance in the experiment. The first item, *What did you think of this puzzle activity?* aimed to get an understanding of subjects’ emotions after being successful or unsuccessful throughout the experiment. The second item was slightly different for the puzzle sets with the Control Group being asked, *How did you feel when you were able to complete the puzzles, but others were not?*, and the Treatment Group being asked, *How did you feel when others were able to complete the puzzles, but you were not?* These items intended to gain a deeper understanding of subjects’ feelings towards failure and success in an English activity.

### 2.4 Procedure

The current study was conducted as part of a special lecture on communication skills held for the subjects by the researcher. For ease of understanding and speed, the instructions were given entirely in the subjects’ mother tongue (i.e., Japanese). The researcher distributed the booklets at random to the participating students. Because the booklets all had the same covers, the subjects assumed all the puzzle booklets were exactly the same. The students were told not to turn the pages until they were instructed to do so. First, students completed the questionnaire page, before the researcher explained the process of doing the crosswords using the example puzzle (Figure 1). A timer was displayed on a screen in the classroom and students were asked to do two specific things when they completed the puzzles: raise their hand in a loud voice while saying *Hai, owarimashita!* (Yes. Finished!) and write the time it took them to complete the puzzle in the space provided on the puzzle page. When students indicated they had completed the puzzle in this way,
the researcher immediately praised the result by saying, subarashii! (That’s fantastic!), atamagaiidesune! (You are really smart!) or hayai! Eigogajouzudesune! (That’s really quick! You have great English!). After 50 seconds had passed, the researcher said to students in Japanese, “Okay, stop please. If you haven’t finished the puzzle, please write 50 in the time space. Don’t worry. These puzzles are difficult. Some people can do such puzzles, and some people can’t.” After this, students were asked to answer items as a reflection on their performance in the crossword puzzle. This process was repeated for each crossword puzzle. After completing the experiment, subjects were told that there were two varieties of tests and some booklets had four crossword puzzles that were impossible to complete.

3. Results and discussion

3.1 Performance

The first research question in this study asks whether the experience of failure affects the performance of participants. To examine this, the average times of the first and sixth crossword puzzle were compared using a one-way analysis of variance (ANOVA), with 95% Confidence Interval (95%CI) and Partial Eta Squared ($\eta^2$) effect sizes also being reported. Because the first and sixth crossword puzzles were the same, it was expected that there would be a salient improvement in students’ performance in the sixth crossword, even though they were presented in a slightly different way. The figures in Table 1 support this expectation with significant improvements being observed in the Control Group with a medium to strong effect size, $F (1, 78) = 6.96, p = .010, \eta^2 = .08$. However, no such observations could be seen in the Treatment Group, whose times did improve slightly, but not significantly, $F (1, 66) = .44, p = .512, \eta^2 = .007$.

Table 1

Descriptive Statistics of Crossword Completion Times

<table>
<thead>
<tr>
<th>Group</th>
<th>Puzzle</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1</td>
<td>40</td>
<td>31.56</td>
<td>15.01</td>
<td>0.09</td>
<td>-1.62</td>
<td>[26.75, 36.35]</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>40</td>
<td>23.33*</td>
<td>12.79</td>
<td>0.98</td>
<td>-0.24</td>
<td>[19.23, 27.42]</td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>34</td>
<td>25.12</td>
<td>12.67</td>
<td>0.92</td>
<td>-0.24</td>
<td>[20.70, 29.54]</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>34</td>
<td>23.15</td>
<td>11.95</td>
<td>1.13</td>
<td>0.29</td>
<td>[18.98, 27.32]</td>
</tr>
</tbody>
</table>

Note. Average times are displayed in seconds; * $p = 0.010$.

These figures suggest that, like Dweck and Reppucci’s (1973) study, the experience of failure does in fact affect the performance of the subjects. After repeated failure, despite other students around them being able to complete the tasks successfully, very little improvement was seen in the Treatment Group. This inability to overcome failure is especially important in an EFL environment, as unless students are prepared to make mistakes in using the language, it is unlikely
that students will be able to make meaningful progress in their studies and language proficiency.

Furthermore, as the experiment progressed, a total number of 13 students (i.e., 38.24%) in the Treatment Group showed signs of cheating at least once, with one student cheating four times (Figure 2). That is, even though puzzles two to five were impossible, some students either used purposefully misspelled words, or changed the shape of the puzzles in order to show others that they were able to complete the task successfully. The tendency to cheat may have been as a result of panicking about having lower ability than others in the group. This hypothesis can be reinforced by comments from the subjects. When asked, How did you feel when others were able to complete the puzzles, but you were not? at the end of the experiment, 15 subjects (i.e., 41.12%) indicated anxiety through comments such as 悔しかった (I was frustrated!), 取り残された感じだった (I felt as if I was being left behind) and どうして解けるんだろうと思った。だんだん大変だった (I wondered why they were able to get the answer. It got worse and worse.).

![Number of Students Cheating](image)

**Figure 2.** Increasing number of students cheating in the puzzle task.

In the same way, in foreign language learning situations, when teachers constantly only praise students who have been able to complete tasks successfully, those students who were not able to do so may start to feel anxious about their own English ability. This may result in their being unable to make progress in their language proficiency and thus either relying on cheating to give the appearance of being successful, or making no effort in their studies, as suggested by Covington (1992). Instead, as Dweck (2006) and Covington (1992, 1998) assert, praising for effort during the process of the task will more likely result in higher academic results in students than giving a “Well done!” after it has been completed successfully.

### 3.2 Self-confidence

The second research question in this study examines changes in self-confidence levels of subjects under the conditions of success and failure. Before doing each crossword puzzle, subjects
were asked to indicate on a scale of 0 (i.e., not at all confident) to 6 (i.e., extremely confident) the amount of confidence they had that they would be able to complete the next puzzle. Analysis was conducted using a one-way ANOVA, with 95% Confidence Interval and Partial Eta Squared effect sizes being reported to measure whether there were any salient increases or decreases in students’ self-confidence over the course of doing the six crossword puzzles in both the Control Group and the Treatment Group. Table 2 shows that there was no significant increase in the self-confidence of the Control Group, \( F(5, 234) = 1.10, p = .363, \eta^2 = .02 \), despite their success throughout the experiment. On the other hand, not surprisingly, a large decrease in self-confidence with a very strong effect size was observed in the Treatment Group, \( F(5, 198) = 14.60, p = .000, \eta^2 = .27 \). These patterns can be seen clearly in Figure 3, where the Treatment Group’s self-confidence steadily declines while the Control Group’s remains relatively the same.

Table 2

<table>
<thead>
<tr>
<th>Group</th>
<th>Puzzle</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1</td>
<td>40</td>
<td>3.38</td>
<td>1.31</td>
<td>0.68</td>
<td>-0.34</td>
<td>[2.95, 3.80]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40</td>
<td>2.90</td>
<td>1.52</td>
<td>0.64</td>
<td>0.14</td>
<td>[2.42, 3.38]</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>40</td>
<td>2.85</td>
<td>1.27</td>
<td>0.45</td>
<td>0.92</td>
<td>[2.44, 3.26]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>40</td>
<td>2.70</td>
<td>1.54</td>
<td>0.49</td>
<td>-0.08</td>
<td>[2.21, 3.19]</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>40</td>
<td>2.75</td>
<td>1.53</td>
<td>0.63</td>
<td>0.14</td>
<td>[2.26, 3.24]</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>40</td>
<td>2.83</td>
<td>1.62</td>
<td>0.30</td>
<td>-0.20</td>
<td>[2.31, 3.34]</td>
</tr>
<tr>
<td>Treatment</td>
<td>1</td>
<td>34</td>
<td>2.79</td>
<td>1.34</td>
<td>-0.56</td>
<td>0.05</td>
<td>[2.33, 3.26]</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>34</td>
<td>2.32</td>
<td>1.20</td>
<td>-0.68</td>
<td>-0.41</td>
<td>[1.91, 2.74]</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>34</td>
<td>1.94</td>
<td>1.15</td>
<td>-0.26</td>
<td>-0.74</td>
<td>[1.54, 2.34]</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>34</td>
<td>1.21</td>
<td>1.23</td>
<td>0.53</td>
<td>-0.95</td>
<td>[0.78, 1.63]</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>34</td>
<td>1.03</td>
<td>1.14</td>
<td>0.85</td>
<td>-0.16</td>
<td>[0.63, 1.43]</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>34</td>
<td>0.85</td>
<td>1.08</td>
<td>1.24</td>
<td>0.99</td>
<td>[0.48, 1.23]</td>
</tr>
</tbody>
</table>

Note. Maximum score is 6; Minimum score is 0.

These figures present a clear pattern that failure to complete the crossword puzzles not only resulted in significant decreases in self-confidence, but success did not necessarily lead to increased self-confidence. Self-confidence is without a doubt a vital factor in students’ success in completing tasks, with Dörnyei (1990, 1994) expressing linguistic self-confidence as an important characteristic at the learner level of his model of motivation. Onwuegbuzie et al. (1999) suggested that low self-confidence leads to a sense of vulnerability in L2 learning, and when students are unable to handle this, it results in inadequate performance. The researcher made an effort during this experiment to praise students only when they had completed the crossword puzzle task. This concentrated praise on performance rather than effort may be a factor in the decreasing confidence
of students and diminished performance of the Treatment Group in the final crossword puzzle. This reflects research (e.g., Covington, 1992, 1998; Skaalvik & Hagtvet, 1990) concluding that it is previous performance, not necessarily results, from which self-confidence grows, and that this self-confidence then in turn generates greater achievement.

![Figure 3. Patterns of confidence throughout the puzzle task.](image)

To gain a clearer understanding of the psychological effects of praise based on success rather than effort, students were asked to rank the reasons from 1 (i.e., least likely) to 4 (i.e., most likely) for their ability or inability to complete the crossword puzzles (see Appendix B). The reasons ranked by the subjects for failure to complete the four impossible puzzles were analyzed using a Wilcoxon signed rank test and Pearson’s $r$ to measure if any significant differences could be found in how students ranked the reason for their failure (i.e., lack of effort or lack of ability) with a significant difference between the two groups, $z = -3.64, p = 0.00, r = .56$, and strong effect size. The data from subjects who indicated that they had completed these impossible puzzles (i.e., had cheated) were not included in the analysis. It can thus be concluded, that the experience of failure and success-oriented praise for students who could complete the crossword puzzles combined to cause these students to view themselves as lacking ability, an attitude that, according to Covington (1992), consequently results in students making little or no effort in their studies.

### 3.3 Pedagogical Implications

Implications for teachers in an EFL environment, especially those conducting FLA classes with elementary school students, can be discussed based on these results. The experience of failure tended to affect the confidence and ability of students, but that does not mean, of course, we should make all classwork easy in order for students never to experience failure. Passing on learning and coping strategies to students is certainly one effective method to overcome these
potential problems. By showing students the benefits of being prepared for failure and taking on more difficult content in their studies, they may be more ready for the situations when they don’t achieve the results they had hoped for. With Dörnyei and Csizér (1998) strongly recommending language teachers “set a personal example with your own behavior” (p. 215) as the first of their ten commandments for motivating language learners, it is critical that FLA teachers themselves be prepared to make a few mistakes with their lessons and language, in order for the same attitude to be inspired in students.

Second, decreasing the amount of competition at school may be effective in increasing students’ willingness to take the risk of failure in the endeavor to improve their language ability. Convington (1992) dispels the thoughts that competition is good for increasing motivation and Boggiano and Pittman (1992) even show that competition results in a decline in students’ academic performance. Many children, however, enjoy competition, so in FLA classes, making winning a game or activity depend on luck rather than ability can reduce competition and increase the feeling that success was due to luck and effort, rather than pure academic ability. In older learners, where students’ English proficiency is assessed through written tests, I strongly recommend teachers do not give class averages to students. This encourages students to compare their ability to that of others. Instead, teachers should give a comparison between individual students’ current test score and their previous one (e.g., +6, or -5) indicating to students the effort they made in the current test compared to the previous one.

Third, when considering feedback, teachers should think carefully about the kind of praise they give and when they give it. Many teachers tend to say “Great!” or “Good job!” after students have answered questions or contributed to the class. However, this seems to praise the result of students’ utterances, not the effort they made to give the answer in the first place. Instead, I recommend giving praise before students have spoken, complementing them because they raised their hand, not because they answered the question correctly. When praise is given after an answer, it should be concentrated on the content, or how students answered, not on whether it was correct or not.

4. Conclusion

This paper has attempted to gain some insight into the effects failure and praise for academic achievement have on the motivation and self-confidence of young learners of English. The statistical evidence makes it clear that students who have experienced failure tend to slacken in their learning, making less progress in areas where they have been successful in the past. Previous research has argued that this is especially salient in those who are unable to persist through failure, and see it as an opportunity to strengthen their skills. However, it was seen in this study that some students turn to cheating as a way to overcome failure and show they have been successful.

Furthermore, it has been argued in this paper that the feedback given in this experiment,
which focused only on the ability to complete the puzzles, was also a determiner in the reactions of students. This, combined with the experience of failure, seemed to create a feeling of helplessness in subjects, resulting in a sharp decline in their self-confidence. The current paper is, however, not without its limitations.

One weakness, with the current paper is the imbalance between males in females in the sample. A high percentage of females (i.e., 86.11%) in the sample may have affected the results. In an unpublished similar research by the author (2013b), it was discovered that females tend to be more persistent than males under the conditions of failure. These results disagree with those of Dweck and Reppucci (1973), who reported that females “might be more prone to deterioration of performance in the face of failure (p. 116).” More research is needed in this area.

Second, there were observable differences in the confidence and times between the groups in the first puzzle. Even though the Control Group’s time was slower than the Treatment Group \( F(1, 72) = 3.89, p = .052, \eta^2 = .05 \), they had higher confidence before the first puzzle \( F(1, 72) = 3.52, p = .065, \eta^2 = .05 \). Although these differences are not statistically significant, they may have had some effect on the results. In future studies, conducting a proficiency test (i.e., both objective and self-perceived) to create more balanced Control and Treatment Groups than the random groups in the present paper may produce more salient outcomes and deeper understanding.

Teachers take on an immense responsibility by taking charge of the education of children in their classroom. Building their students’ confidence and motivation to learn is one of many important roles that teachers take on. Molding students to become confident and motivated young scholars takes a long time, but destroying this confidence and motivation can easily happen by a number of factors both within and out of the grasp of the teacher’s capability. Learning a second language is one area in particular where confidence and motivation are fragile, but play an important role in the success of students. It is hoped that the recommendations in this paper will be taken on by language teachers of all levels, but especially those in elementary school, where the base for learning is set for years to come.

Notes

1. The author does admit that the age of the subjects and the results of students who are 14 to 15 years old may not give an accurate reflection of the reactions towards failure of cognitively less mature 11- to 12-year-old students in FLA classes. In future studies, the author will attempt to conduct interview tests similar to those carried out by Dweck and Reppucci (1973) and Mueller and Dweck (1998) in the hope of gaining deeper knowledge related to the effects of praise for intelligence and that of effort on young learners in an EFL environment, and providing a comparison between these two age groups and vital stages of language learning. Also related to the age of the subjects in the present paper, the task of using a crossword may not be a reliable reflection of activities in FLA classes. To address this, the research will
consider activities such as role plays or listening exercises that show similarities to the types of tasks young learners of English practice in their regular classes in Japan.

2. Although the questionnaire included items regarding participants’ English proficiency (i.e., TOEIC score) and blood type, these data were not included in the analysis due to a low number of responses.

3. Results may have differed, as suggested by one anonymous reviewer, if some participants completed the puzzle at exactly 50 seconds. However, upon checking the completed puzzle booklets, there were no students who wrote 50 as their time and circled yes to indicate they had completed the puzzle. This is certainly an area to consider in further research.

Acknowledgments

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Appendices

Appendix A: Questionnaire items used in this research with English translation

<table>
<thead>
<tr>
<th>性別</th>
<th>女性</th>
<th>男性</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Male</td>
</tr>
</tbody>
</table>

年齢: ____ 歳 血液型: ____ TOEIC: ______
Age: ____ years Blood type: ____ TOEIC: ______

あなたが次の事柄にどの程度共感できるかを、1から6の番号の中からひとつを選んでお答えください。
Read the following statements. Indicate whether you agree or disagree by circling the number.

<table>
<thead>
<tr>
<th>完全にそう思わない</th>
<th>そう思わない</th>
<th>あまりそう思わない</th>
<th>ややそう思う</th>
<th>そう思う</th>
<th>非常にそう思う</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1 2 3 4 5 6

自分が学校のテストで良い点数をとった理由は、テストは簡単だったからだ。
I only get good scores in tests when they are easy.
難しいテストでいい点数を取れるのは頭がいい人だけ。

Only smart people can get good scores in tests.

受かる可能性が少ない難関校より入りやすい学校を受験したい。

I would rather enter a school that is easy, than a difficult school where I might fail.

中学校で成績が悪かった人は頑張っても高校生の時に悪いだろう。

Students who get bad scores at junior high school will most likely get bad scores at high school.

点数が他の人より自分が低いと恥ずかしいので、点数を隠してしまう。

I always hide my test scores, as I am worried that my score will be lower than others’.

間違えると恥ずかしいので、先生の質問に答えないようにしない。

I would be embarrassed if I said the wrong answer, so refrain from raising my hand in class.

Note. For the convenience of space, the scale items 1 to 6 have been removed in this appendix.

Appendix B: Confidence related item with English translation

これからパズル①をやりますが、完成できる自信はどれくらいありますか？前々自信がなければ、0に○を付け、必ずできると自信を持っているば6に○を付けてください。

You are about to do Puzzle 1. How confident are you that you can complete the puzzle. If you are not confident, circle 0, if you extremely confident, circle 6 below.

絶対できない
I won’t complete it. 0 1 2 3 4 5 6 絶対できる
I can complete it.

Appendix C: The crosswords used in the present study

タイム:

指示があるまで次のページを開かないでください。

Time: Please do not turn the page unless told to do so.
難しいテストでいい点数を取れるのは頭がいい人だけ。
受かる可能性が少ない難関校より入りやすい学校を受験したい。
中学校で成績が悪かった人は頑張っても高校生の時も悪いだろう。
点数が他の人より自分が低いと恥ずかしいので、点数を隠してしまう。
間違えると恥ずかしいので、先生の質問に答えないようにする。

Note.
For the convenience of space, the scale items 1 to 6 have been removed in this appendix.

Appendix B: Confidence related item with English translation
You are about to do Puzzle 1. How confident are you that you can complete the puzzle.
If you are not confident, circle 0, if you extremely confident, circle 6 below.

絶対できない
0
絶対できる
6

Appendix C: The crosswords used in the present study

タイム： 指示があるまで次のページを閉かないでください。
Note. The puzzles used for the Control Group are on the left. The puzzles used for the Treatment Group are on the right. For the purpose of space, an English translation has only been provided in the first crosswords.

Appendix D: Performance reflection items with English translation

今回のパズルでどれくらい頑張ったか、1～6のうちから、一つを選び丸をつけてください。
How hard did you try in the previous puzzle? Circle the number that best matches your effort.

<table>
<thead>
<tr>
<th>I didn’t try at all.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>I tried my hardest.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
今回のパズルでどの程度楽しかったか、1〜6 のうちから、一つを選び丸をつけてください。
How much did you enjoy the previous puzzle? Circle the number that best matches your feeling.

<table>
<thead>
<tr>
<th>楽しくなかった。</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>楽しかった。</th>
</tr>
</thead>
<tbody>
<tr>
<td>It didn’t enjoy it at all.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I really enjoyed it.</td>
</tr>
</tbody>
</table>

今回のパズルを完成しましたか？
Were you able to complete the previous puzzle?

いいえ	

はい

出来た理由または、出来なかった理由を考え、下の欄に4（最大の理由）から1（最小の理由）を書いてください。
Consider the following reasons why you were or were not able to complete the puzzle. Rank the reasons from 4 (the most likely) to 1 (the least likely).

<table>
<thead>
<tr>
<th>完成が出来なかった理由。</th>
<th>完成が出来た理由。</th>
</tr>
</thead>
<tbody>
<tr>
<td>The reasons I couldn’t complete the puzzle.</td>
<td>The reasons I could complete the puzzle.</td>
</tr>
<tr>
<td>努力が足りなかった。</td>
<td>一生懸命考えたから。</td>
</tr>
<tr>
<td>I didn’t try hard enough.</td>
<td>I tried my hardest.</td>
</tr>
<tr>
<td>パズルは苦手だから。</td>
<td>パズルは得意だから。</td>
</tr>
<tr>
<td>I’m not good at puzzles.</td>
<td>I’m good at puzzles.</td>
</tr>
<tr>
<td>能力不足。</td>
<td>頭がいいから。</td>
</tr>
<tr>
<td>I’m not smart enough.</td>
<td>I’m smart.</td>
</tr>
<tr>
<td>時間不足。</td>
<td>時間が充分あったから。</td>
</tr>
<tr>
<td>I didn’t have enough time.</td>
<td>I have sufficient time.</td>
</tr>
</tbody>
</table>