

How Can “Autonomous Self-Esteem” be Assessed and Cultivated?

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Abstract This paper follows Yamasaki, Uchida, Yokoshima, and Kaya's (2017) classification of self-esteem into autonomous and heteronomous self-esteem. Autonomous self-esteem is adaptive and healthy, whereas heteronomous one is nonadaptive and unhealthy. First, several implicit association tests (IATs) were introduced to assess both types of self-esteem. Autonomous self-esteem, in particular, needs to be measured using certain nonconscious assessment tools. Thereafter, from the necessity to enhance autonomous self-esteem, programs to cultivate it, which belong to a group of the programs collectively termed “TOP SELF (Trial of Prevention School Education for Life and Friendship), were depicted in terms of their purpose structure and methods for lower- and higher-grade students in elementary and junior-high schools. Moreover, to reveal the effectiveness of the programs, the results of the previous empirical studies among the lower- and higher-grade students were shown. Lastly, future avenues to widely disseminate the programs were discussed, underscoring the importance of students' health and adaptation in schools.

Keywords Autonomous self-esteem, Heteronomous self-esteem, Implicit association test, Universal prevention program, School

1. Introduction

Self-esteem is still a popular topic in psychology and education. Specifically, school teachers have been interested in cultivating children's self-esteem. However, the concept of self-esteem is confusing. Owing to inconsistent findings in several studies on the benefits of self-esteem (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003; Emler, 2001), new concepts have been proposed. For instance, Deci and colleagues (e.g., Deci & Ryan, 1995) introduced the concepts of “true” and “contingent” self-esteem, and Kernis (2003) divided it into “fragile” and “secure” high self-esteem. These two types were developed to discriminate between healthy (adaptive) and unhealthy (nonadaptive) self-esteem. In line with this consideration, self-esteem that previous research has been investigating can include both the undivided types.

In recent years, Yamasaki et al. (2017) proposed new concepts of self-esteem: “autonomous” and “heteronomous” self-esteem. The uniqueness of their classification remains in underscoring the importance of nonconscious nature of autonomous self-esteem. This paper aimed to introduce the concept and measurement of autonomous self-esteem and

educational programs for cultivating it and reveal the effectiveness of these programs.

2. What is Autonomous Self-Esteem? and How Can It be Measured?

As stated above, Yamasaki et al. (2017) classified self-esteem into autonomous and heteronomous ones. They considered that autonomous self-esteem consists of high levels of self-confidence, confidence in others, and intrinsic motivation—these three components at a high level are indispensable for autonomous self-esteem. Meanwhile, heteronomous self-esteem is characterized by low levels of these three components. Moreover, they proposed that autonomous self-esteem cannot be consciously measured using self-report questionnaires, although heteronomous self-esteem can be. Namely, autonomous self-esteem needs to be nonconsciously (implicitly) assessed using certain methods other than self-reports. Even heteronomous self-esteem is more precisely measured using nonconscious methods. After introducing these concepts of self-esteem, Yamasaki (2019) suggested that Rosenberg's (1965) Self-Esteem Scale cannot measure desirable self-esteem he proposed, though the scale has been most frequently used globally. More specifically, his scale should not be used because it includes elements of both desirable and undesirable self-esteem that cannot be distinguished.

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This proves certain methods to assess autonomous self-esteem are needed. Yamasaki et al. (2017) suggested the Implicit Association Test (IAT) as an assessment method. In the IAT, the implicit association between two kinds of stimuli is measured using indices of speed and accuracy of reactions (e.g., Greenwald & Banaji, 1995). Although a few IATs have been developed for self-esteem (e.g., Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; Zeigler-Hill, 2006), the IAT by Yokoshima, Uchiyama, Uchida, and Yamasaki (2017) was the first to measure autonomous self-esteem. It was termed “the paper and pencil version of Self-Esteem Implicit Association Test for Children (SE-IAT-C). The SE-IAT-C was developed to examine the effectiveness of programs to cultivate autonomous self-esteem in elementary school students, overcoming the limitations of previous IATs. The reliability and validity of the test were confirmed by Yokoshima et al. (2017). The reliability was measured through test-retest correlations and the validity through homeroom teachers’ evaluations of their students in terms of autonomous self-esteem.

The SE-IAT-C was used for the assessment only of autonomous self-esteem and had the limitation that it is not considered for the measurement of confidence in others. So, Yokoshima (2022) revised this IAT to remove the limitation and simultaneously assessed heteronomous self-esteem. As of now, this new version, the tablet PC version of the Autonomous and Heteronomous Self-Esteem Implicit Association Test for Children (AHSE-IAT-C) developed by Yokoshima (2022) was confirmed to be reliable and valid for 4th- and 5th-grade elementary school students. Moreover, Yokoshima, Noguchi, Kaya, and Yamasaki (2021) developed the modified paper version of the AHSE-IAT-C for lower-grade elementary-school students (1st- and 2nd-grade students) using pictograms.

3. How is Autonomous Self-Esteem Cultivated in Schools?

The core of autonomous self-esteem is developed in early childhood (Yamasaki, 2017). When infants feel physiological or psychological needs or desires and express them through some signals or signs, caregivers need to satisfy them immediately with enough affection. Through this experience, infants acquire self-confidence and confidence in others. Moreover, as no external controls are found in this experience, intrinsic motivation is kept high. Generally, external controls, such as punishments and rewards, often change an intrinsic motivation into an extrinsic one (e.g., Lepper, Greene, & Nisbett, 1973). This kind of development proceeds with infants’ own experiences without receiving any conscious instruction. Children with low autonomous self-esteem lack this kind of experience. Namely, the reactions of caregivers toward infants’ signals are not appropriate. In this case, children’s personality becomes attuned to heteronomous self-esteem

or apathy, and passivity.

Because of the fundamental process to form autonomous self-esteem, elementary school students with low autonomous self-esteem should be helped to follow a similar process to acquire autonomous self-esteem. In doing so, we should avoid teaching students through direct verbal instructions and guidance. Instead, students need to experience the process through classroom activities. Moreover, they should be engaged in classes with high motivation to participate. In this process of cultivating autonomous self-esteem, a group of new educational programs termed “TOP SELF (Trial of Prevention School Education for Life and Friendship)” (see Uchida, Yamasaki, & Sasaki, 2014; Yamasaki, Murakami, Yokoshima, & Uchida, 2015, for details) can be utilized. Briefly, the background theory of TOP SELF states that cognition (or thinking), feelings, and behaviors are appropriately learned and memorized only in combination with emotions that are primarily unconscious physiological reactions as suggested by the somatic marker hypothesis (Damasio, 1994, 2003). The purposes of the programs in TOP SELF are hierarchically structured with the methods consisting of various games, activities, and music that are enjoyable enough to capture students’ attention.

Thus, the programs for cultivating autonomous self-esteem were developed under the theories and methods of TOP SELF, which means that the programs belong to one of the programs of TOP SELF. In addition, the newest version of TOP SELF has made it easier for teachers to implement programs, maintaining the effectiveness and attractiveness for children. The programs for cultivating autonomous self-esteem adopt the characteristics of the newest TOP SELF.

4. The Structure and Main Purposes of the Programs

The main purposes of the program for autonomous self-esteem are the cultivation of the following capabilities in students: (I) to help students positively accept the autonomous efficacy of their selves and others and experientially integrate it into their nonconscious domain; (II) to help students accept their intrinsic psychological desires and experientially integrate them into their nonconscious domain; (III) to help students behave according to their intrinsic psychological desires; and (IV) to help students accept their and others’ behaviors based on intrinsic psychological desires in terms of behaving *per se* and the positive side the behaviors include, and experientially integrate them into their nonconscious domain. In this case, autonomous efficacy represents a psychological characteristic leading to thoughts and feelings that they can act to satisfy whenever their intrinsic psychological desires arise.

The programs for cultivating autonomous self-esteem can be applied to the students from the first grade of elementary

schools to the first grade of junior high schools. Some of the programs are under development now, but the four-class versions for the first- and second-grade elementary school students, for the fifth- and sixth-grade elementary school students, and for the first-grade junior high school students have been completed. In this paper, the program for the first and second grades of elementary school is termed “the program for lower-grade students,” and the program for the fifth and sixth grades of elementary school and the first grade of junior high school is termed “the program for higher-grade students.”

These two types of programs include the partially-different purpose structures. Tables 1 and 2 show the purpose structures from the main to operational purposes in the programs for lower- and higher-grade students, respectively. Although the program for higher-grade students includes all four main purposes, the main purposes of the program for lower-grade students are limited to two of them. The subordinate and operational purposes are decided depending on which main purposes are selected.

5. The Subordinate and Operational Purposes and Class Contents in the Program for Lower-Grade Students

As Table 1 shows, the main purposes I and II were selected in the program for lower-grade students. The main purpose I was selected for the 1st to 3rd classes, and the main purpose II was selected for the 4th class.

In the 1st class, the subordinate purpose is to help students positively accept the autonomous efficacy of self and experientially integrate it into their nonconscious domain, and the operational purpose is to help students recall positive events and enhance positive affect. In this class, the students are divided into small groups and instructed to recall their past happy and enjoyable experiences and write about them on their worksheets. Then, they exchange their worksheets in the groups, thereby sharing their experiences. In the 2nd class, the subordinate purpose is to help students positively accept the autonomous efficacy of others and experientially integrate it into their nonconscious domain, while the operational purposes are to help them look for others’ strengths, accept them as part of others’ autonomous efficacy, experientially integrate them into their nonconscious domain, and inform others about others’ autonomous efficacy one can notice. In this class, the students find the positive points of their friends. Then, each of them introduces his or her positive points as found by their friends to other members, thereby sharing those positive points with the whole class.

In the 3rd class, the subordinate purpose is the same as in the 1st class, and the operational purpose is to help students look for their strengths, accept them as part of their autonomous efficacy, and experientially integrate them into

the nonconscious domain. In this class, the students do activities to find their strengths or positive points and share them; thus, the strengths of each member are shared with the whole class. In the 4th class, the subordinate purpose is to help students experientially integrate the importance of behaving according to one’s intrinsic psychological desires, and the operational purposes are to help them accept the importance of satisfying their and others’ intrinsic psychological desires and experientially integrate the importance into the nonconscious domain, extract their intrinsic psychological desires, and think about whether it is good or not to satisfy their intrinsic psychological desires thus extracted. In this activity, the students think about their and their friends’ intrinsic psychological desires. The students write about what they want to be able to do and share it with the whole class.

In the above four classes, all the activities are conducted using enjoyable group games with many audio-visual materials, which makes the students concentrate on their classes. The characteristics of the classes are such that the students positively join them, get absorbed in them, and enhance the learning effects with heightened motivation.

6. The Subordinate and Operational Purposes and Class Contents in the Program for Higher-Grade Students

As Table 2 shows, all main purposes were adopted in the program for higher-grade students. The main purposes I to IV were considered in the program for the 1st to 4th classes, respectively. In the 1st class, the subordinate purpose is to help the students positively accept autonomous efficacy of their selves and experientially integrate it into the nonconscious domain, and the operational purposes are to help them search for their strengths, experience and positively accept autonomous efficacy of their selves, extract their intrinsic psychological desires, and think about whether or not they are allowed to satisfy their extracted desires. In this class, the students think of their dreams and aim twenty years ahead and write about the potential troubles and failures to achieve them on their worksheets. Then, after sharing their writings, they put forward their advice or messages to support the realization of their dreams to each other in their small groups. Thereafter, similar activities are conducted in the whole class for them to enjoy the panel game.

In the 2nd class, the subordinate purposes are to help the students experientially integrate the importance of behaving according to their intrinsic psychological desires into the nonconscious domain, extract these desires, and think about whether it is good or not for the students to satisfy them. The operational purposes are to help them admit the importance of satisfying their and others’ intrinsic psychological desires, experience and accept the importance, and think about whether or not they are allowed to satisfy

intrinsic psychological desires thus extracted. In this class, each small group makes a presentation to show its dreams to the whole class and receives questions or messages about the presentation from the other members.

Table 1. The Hierarchical Structure of the Purposes of the Programs for Lower-Grade Students

Classes	Main purposes	Subordinate purposes	Operational purposes
1st class		1. to positively accept the autonomous efficacy of their selves and experientially integrate it into their nonconscious domain	a. to recall positive (enjoyable, happy, etc.) events and enhance positive affect
2nd class	I. to positively accept autonomous efficacy of self and others and experientially integrate it into their nonconscious domain	2. to positively accept the autonomous efficacy of others and experientially integrate it into their nonconscious domain	b. to look for others' strengths and accept them as part of others' autonomous efficacy, and to experientially integrate them into their nonconscious domain c. to inform others about others' autonomous efficacy the students can notice
3rd class		1. to positively accept the autonomous efficacy of their self and experientially integrate it into their nonconscious domain	d. to look for their strengths and accept them as part of their autonomous efficacy, and to experientially integrate the strengths into their nonconscious domain
4th class	II. to accept their intrinsic psychological desires, and experientially integrate them into their nonconscious domain	3. to experientially integrate the importance of behaving according to their intrinsic psychological desires	e. to accept the importance of satisfying their and others' intrinsic psychological desires and to experientially integrate the importance into their nonconscious domain f. to extract their intrinsic psychological desires g. to think about whether it is good or not for them to satisfy their intrinsic psychological desires thus extracted

Table 2. The Hierarchical Structure of the Purposes of the Programs for Higher-Grade Students

Classes	Main purposes	Subordinate purposes	Operational purposes
1st class	I. to positively accept the autonomous efficacy of self and others and experientially integrate it into their nonconscious domain	1. to positively accept autonomous efficacy of self and experientially integrate it into their nonconscious domain	a. to search for their strengths, and experience and positively accept the autonomous efficacy of self b. to extract their intrinsic psychological desires c. to think about whether or not they are allowed to satisfy the extracted desires
2nd class	II. to accept their intrinsic psychological desires and experientially integrate them into their nonconscious domain	2. to experientially integrate the importance of behaving according to their intrinsic psychological desires into their nonconscious domain 3. to extract their intrinsic psychological desires and think about whether it is good or not for them to satisfy these desires	d. to admit the importance of satisfying their intrinsic psychological desires, and experience and accept the importance e. to admit the importance of others' satisfying their intrinsic psychological desires, and experience and accept it f. to think about whether they are allowed or not to satisfy the extracted intrinsic psychological desires
3rd class	III. to behave according to their intrinsic psychological desires	4. to behave for even the partial satisfaction of their intrinsic psychological desires	g. to think about the realistic aims and methods by which their intrinsic psychological desires are satisfied.
4th class	IV. to accept their and others' behaviors based on intrinsic psychological desires in terms of behaving per se and the positive side the behaviors include, and to experientially integrate them into their nonconscious domain	5. to accept their behaviors based on intrinsic psychological desires in terms of behaving per se and the positive side the behaviors include, and experientially integrate them into the nonconscious domain 6. to accept others' behaviors based on intrinsic psychological desires in terms of behaving per se and the positive side the behaviors include, and experientially integrate them into their nonconscious domain	h. to accept their selves who challenged to satisfy their intrinsic psychological desires and experientially integrate them into their nonconscious domain i. to accept others who challenged to satisfy their intrinsic psychological desires and experientially integrate them into their nonconscious domain

In the 3rd class, the subordinate purpose is to help the students behave for even the partial satisfaction of their intrinsic psychological desires. The operational purpose is to help them think about the realistic aims and methods by which they can satisfy their intrinsic psychological desires. In this class, the students do activities to think about the methods to achieve their aims in the near future. After individually writing about the aims in the worksheets, the members in small groups share these sheets and share ideas to achieve those aims. Thereafter, each group selects and presents one aim to the whole class members, and then ideas to achieve the aim are shared using an Othello game with the entire class.

In the 4th class, the subordinate purposes are to help the students accept their and others' behaviors based on intrinsic psychological desires in terms of behaving per se and the positive side the behaviors include, and experientially integrate them into their nonconscious domain. The operational purposes are to help them accept their selves and others who challenged to satisfy intrinsic psychological desires and experientially integrate them into the nonconscious domain. In this class, the students write about challenges to the achievement of their desires on the worksheets, and, thereafter, share it with the whole class. Then, in the whole class, they watch animated stories in which a person faces challenges to his or her dream and guess what thoughts the other members have regarding the stories in the guessing game.

7. The Effectiveness of the Programs

7.1. The Effectiveness of the Program for Lower-Grade Students

As stated before in this paper, the effectiveness of the programs is assessed using the IATs because any explicit measure such as self-report questionnaires cannot capture the nonconscious core characteristics of autonomous self-esteem. The IAT is the AHSE-IAT-C. Its pictogram version is used for lower-grade students owing to their insufficient understanding of written words.

First, Noguchi, Yokoshima, Kaya, and Yamasaki (2021) examined the effectiveness of the program in the second-grade students. The intervention and control groups consisted of 54 students (30 boys and 24 girls) and 26 students (14 boys and 12 girls), respectively. The short version of the program was presented to the students in the intervention group, once per week for successive four weeks. The IAT was administered to the intervention group just before and after the intervention and to the control group around the same period as the intervention group. The results were shown in Table 3. Statistical analyses using the analyses of variances (ANOVAs) revealed that among both boys and girls, the scores in the intervention group were significantly higher than those in the control

group in the post-intervention period, and there was no significant difference between the two groups in the pre-intervention period. The results suggested that autonomous self-esteem was enhanced by this program, simultaneously showing a decrease in heteronomous self-esteem.

Second, Noguchi, Yokoshima, and Yamasaki (in press) examined the effectiveness of the program in the first-grade students using the same program and assessment tool. The intervention and control groups consisted of 56 students (32 boys and 24 girls) and 29 students (16 boys and 13 girls), respectively. The results are shown in Table 4. Similar statistical results to those in the second-grade students were obtained, i.e., autonomous self-esteem was enhanced by this program, simultaneously showing a decrease in heteronomous self-esteem.

Thus, it was suggested that the program is effective to enhance autonomous self-esteem and decrease heteronomous self-esteem.

Table 3. Mean Scores (Standard Deviations) of the Autonomous and Heteronomous Self-Esteem Implicit Association Test for Lower-Grade Children (AHSE-IAT-LGC) for Each Period in the Intervention and Control Groups of the Second-Grade Students (Adapted from Noguchi et al., 2021)

Groups	Pre-intervention	Post-intervention
Intervention Group	1.56 (2.32)	3.41 (2.71)
Control Group	2.47 (1.96)	-0.27 (3.51)

Table 4. Mean Scores (Standard Deviations) of the Autonomous and Heteronomous Self-Esteem Implicit Association Test for Lower-Grade Children (AHSE-IAT-LGC) for Each Period in the Intervention and Control Groups of the First-Grade Students (Adapted from Noguchi et al., in press)

Groups	Pre-intervention	Post-intervention
Intervention Group	1.74 (2.39)	3.14 (2.46)
Control Group	.88 (4.00)	-1.00 (3.02)

7.2. The Effectiveness of the Program for Higher-Grade Students

Yamasaki, Yokoshima, and Uchida (2022) examined the effectiveness of the program for higher-grade students. Fifty-five fifth-grade students (23 boys and 32 girls) and sixty 5th-grade students (31 boys and 29 girls) were allocated to the intervention and control groups, respectively. A short version of the program for enhancing autonomous self-esteem was presented to the intervention group. The program was implemented weekly for four consecutive weeks in regular 45-minute classes for all homeroom class members in the intervention group. In the intervention group, pre- and post-intervention evaluations were conducted in the classes approximately one week before the start of the program and after the end of the program, respectively. Participants in the control group were given evaluations around the same period as those in the intervention group were given. The measure was the AHSE-ATE-C.

Table 5. Mean Scores (Standard Deviations) of the Autonomous and Heteronomous Self-Esteem Implicit Association Test for Higher-Grade Children (AHSE-IAT-HGC) for Each Period and Sex in the Intervention and Control Groups of the Fifth-Grade Students (Adapted from Yamasaki et al., 2021)

Groups	Boys		Girls	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Intervention Group	3.35 (4.31)	6.87 (4.03)	3.81 (4.27)	7.22 (4.42)
Control Group	4.48 (4.97)	4.74 (5.73)	4.34 (5.19)	4.79 (5.29)

Table 6. Mean Scores (standard deviations) of the Autonomous and Heteronomous Self-Esteem Implicit Association Test for Higher-Grade Children (AHSE-IAT-HGC) for Each period in the Intervention and Control Groups of the Fifth-Grade students (Adapted from Yokoshima, 2022)

Groups	Boys			Girls		
	Pre-intervention	Post-intervention	Follow-up	Pre-intervention	Post-intervention	Follow-up
Intervention Group	4.75 (5.21)	8.50 (4.27)	7.80 (5.40)	4.31 (5.77)	7.92 (6.10)	8.46 (5.09)
Control Group	5.36 (4.03)	4.93 (3.00)	4.64 (2.82)	4.00 (3.91)	4.70 (3.76)	4.55 (4.03)

Results are shown in Table 5. Statistical analyses using the ANOVAs revealed that among both boys and girls, the scores in the intervention group were significantly higher than those in the control group in the post-intervention period, with no difference between the two groups in the pre-intervention period. This proves the similar effectiveness of the program to that for lower-grade students. Moreover, the effectiveness did not change regardless of the level of autonomous self-esteem before the implementation.

Moreover, Yokoshima (2022) examined the follow-up effects of the program. The procedures were similar to those of Yamasaki et al. (2022), except for the setting of the follow-up period of around two weeks after the program implementation. The participants were 111 fifth-grade students, 50 in the intervention group and 61 in the control group. As shown in Table 6, the results by the ANOVAs revealed that only the interaction between the intervention-control groups and the periods (pre- to follow-up periods) was significant, and the post-hoc analyses showed that despite no significant changes in the scores of autonomous self-esteem from the pre-intervention to the follow-up periods in the control group and from the post-intervention to the follow-up periods in the intervention group, the scores significantly increased from the pre-intervention to the post-intervention period. Simultaneously, heteronomous self-esteem significantly decreased from the pre-implementation to the post-intervention or the follow-up periods only in the intervention group.

Thus, the previous studies on the effectiveness of the programs to cultivate autonomous self-esteem for lower- and higher-grade students were all positive, suggesting that the programs can be applied to all ages of students in elementary schools.

8. Future Avenues to Disseminate the Programs

Self-esteem is one of the popular topics at schools. School personnel attempt to enhance the self-esteem of

students for their health and adaptation. However, the self-esteem which they target is often unhealthy and nonadaptive like heteronomous self-esteem. Especially, as they utilize self-reports to measure self-esteem, the assessed contents tend to come from heteronomous one. Considering this, school personnel need to be careful about the concept and assessment tools of self-esteem.

The current paper depicted what healthy and adaptive self-esteem is and introduced the assessment tools and programs to enhance it. To explain the true concept of self-esteem to school personnel does not appear to be difficult, but to use the IATs as assessment tools for true self-esteem would be difficult. Although self-reports are easy for administering and scoring, the IATs introduced here are also not so difficult to do so. It takes about 15 minutes to complete, and the scoring does not take much time as it is automatically done by PCs.

The core of autonomous self-esteem is developed in early childhood, but most students are growing apart from its complete development. So, if some elementary-school students need to modify and enhance self-esteem in terms of autonomous one, the programs in this paper can be utilized, covering most grades in schools. In schools, academics are underscored, but we know that health and adaptation are more important than academics. Moreover, health and adaptation are the bases for academics. School personnel should reconsider what is most important for their children. We hope that the concept, assessment, and programs will be widely disseminated in schools in Japan, expecting that the program will be conducted on a regular basis in all schools.

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