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The Relationship Between Creativity and Behavior Problems Among Underachieving Elementary and High School Students

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Understanding the role creative potential may play in the underachievement of some students could help schools and parents understand underachievers. This study examined whether there is a relationship between creativity and behavior problems among underachievers. Forty-one elementary and 89 high school students and 4 teachers in Korea participated in this study. The principal study involved comparing all of the students' scores on the 3 measures of creative potential (Torrance Tests of Creative Thinking-Figural [TTCT], Runco Ideational Behavior Scale [RIBS], and Scales for Rating the Behavioral Characteristics of Superior Students-Revised Edition [SRBCSS-R]), with their scores on a measure of behavior problems reported by their teachers. The results indicated that, among underachievers, there is a relationship between behavioral problems and students' scores on the 3 measures of creative potential. An understanding of these students and their behavior will help us promote creative students' academic and lifelong success in classrooms.

Creative individuals are often underachievers and experience difficulty in school. A mismatch between traditional school environments and highly creative students has been reported. Goertzel and Goertzel (1960) reported that 60% of 400 eminent creative individuals in their study had serious school problems. Amabile (1989) also indicated that very creative persons experienced difficulty in school.

If needs are not met, creative individuals may develop into underachievers. According to Whitmore (1980), creative underachievers often are rebellious or disruptive, and tend to challenge and question indiscreetly; they resent the constraining structure of the classroom, excessive rules and regulations, and the press for conformity at the expense of expressed individuality; this resentment, in turn, leads to unhappiness with school. Creative underachievers lack the opportunity and encouragement to be creative and self-expressive; do not perceive social acceptance and belonging; earn teachers' criticism for failure to follow directions and complete tasks on time, and failure to memorize. As a result, they become acutely withdrawn into a more rewarding fantasy world through day-dreaming, drawing, and reading. In addition, they avoid unpleasant academic tasks and interaction with teachers or peers. Seeley (1984) was worried that parents and teachers might react by punishing the exploration of alternatives and discouraging the child's abilities. Torrance (1981b, 2000) noticed that a child's creative behaviors are often punished and discouraged by parents and teachers who perceive creative behavior as inconvenient and difficult to manage. This cycle often leads to the child's unwillingness to be creative and eventually to underachievement and rigid nonadaptive responses in school environments (Seeley, 1984).

There is also a view that underachievement is an issue of affective dysfunction, a situation where students do not develop self-regulation and discipline in accordance with other abilities and skills, resulting in patterns of poor performance, especially in school settings (Olenchak, Gaa, & Jackson, 2009). Other researchers have viewed underachievement occurring as the result of limited stimulation in school, learning problems that are ill-defined and addressed, parental pressures of various types, and excessive competition (McCoach & Siegle, 2008).

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CREATIVITY AND IQ

If these children are both highly creative and highly intelligent, why is there such question about their academic success? Some of the confusion may be found in the definitions and understanding of creativity and IQ. There is disagreement in the academic community about the distinctions between creativity and IQ (e.g., Runco & Albert, 1986; Wallach, 1970), but there is a preponderance of evidence that creativity and IQ are separate constructs (e.g., Getzels & Jackson, 1958; Gough, 1976; Guilford, 1950; Helson & Crutchfield 1970, 1971; Herr, Moore, & Hansen, 1965; Kim, 2005; Rossman & Horn, 1972; Rotter, Langland & Berger, 1971; Torrance, 1977).

Many researchers support the idea of a threshold theory, which assumes that below a critical IQ level (which is usually about 120), there is some correlation between IQ and creative potential, and above the threshold IQ there is little correlation (Getzels & Jackson, 1962; Guilford, 1967; Guilford & Christensen, 1973; Simonton, 1994). However, a recent meta-analysis indicated that the relationship between creativity test scores and IQ may be negligible at any level; thus the threshold theory was not supported by quantitative synthesis (Kim, 2005).

Even if creativity and IQ are not mutually exclusive, there are characteristics of the highly creative student that teachers and peers find undesirable in the classroom setting (Davis & Rimm, 1994; Oliphant, 1986; Rimm & Davis, 1976; Ritchie, 1980; Robinson, 1980; Torrance, 1962). Highly creative adolescents often are estranged from their teachers and peers (Getzels & Jackson, 1958; Torrance, 1995; Torrance & Safter, 1999). Westby and Dawson (1995) found that teachers' judgment of their favorite students was negatively correlated with creativity. They prefer student traits such as unquestioning acceptance of authority, conformity, logical thinking, and responsibility that make students easy to manage in the classroom. Teachers' images of the ideal student emphasize traits that were conformist and socially acceptable (Bachtold, 1974; Kaltsounis, 1977; Kaltsounis & Higdon, 1977; Torrance, 1963). Teachers rate children with high IQs as more desirable, understood, and more studious than children with high creativity (Torrance, 1962). Drews (1961) found that studious achievers attained the highest teacher grades, but creative intellectuals attained the lowest among three types of gifted high school students: social leaders, studious achievers, and creative intellectuals. Scott (1999) reported that teachers see creative children as a source of interference and disruption. Thus, highly creative students, who are often energetic and unconventional, may be misidentified as having serious behavior problems, even labeled as having attention deficit hyperactivity disorder by teachers who desire conformity (Cramond, 1994).

Identification based on IQ and scholastic achievement may seem like an obvious way to identify gifted students. However, the highly creative gifted child may go unnoticed because of the preference for conformity within the educational system. Teachers prefer gifted children who are low in creativity to those who are highly creative (Anderson, 1961). Research has shown that teachers are apt to identify students as gifted who are achievers and teacher pleasers rather than disruptive or unconventional creative students (Davis & Rimm, 1994; Oliphant, 1986; Rimm & Davis, 1976; Ritchie, 1980; Robinson, 1980; Rudowicz, 2003; Rudowicz & Yue, 2000; Scott, 1999; Westby & Dawson, 1995). Torrance (1960, 1962) was concerned that creative talent often is unrecognized. He concluded that the identification of gifted children on the basis of intelligence tests and scholastic aptitude test misses over two-thirds of the top 20% of the most highly creative students.

On the other hand, Torrance (1964) concluded that highly creative students with lower IQ scored equally well on standardized tests of academic achievement as low creative students with higher IQ scores. Reis and Renzulli (1982) also found that students who scored below the top 5% on IQ and achievement with high creativity and task commitment produced products of equal quality to those produced by the students who scored in the top 5% on IQ and achievement. Therefore, in some students, creativity may actually promote academic achievement.

Yet recent evidence from a longitudinal study of precocious students demonstrated that the top 1% in ability as assessed at age 13 on the Scholastic Aptitude Test outperform at significant levels the top 5% in ability on creative products amassed by age 38, suggesting that threshold levels of ability matter in the development of domain-specific creative products like patents, books, and scientific articles (Wai, Lubinski & Benbow, 2005). Moreover, in a recent study of women scientists, Kaensig (under review) found that the most creatively productive women in science also were top academic performers in high school and college. Piirto (2002) reported similar findings in her study of successful contemporary women writers. These studies certainly suggest that ability, especially in the area in which adult creativity is to be practiced, may be an important ingredient.

Research Questions

The research questions of this study were:

- What are the relationships among the three measures of creativity?

- Do scores on the three measures of creativity, as well as students' behavior problem scores, differ among academically underachieving, high-achieving, and the other students, as well as by gender and age?
- What is the relationship among the scores on the three measures of creative potential and students' behavior problems? What is the relationship between high scores on the three measures of creative potential (top 20 of creativity scores) and high IQ (above IQ 120)?

For the purposes of this study, underachieving students will be defined as students who are above the 50th percentile in IQ and below the 50th percentile on their achievement scores, and overachieving students will be defined as students who are below the 50th percentile in IQ and above the 50th percentile on their achievement scores.

METHODS

Participants

One hundred thirty-four Korean students and teachers from Southeast Korea participated in this study. Of the 134 participants (130 students, 83 males and 47 females and four teachers, 2 males and 2 females), 41 elementary school students and one elementary school teacher were from a large city, whereas 89 high school students and 3 high school teachers were from a suburban area. The students' academic achievement level and their parents' socio-economic status level are average compared to Korean national levels. The elementary school students included 28 males and 13 females with a mean age of 11.78 years (range = 11–12; $SD = .419$). High school students included 55 males and 34 females with a mean age of 15.93 (range = 15–17; $SD = .330$).

Instruments

Three measures of creative potential, an intelligence test, and a teacher questionnaire on their students' behavior problems were used in this study. These three measures of creative potential assess either creativity or divergent thinking.

Standardized creativity test: The Torrance Tests of Creative Thinking–Figural (TTCT–Figural). The TTCT displays adequate reliability and validity (Cooper, 1991; Treffinger, 1986) as a measure of creativity. The TTCT is more researched and analyzed than any other creativity instruments (Treffinger, 1986), having been translated into more than 35 languages (Millar, 2002), being the most widely used test of creativity (Davis, 1997), and the most referenced of all creativity tests (Lissitz & Willhoft, 1985).

The TTCT comprises five norm-referenced measures of *fluency, originality, elaboration, abstractness of titles*, and *resistance to premature closure*, and 13 criterion-referenced measures of creative strengths. The Creativity Index (CI) is established by the standard scores of each of five variables that are used according to the TTCT Norms-Technical Manual (see Torrance, 1998). The test takes 30 min to complete, according to the manual.

Self-reported creativity test: Runco Ideational Behavior Scale (RIBS). The RIBS was developed based on the belief that ideas can be treated as the products of original, divergent, and creative thinking (e.g., Guilford, 1967). The RIBS is reported to be a reliable and valid instrument (Plucker, Runco, & Lim, 2006; Runco, Plucker, & Lim, 2001). Each item describes behavior that reflects the individual's use of, appreciation of, and skill with ideas. Fifty-six items out of 71 original items were translated into Korean. Fifteen of the original items were excluded because the items describe adult behaviors (e.g., "I have ideas for arranging or rearranging the furniture at home."). The RIBS consists of a 5-point Likert scale (from 0 to 4, with 0 = *never*, and 4 = *daily*).

Teacher-reported creativity test: Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition (SRBCSS-R). The SRBCSS-R has been mostly used for identifying gifted students and for assessing interventions (Renzulli, Smith, White, Callahan, Hartman, & Westberg, 2002). It is the most widely used teacher rating instrument (Johnson & Fishkin, 1999) It is used widely in the United States (Davis & Rimm, 1994) and has been translated into several other languages (Renzulli et al., 2002). The SRBCSS-R is designed to measure 10 areas of characteristics. The 10 subscales remain separate so that there is no composite score, and specific scales may be used independently (Renzulli et al., 2002). For this study, only the Creativity Characteristics subscale was translated into Korean and used. It includes 9 items with a 6-point Likert scale (from 0 to 5, with 0 = *never*, and 5 = *always*).

Student behavior problem questionnaire. A student behavior problem questionnaire was constructed to ask teachers about their students' behavior problems. It consists of 10 items with a 5-point Likert scale (from 1 to 5, with 1 = *never*, and 5 = *always*). The items were based on common problems of students that Korean teachers deal with every day (see Appendix A).

Differential Aptitude Diagnostic Test. The students' IQs were measured by the Differential Aptitude Diagnostic Test (DADT, Lim, Park, & Kim, 1989). The DADT includes 8 subtests: verbal ability, verbal reasoning ability, numerical ability, spatial ability, numerical reasoning ability, scientific reasoning ability, logical thinking ability, and table reading ability. Lim et al. reported that the test was developed to measure both students' intelligence and aptitude and that it has satisfactory reliability and validity.

Procedures

All of the 130 students took TTCT-Figural and RIBS for 30 min, respectively. Their teachers provided information about each student by answering both the SRCBSS-R questionnaire and the student behavior problem questionnaire. The students' achievement scores (Korean language arts, mathematics, science, and social studies) and IQs were obtained from school records.

RESULTS

Correlation coefficients among the TTCT, RIBS, & SRBCSS-R were examined to see whether concurrent validity existed among the three measures of creativity. As Table 1 shows, all of the correlation coefficients among the TTCT, RIBS, and SRBCSS-R were statistically significant ($p < .01$). The correlation coefficients ranged from .32 to .37.

Students who had at least three out of four achievement scores (Korean language arts, mathematics, science, and social studies) less than the 50th percentile and IQ greater than the 50th percentile were identified as underachievers. Twenty-one students (9 elementary and 12 high school students) in the sample were identified as underachievers. Students who had at least three out of four achievement scores greater than the 50th percentile and IQ less than the 50th percentile were identified as overachievers. Fifteen students (6 elementary and 9 high school students) were identified as overachievers. The analysis was done separately for elementary and high school students because their achievement scores were from different sources.

TABLE 1
Intercorrelations Among the Three Measures of Creative Potential ($N = 130$)

	TTCT	*RIBS*
RIBS	.37**	—
SRBCSS-R	.35**	.32**

Note. **$p < .01$, two-tailed. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

To examine whether there was a difference in creative potential and behavior problems among the three groups, one way analysis of variance (ANOVA) was conducted among the underachieving, the overachieving, and the other students. The results indicated that there was no statistically significant difference between the scores of behavior problems, $F(2, 125) = 1.0$, $p = .39$, and creative potential. Both the underachieving and overachieving students had consistently higher mean scores than the other students on all of the three measures of creative potential, but their mean score differences on the RIBS, $F(2, 126) = 1.9$, $p = .15$, and SRBCSS-R, $F(2, 127) = 2.1$, $p = .13$, were not statistically significant. The ANOVA was significant for the TTCT, $F(2, 123) = 3.4$, $p < .05$. Follow-up tests were conducted to evaluate pairwise differences among the means. The test of homogeneity of variance was nonsignificant ($p = .13$). Because there may be a lack of power associated with the test due to the small sample size, the result of the homogeneity test does not necessarily imply that there are no differences in the population variances. Therefore, the Dunnett's C test, which does not require the population variances to be equal, was used. There was a significant difference in the means between the overachieving students and the other students, but no significant difference between the overachieving and the underachieving students or between underachieving and the other students. The 95% confidence intervals for the pairwise differences as well as the means and standard deviations for the three groups are reported in Table 2.

An independent-samples t-test was conducted between male and female students to examine whether there was a difference in creative potential and behavior problems between the two groups. There was no statistically significant difference in the mean scores of the TTCT, $t(124) = -1.7$, $p = .10$; RIBS, $t(127) = -.3$, $p = .80$; or SRBCSS-R, $t(128) = .9$, $p = .48$. The entire t-test results in this study were based on equal variances not assumed because of the small sample size of the study. However, male students had statistically significantly higher mean scores of behavior problems than female students, $\Delta M = 2.8$, $t(128) = 3.3$, $p < .01$. The 95% confidence interval for the difference in means was quite wide, ranging from 1.2 to 4.4 as reported in Table 3.

An independent-samples t-test was conducted between elementary and high school students to examine whether there was a difference in creative potential and behavior problems between the two groups. There was no statistically significant difference in the mean scores

TABLE 2
95% Confidence Intervals of Pairwise Differences in Mean Scores on Behavior Problems and the Three Measures of Creative Potential among the Underachieving, Overachieving, and the Other Students

Measures	*Groups (n)*	*M*	*SD*	*95% CI*	*Significant Δ M*
Behavior problems	a. Others (94)	24.0	4.7	23.1–25.0	
	b. Underachieving (21)	25.2	4.8	23.1–27.4	
	c. Overachieving (15)	26.3	4.8	22.7–28.0	
TTCT	a. Others (94)	105.6	28.5	99.6–111.5	a–c*
	b. Underachieving (21)	110.9	21.7	101.1–120.8	
	c. Overachieving (15)	125.2	26.6	110.5–139.9	c–a*
RIBS	a. Others (94)	165.1	39.5	157.0–173.3	
	b. Underachieving (21)	180.3	34.2	164.8–195.9	
	c. Overachieving (15)	179.5	38.4	158.2–200.8	
SRBCSS-R	a. Others (94)	13.1	7.1	11.7–14.6	
	b. Underachieving (21)	15.8	8.0	12.2–19.5	
	c. Overachieving (15)	16.5	9.1	11.5–21.5	

Note. *$p < .05$. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

of the TTCT, $t(124) = 1.8$, $p = .08$; RIBS, $t(127) = -.7$, $p = .52$; or behavior problems, $t(128) = 1.9$, $p = .06$. However, elementary school students had statistically significantly higher mean scores on the SRBCSS-R than high school students, $\Delta M = 3.7$, $t(128) = 2.6$, $p < .05$. The 95% confidence interval for the difference in means was quite wide, ranging from .5 to 6.9 as reported in Table 4.

The IQs of the students with the top 20% of the scores on the three measures of creative potential were examined to determine the relationship between creative potential and high IQ. Students who had the highest creative potential did not consistently have high IQs. Approximately 80% of the students with the top 20% of creativity scores had IQs less than 120, but it varied with the creativity measures and ranged from 88.5% for the TTCT (23 out of 26) to 70.8% for the SRBCSS-R (17 out of 24), and 80% for the RIBS (20 out of 25).

Correlation coefficients between behavior problems and the three measures of creative potential were calculated in order to examine the relationships between behavior problems and creativity among all students. As Table 5 shows, the only statistically significant correlation coefficient was with SRBCSS-R ($r = .51$, $p < .01$) among all 130 students. The correlation coefficients between behavior problems and the other two measures of creative potential were small and not statistically significant: TTCT ($r = .15$, $p = .110$, RIBS ($r = .01$, $p = .91$).

Correlation coefficients between Behavior Problems and the three measures of creative potential were calculated to examine the relationship between behavior problems and creativity among underachievers. As Table 6 shows, all of the correlation coefficients between behavior problems and the TTCT ($r = .51$, $p < .05$), RIBS ($r = .47$, $p < .05$), and SRBCSS-R ($r = .70$, $p < .01$) among 21 underachievers were statistically significant.

A multiple regression analysis was conducted to evaluate how well the three measures of creative potential predicted behavior problems. The linear combination of the three measures of creative potential was significantly related to behavior problems, $F(3, 17) = 6.56$, $p < .01$. The sample multiple correlation coefficient

TABLE 3
95% Confidence Interval for the Difference in Mean Scores on Behavior Problems and the Three Measures of Creative Potential between Male and Female Students

Measure	*Groups (n)*	*M*	*SD*	*Δ M*	*95% CI for Δ M*
Behavior problem	Male (83)	25.4	4.6	2.8*	1.2–4.4
	Female (47)	22.6	4.3	—	—
TTCT	Male (82)	105.7	26.2	−9.0	−19.7–1.7
	Female (44)	114.6	30.0	—	—
RIBS	Male (83)	168.6	41.2	–1.8	−15.3–11.8
	Female (47)	170.4	34.9	—	—
SRBCSS-R	Male (82)	14.4	7.9	1.2	−1.5–3.8
	Female (47)	13.2	6.9	—	—

Note. *$p < .05$. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

TABLE 4
95% Confidence Interval for the Difference in Mean Scores on Behavior Problems and the Three Measures of Creative Potential Between Elementary and High School Students

Measure	*Groups (n)*	*M*	*SD*	Δ *M*	*95% CI for* Δ *M*
Behavior problem	Elementary (41)	25.6	5.1	1.8	−.1–3.6
	High school (89)	23.8	4.4	—	—
TTCT	Elementary (41)	114.6	22.6	8.6	−.9–18.1
	High school (85)	106.0	29.7	—	—
RIBS	Elementary (41)	166.1	36.9	−4.7	−18.9–9.6
	High school (89)	170.8	39.9	—	—
SRBCSS-R	Elementary (41)	16.5	9.4	3.7*	.5–6.9
	High school (89)	12.8	6.2	—	—

Note. $^{*}p < .05$. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

was .73, indicating that approximately 54% of the variance of behavior problems ($R^2 = .54$, adjusted $R^2 = .46$) was explained by the three measures of creative potential. As Table 7 shows, the SRBCSS-R ($\beta = .57$, $t = 2.85$, $p < .05$) was a statistically significant predictor of behavior problems, whereas the RIBS ($\beta = .17$, $t = .87$, $p = .40$) or TTCT ($\beta = .12$, $t = .57$, $p = .58$) did not predict behavior problems at a statistically significant level.

TABLE 5
Intercorrelations Between Behavior Problems and the Three Measures of Creative Potential Among All Students ($N = 130$)

	TTCT	*RIBS*	*SRBCSS-R*
Behavior problem	.15	.01	.51*

Note. $^{*}p < .05$, two-tailed. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

TABLE 6
Intercorrelations Between Behavior Problems and the Three Measures of Creative Potential Among Underachievers ($N = 21$)

	TTCT	*RIBS*	*SRBCSS-R*
Behavior problem	.51*	.47*	.70**

Note. $^{*}p < .05$, two-tailed. $^{**}p < .01$, two-tailed. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

TABLE 7
Multiple Regression Analysis for the Prediction of Behavior Problem by the Three Measures of Creative Potential Among Underachievers ($N = 21$)

Adjusted R^2	*F*	*df*	*Predictor*	*T*
.46	6.56	3/17	SRBCSS-R	2.85*
—	—	—	TTCT	.57
—	—	—	RIBS	.87

Note. $^{*}p < .05$, two-tailed. TTCT = Torrance Tests of Creative Thinking–Figural, RIBS = Runco Ideational Behavior Scale, SRBCSS-R = Scales for Rating the Behavioral Characteristics of Superior Students–Revised Edition.

DISCUSSION

Both the underachieving and overachieving students had consistently higher mean scores than the other students on all of the three measures of creative potential. The differences were not significant for the RIBS and SRBCSS-R, but the small sample size may have limited the results. Thus, both underachieving and overachieving students might have higher creative potential than other students. High creativity of overachieving students is consistent with Torrance's (1964) and Reis and Renzulli's (1982) previous research in that creativity can contribute to a student's high achievement, even with low IQ. On the other hand, high creativity of underachieving students might be a cause of, or at least a contributor to, their underachievement, as well.

No significant difference in the scores of any of the three measures of creative potential between males and females indicate that gender may not affect creativity. Previous research on gender differences in creativity scores is inconclusive. Richardson (1986) and Kim and Michael (1995) found gender differences, whereas Runco (1991) and Ogawa, Kuehn-Ebert, and DeVito (1991), found no differences. Even among the research that found gender differences, some reported higher scores for males while others reported higher scores for females.

However, there was a significant gender difference in behavior problems, favoring males. This is to be expected since traditionally girls are taught to be meek and submissive in the Korean society.

The elementary school students had significantly higher mean scores on the SRBCSS-R than high school students. This could indicate that elementary school students have not yet had their creativity squashed by the school environment, or perhaps that elementary school itself allows more play. Alternatively, given that the SRBCSS-R is a teacher-reported measure of creative potential, elementary school students may have more chances to show their creative potential than high school students in ways that their teachers notice.

The examination of the top 20% on the three measures of creative potential and IQ at or above 120 indicated that about 80% of the top 20% of creative students would be missed if gifted students were identified solely by IQ. This is similar to Torrance's (1960, 1962) conclusion that if gifted children are identified only on the basis of intelligence tests and scholastic aptitude tests, 70% of the top 20% most creative students will be missed.

Among all students, behavior problems had a significant relationship only with the SRBCSS-R, whereas among underachievers, behavior problems had significant relationships with all of the three measures of creative potential. This indicates that there might be a relationship between students' behavior problems and creativity among underachievers. This relationship was recognized by Torrance (1981b, 2000) when he expressed concern that creative behaviors are punished and discouraged by parents and teachers who perceive creative behavior as inconvenient and difficult to manage. This can lead to the child's unwillingness to be creative and eventually to underachievement and rigid non-adaptive responses in the school environment (Seeley, 1984).

Judgments about the relative importance of creativity scores as predictors of behavior problems are difficult because the three measures of creative potential are correlated. In addition, the high prediction of SRBCSS-R scores may be because both the behavior problem questionnaire and SRBCSS-R are rated by teachers and thus subject to similar influences on judgment about students.

The significant correlation coefficients among the TTCT, RIBS, & RRBCSS-R indicate that some concurrent validity exists among the three measures of creative potential. However, the actual correlation coefficients among the three measures were relatively low. This was not unexpected given the significant theoretical differences among the measures and the variety of definitions from which measures of creative potential are derived. This result is also consistent with previous literature (e.g., Davis, 1997; Johnson & Fishkin, 1999) in that concurrent validity coefficients are generally lower for measures of creative potential when compared with validity coefficients for other domains such as achievement or intelligence.

There was no significant difference in the scores of behavior problems among underachieving, overachieving, and the other students. This might indicate that behavior problems are common for all kinds of students, not just for underachieving students.

The results of this study may be limited because of the small sample size. Future research is needed to replicate this study, using a larger sample of students at various ages and levels of performance. Cross-cultural comparisons are also needed to examine whether there are differences in the relationship between creative potential and behavior problems among underachieving students in cultures other than Korean.

In addition to suggesting that there is a relationship between creative potential and behavior problems for underachievers, this study also seems to suggest that creativity can be a value-added catalyst for success, compared with typical measures of academic potential. Torrance (1962) recognized this when he stated that creativity is required in addition to high intelligence, special talent, and technical skills for outstanding success. History has shown that it only takes a few exceptionally creative individuals to make striking advances in human affairs, including the creative arts, political and military leadership, and scientific discovery and invention (Weyl, 1970). It has been said that if we learn to foster and reward creativity in school, rather than to deny and punish the behaviors that nurture creativity, we can greatly increase the natural creativity of the students (Dettmer, 1981) and potentially turn underachievers into overachievers.

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APPENDIX A: STUDENT'S BEHAVIOR PROBLEM QUESTIONNAIRE

Please evaluate the student's behavior problems, if any, with the following questionnaire.

The student (insert name)_____,

1. Does not do school work.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
2. Interrupts class with strange thoughts and questions.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
3. Is stubborn.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
4. Is rude to teachers.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
5. Is too talkative.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
6. Does not pay attention to teachers.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
7. Lives in his or her own world or seems to daydream all the time.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
8. Has difficulty following school rules.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
9. Has difficulty controlling emotions or has emotional outbursts.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always
10. Has no interest in school.				
1	2	3	4	5
Never	Rarely	Occasionally	Frequently	Always