

## Creativity & Underachievement Among Gifted Students

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## Purposes of the Study

- Explore the role creative potential may play among gifted underachievers
- Creatively gifted students
  - often overlooked for gifted programs
  - seen as trouble makers who disengage from school
- Conflict arises
  - autonomy demanded by creativity
  - conformity demanded by many classrooms

## Literature Review

Characteristics of Highly Creative  
Students, School Systems, & Teacher  
Expectations

## Creativity & Gifted Identification

- Torrance (1960b, 1962) was concerned that much creative talent goes unrecognized.
  - Identifying gifted only on the basis of IQ & scholastic aptitude test-- Will miss 70% of our top 20% most creative.

## Characteristics of Highly Creative Students

- Getzels & Jackson (1958) compared students of high I.Q. with those of high creativity.
- Highly creative students
  - Much higher degrees of imagination & originality, especially through humor
  - Used greater stimulus-free themes, unexpected endings, humor, & playfulness
  - Enjoyed the risk & uncertainty of the unknown

## Characteristics of Highly Creative Students

- Torrance - Risk-taking & Curiosity
  - Risk-taking is important in the acquisition of skills & knowledge (1960a)
  - People devalue curiosity
    - "Curiosity killed the cat"
  - Asking an unusual question or advances a new idea
    - Runs a risk of ridicule by classmates & the teacher (Torrance, 1962).
- Highly creative adolescents are misunderstood & often estranged from their teachers & peers (Getzels & Jackson, 1958)

## Teacher perception & identification

- Teachers tend to
  - Prefer gifted children who are low in creativity to those who are highly creative (Anderson, 1961).
  - Identify students who are achievers & 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).
  - See creative children as a source of interference & disruption (Scott, 1999)

## Teacher perception & identification

- Teachers' judgments of their favorite students were negatively correlated with creativity (Westby & Dawson, 1995).
  - Teachers preferred students' traits that make students easy to manage in the classroom.
    - unquestioning acceptance of authority
    - conformity
    - logical thinking
    - responsibility
    - good-natured character

## Teacher perception & identification

- When compared with highly creative students, teachers rated children with high IQ's as
  - more desirable
  - better known or understood
  - more ambitious
  - more hardworking or studious (Torrance, 1962)
- Studious achievers attained the highest teacher grades & creative intellectuals attained the lowest among gifted high school students (Drews, 1961)
- Energetic & unconventional students can be seen as having ADHD by their teachers (Cramond, 1994)

## Creative Characteristics in a Collectivist Society

- College students from Hong Kong, China, & Taiwan considered characteristics associated with creativity as having low importance for a Chinese person. (Rudowicz & Yue, 2000)

## Hong Kong Teacher Perception

- A Hong Kong study found that teachers' perception of an ideal student did not fit a creative child model (Lam, 1996, cited in Rudowicz, 2003).
  - The top ranked traits for an ideal student were
    - Honest
    - self-disciplined
    - responsible
    - respects parents
    - diligent
    - unselfish
    - humble
    - obedient

## Giftedness & Creativity in Korea

- Fostering creativity among gifted students: important element in the future of Korea's economic prosperity.
- Passed a gifted education act in 4/2002: initiated gifted programs in every school (Korean Educational Development Institute, 2003).
- Still new, & yet to be a single, uniform construct for giftedness, creativity, or selection of students for gifted programs.

## “Creativity” in the Korean Educational System

- Focus on Math & Science
  - highly interested in creativity because ingenuity is tied to competition within the global economy.
- 0.28% of the entire student population were identified & served as gifted. (Korean Educational

Development Institute, 2003).

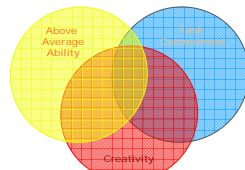
- 82%: Science & Math gifted (Science: 42.8%; Math: 39.2%)
- 18%: Computer, Music & Arts, & English gifted

## “Creativity” in the Korean Educational System

- Definition of giftedness is fairly eclectic, borrowing from
  - Marland (1972), Renzulli (1978), Gardner (1983), & Sternberg (1999) (Lee, 2004)
- Contradictory to a national agenda that embraces creativity
  - Selection of gifted is limited to academic achievement
  - GPA
  - Entrance exam scores, or
  - Achievement scores
  - Interview

## Renzulli (1997)

- giftedness comes from the *interaction* of
  - Above average ability
  - Task commitment
  - Creativity



Renzulli's three ring conception of giftedness (Renzulli, 1978, 1986; Renzulli & Reis, 1991, 1997; Renzulli, Reis, & Smith, 1981; Kirschenbaum, 1995)

## Multiple Criteria

- GA DOE multiple criteria for identifying gifted students (Georgia Department of Education, 1998; Krisel & Cowan, 1997).
- Eligibility is based – A or B
  - (A) standardized intelligence test & achievement criteria
    - 99th percentile (K-2); 96th percentile (3-12)
  - (B) multiple-criteria assessment process in three of four areas:
    - Intelligence; achievement; creativity; motivation

## Method

Participants, Measures, & Analysis

## Research Questions

- What are the relationships among the 3 divergent thinking measures including TTCT, RIBS, & SRBCSS-R?
- Which subscales of the TTCT have stronger relationships with which items of other creativity measures?
- What are the relationships between the 3 divergent thinking measures & achievement scores?
- Do top 20% creative students have top 20% achievement scores?

## Research Questions

- Do creative students have more behavior problems according to their teacher's evaluation?
- Which subscales of the TTCT & items of the RIBS & SRBCSS-R have stronger relationships with students behavior problems?

## Instruments

- TTCT- Torrance Tests of Creative Thinking-Figural
- RIBS - Runco Ideational Behavior Scale
- SRCBSS-R - Scales for Rating the Behavioral Characteristics of Superior Students-Revised Edition
- Student's Behavior Problem Questionnaire

## Instruments - TTCT

- Developed in 1966
- Translated into over 35 languages.
- Highly recommended in educational field & is also used in the world of business
- The most widely used test of creativity (Colangelo & Davis, 1997).
- Has the most references (Willhoft, 1985)
- Fair in terms of gender, race, S.E.S., & culture (Torrance, 1977; Cramond, 1993).
- Mostly used for identifying gifted students

## TTCT

- 5 subscales
  - *Fluency; Originality; Resistance to Premature Closure; Elaboration; Abstractness of Titles*
- Plus 13 Checklists of Creative Strengths
  - *Emotional Expressiveness, Storytelling Articulateness, Movement or Action, Expressiveness of Titles, Synthesis of Incomplete Figures, Synthesis of Lines or Circles, Unusual Visualization, Internal Visualization, Extending or Breaking Boundaries, Humor, Richness of Imagery, Colorfulness of Imagery, & Fantasy*

## Instruments - RIBS

- In press
- Based on belief that ideas can be treated as the products of original, divergent, & creative thinking (J. P. Guilford, 1967)
- Most items describe behaviors that reflect an individual's use of, appreciation of, & skill with ideas.
- Translated 56 items for children among 71 original items

## Instruments – SRBCSS-R

- SRBCSS-Revised Edition (Renzulli, Smith, White, Callahan, Hartman, & Westberg, 2002)
- SRBCSS: published in 1976 by Renzulli, Smith, White, Callahan, & Hartman.
- Intended to guide school personnel in assessing the characteristics of high ability students
  - Mostly used for identifying gifted students
  - Used for assessing interventions (Renzulli et al., 2002)
- Used widely in the U. S. (Davis & Rimm, 1994) & translated into several other languages (Renzulli et al., 2002)

### Instruments – SRBCSS

- It is designed to measure ten areas of Characteristics:
  - Learning; Creativity; Motivation; Leadership; Artistic; Musical; Dramatics; Communication (Precision); Communication (Expressiveness); Planning
- No composite score - the ten subscales are to remain separate
- Specific scales may be used independently (Renzulli et al., 2002).
- Only Creativity Characteristics subscale was used.
  - 9 items & a Likert scale with a 6-point range.

### Instruments - Student's Behavior Problem Questionnaire

- Constructed to ask teachers about their students behavior problems
- Has 10 items with a 5-point Likert scale

### Participants

- 41 middle-school students
- Home room teacher
- From the south-east part of Korea

### Procedures

- Students
  - TTCT-Figural
  - RIBS
- Achievement information from school records.
  - Korean language Arts, Mathematics, Science, & Social Studies
- Teacher provided information by answering about the students.
  - SRBCSS
  - Student's Behavior Problem Questionnaire

### Data Analysis

- Correlations among TTCT, RIBS, & RRBCSS-R - concurrent validity
- Correlations for creativity & underachievement
  - TTCT
  - RIBS
  - RRBCSS-R
- &
- Achievement scores (Korean language Arts, Mathematics, Science, Social Studies, & Mean Achievement Score)

### Data Analysis

- Creativity & Achievement scores were compared
  - Looked at achievement scores for the top 20 % of the creative students (TTCT, RIBS, & SRBCSS-R)
- Creativity & Behavior
  - Correlations between each of the TTCT, RIBS, & RRBCSS-R scores & behavior problems were examined
- Correlations between units
  - Which subscales or items of the creativity measures have stronger relationships with which behavioral problems?
    - Each item of the SRBCSS-R
    - Each subscale of the TTCT
    - Each item of the RIBS
    - Each question of the Behavior Problem Questionnaire



## Results

Correlations, Graphs, and Scales

### Correlations among the TTCT, RIBS, & RRBCSS-R

	TTCT	RIBS
TTCT		
RIBS	.366*	
SRBCSS	.483**	.534**

### Correlations between the TTCT, RIBS, & RRBCSS-R & Achievement scores

	TTCT	RIBS	SRBCSS
Korean	.520**	.438**	.432**
Math	.062	.327*	.284
Science	.485**	.333*	.449**
Social Studies	.424**	.314*	.547**
Achievement	.446**	.398**	.496**

### Top 20 % creative students' achievement

TTCT		RIBS		SRBCSS	
Percentile of CI Score	Percentile of Achievement	Percentile of RIBS Score	Percentile of Achievement	Percentile of SRBCSS Score	Percentile of Achievement
100	51.2	100	36.6	100	<b>87.8</b>
97.6	51.2	97.6	<b>95.1</b>	97.6	36.6
95.1	36.6	95.1	<b>90.2</b>	97.6	73.2
92.7	<b>87.8</b>	92.7	73.2	92.7	51.2
90.2	46.3	90.2	68.3	90.2	68.3
90.2	68.3	90.2	68.3	87.8	68.3
85.4	58.5	85.4	73.2	85.4	73.2
82.9	58.5	82.9	29.3	85.4	73.2
80.5	7.3	80.5	12.2	85.4	68.3
				85.4	51.2

- Top 20 % creative students based on each of the TTCT, RIBS, & SRBCSS-R were examined to see whether they acquire top 20 % of the achievement scores.

### Creativity & Behavior

	Behavior Problem
TTCT	.235
RIBS	.187
SRBCSS	.631**

- Correlations between the TTCT, RIBS, & RRBCSS-R scores & behavior problems

- ### Correlations between the SRBCSS-R Items & Students' Behavior Problems
1. Imaginative thinking ability. (.586\*\*)
  2. A sense of humor. (.454\*\*)
  3. The ability to come up with unusual, unique, or clever responses. (.615\*\*)
  4. An adventurous spirit or a willingness to take risks. (.544\*\*)
  5. The ability to generate a large number of ideas or solutions to problems or questions. (.441\*\*)
  6. A tendency to see humor in situations that may not appear to be humorous to others. (.458\*\*)
  7. The ability to adapt, improve, or modify objects or ideas. (.379\*)
  8. Intellectual playfulness, willingness to fantasize & manipulate ideas. (.354\*)
  9. A non-conforming attitude, does not fear being different. (.573\*\*)

### **Behavior problems & TTCT Subscales**

- Seems smart, but does neither school work nor home work. -- **Elaboration (.456\*\*)**
- Is rude to teachers. -- **Fluency (.464\*\*)**  
**Originality (.343\*) CI (.376\*)**
- Is too talkative. -- **Fluency (.341\*) Elaboration (.329\*) Closure (.360\*) CI (.366\*)**
- Thinks too much about things that are not related to school work so much that he or she does not pay attention to teachers. -- **Elaboration (.392\*)**
- Lives in his or her own world-daydreams all the time. -- **Elaboration (.363\*)**

### Correlations between Behavior Problem & RIBS Items - *seems smart, but does neither school work nor home work.*

- I read something (written by someone else) & realize there are alternative perspectives. I have my own ideas about the subject or topic. (.409\*)
- I often have unconventional ideas.(.354\*)
- I find that one of my ideas has led me other ideas which have led me to other ideas, & I end up with an idea & I do not know where it came from. (.322\*)
- **I am good at combining ideas in ways that others have not tried. (.435\*\*)**
- While walking or exercising – out of nowhere an idea pops into my head. (.317\*)

### Correlations between Behavior Problem & RIBS Items - *Interrupts class with strange thoughts & questions.*

- I have ideas for making my work easier.(.387\*)
- **I play around with alternatives, sometimes asking "what if," just for the fun of it.(.448\*\*)**
- I am an active thinker--I have lots of ideas.(.385\*)
- My ideas are considered "impractical" or even "wild." (.363\*)
- **I think about something (NOT work-related) intensely for many hours.(.401\*\*)**
- People wonder if I am scatter-brained or absent-minded because I think about different things all at once.(.370\*)
- I do something that does not really need to be done. (.347\*)
- **I have a question that I am not certain how to answer. (.488\*\*)**
- **I have ideas about a new invention.(.452\*\*)**
- I see a cloud, shadow, or similar ambiguous figure & have SEVERAL ideas about what the shape or figure could be. (.515\*\*)

### Correlations between Behavior Problem & RIBS Items - *is stubborn*

- **I make a plan (e.g., going to a particular restaurant or movie), but something messes it up—but even then I have ideas what to do instead.(.363\*\*)**
- Friends ask me to help them think of ideas & solutions.(.320\*)
- I make a plan (e.g., going to a particular restaurant or movie), but something messes it up—and then I am not sure what to do instead. (.325\*)

### Correlations between Behavior Problem & RIBS Items - *is rude to teachers.*

- I have wild, weird, or odd ideas.(.327\*)
- **I read something (written by someone else) & realize there are alternative perspectives. I have my own ideas about the subject or topic.(.401\*\*)**
- **I am good at combining ideas in ways that others have not tried.(.464\*\*)**
- I see a cloud, shadow, or similar ambiguous figure & have SEVERAL ideas about what the shape or figure could be. (.391\*)
- I have ideas about what I will be doing 10 years from now. (.336\*)

### Correlations between Behavior Problem & RIBS Items - *is too talkative*

- **I have wild, weird, or odd ideas. (.383\*)**
- I am an active thinker--I have lots of ideas. (.335\*)
- I find that one of my ideas has led me other ideas which have led me to other ideas, & I end up with an idea & I do not know where it came from. (.318\*)
- **I am good at combining ideas in ways that others have not tried. (.398\*)**
- I have ideas about a new invention. (.329\*)
- I see a cloud, shadow, or similar ambiguous figure & have SEVERAL ideas about what the shape or figure could be. (.332\*)

Correlations between Behavior Problem & RIBS Items  
*- thinks too much about things that are not related to school work so much that he or she does not pay attention to teachers*

- I have ideas for making my work easier. (.342\*)
- **My ideas are considered "impractical" or even "wild."** (.403\*\*)
- I say something & later regret it. (.352\*)
- I have a question that I am not certain how to answer. (.343\*)
- I have ideas about a new invention. (.388\*)
- **I have ideas about how to make something better.** (.443\*\*)
- I see a cloud, shadow, or similar ambiguous figure & have SEVERAL ideas about what the shape or figure could be. (.386\*)

Correlations between Behavior Problem & RIBS Items  
*- lives in his or her own world-daydreams all the time.*

- I have ideas about how to make something better. (.319\*)
- I often see people & think about alternative interpretations of their behavior. (.319\*)

*- has difficulty following the school rules*

- I make a plan (e.g., going to a particular restaurant or movie), but something messes it up—and then I am not sure what to do instead. (.312\*)

*- has no interest in school.*

- I put something together, use a recipe, or use instructions of some sort, & I stick to the plans. I follow the instructions. (.381\*)

**Conclusion**

Identification, Perception, and Implications

**Creativity & Gifted Identification**

- Consistent with Torrance's conclusion  
(1960b, 1962)
  - Identifying gifted only on the basis of IQ & scholastic aptitude test -- Will miss 70% of our top 20% most creative.

**Teacher perception & identification**

- Cognitive components of creativity may not interact negatively in the classroom
- Creative personality & creative behaviors conflict with classroom & teacher expectations
- Consistent with previous research
  - See creative children as a source of interference & disruption (Scott, 1999)

**Implications**

- **When we identify gifted students, we should consider creativity as a criteria.**
- **Consider creatively gifted students' need.**
- **Try to make classroom environment that encourages students' creativity.**