



Will the Real Creativity Crisis Please Stand Up?

Editorial by Don Treffinger

The notion of a *creativity crisis* and a significant decline in creativity in America has caught the attention of many journalists, resulting in a proliferation of distraught, hand-wringing articles circulating among mass media, blogs, and educational resource sites. Much of this draws from a single journal article (Kim, 2011). The article's author analyzed data from the normative data sets for the Figural forms of the Torrance Tests of Creative Thinking (TTCT) from 1974 through 2008, and reported significant areas of declining scores over that interval. Unfortunately, there are some significant flaws that apparently were overlooked that might lead readers who are more critical analysts than journalists (ever on the lookout for an attention-catching "spin") to be more cautious about the basis for predicting that "the sky is falling."

First, to argue for a broad-scale decline in creativity, one might expect either a systematic longitudinal study (in which the same group of subjects are assessed on multiple occasions over an extended period of time), or a very carefully planned and implemented cross-sectional study involving extensive samples are assessed at different times, with attention to preserving the random and representative nature of the samples. Neither is the case with respect to the data set from this article. Rather, the data from the normative

samples in 1974, 1984, 1990, 1998, and 2008 represented an accumulation of samples of convenience over time. That is, the results that were entered into the data set originally remained in that set in succeeding iterations. Thus, if your results were part of the 1974 data set, they were still part of the data set in 1984; they were not your results when tested again a decade later, but the same data that were entered originally.

Second, since these were samples of convenience (that is, they included any data that were available to be included in the interval between one report and the next), there is no assurance that they represented either random or representative samples of the population, nor that they were comparable in relation to a broad array of variables that might be important for comparison purposes (e.g., geographic, ethnic, or socio-economic factors). This may not be a problem for presenting the total set of results at any point in time, but it would certainly limit or threaten any efforts to compare the sets at different times.

Third, although the media reports discuss a decline in "creativity," as a broad and inclusive term, the data used in the underlying study were limited very specifically (and clearly delineated as such by the researcher) to those aspects of divergent thinking assessed by the Figural forms of the TTCT. Thus, the analyses used only one part of the overall TTCT (and not the Verbal forms, which

certainly would have been important in relation to many forms of creative behavior). This specificity was lost by media writers, likely eager not to "confuse" readers with such details about what aspects of "creativity" were (or were not) involved. (This limitation also makes the article's title reference to a "creativity crisis" arguably a more unfortunate choice.)

You might ask, "If the scores declined, isn't that actually reason for concern, despite these technical issues? What else might explain the findings?" Several possibilities exist. First, since those who were in the original sample remained in subsequently reported samples, and were not retested, those who were originally "high" or "low" may not have actually changed at all. We have no ideas whether any of their results actually increased or decreased. In addition, sampling variations may

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VIEW's Foundations in Personality

By Scott Isaksen

Norwegian Business School and The Creative Problem Solving Group

My Norwegian colleagues, Astrid Kaufmann and Bjorn Bakken, shared an interest in investigating the deeper psychological foundations of VIEW: An Assessment of Problem Solving Style. Selby, Treffinger and I had developed VIEW with a deliberate balance between Creative Problem Solving (CPS) research and psychological studies in learning, cognitive style, and psychological type. Our practical experiences integrating VIEW with training and application in CPS have been very successful and productive. The aim of the present study was to investigate the personality facets that undergird the concept of problem-solving style.

Students enrolled in the Norwegian Business School in Bergen, Norway completed VIEW in 2009 and 2010, received feedback in course presentations, and were also invited to complete the Cattell 16PF instrument and receive feedback on that instrument as well. 167 participants completed both assessments and were included for analysis (103 females, 62 males and 2 who did not indicate gender). The participants' ages ranged from 19 to 60, with an average age of 24.12 and a standard deviation of 6.68 (3 did not indicate their age).

Cattell's work on identifying the facets of the normal personality was cited as one of the foundational sources for the construction of the VIEW dimensions (Selby, Treffinger, and Isaksen, 2007). The fifth edition of Cattell's 16PF instrument (Karol & Russell, 2009) was designed to comprehensively assess the normal range of personality; it provides scores on 16 facets and five global scales that are comparable to the big five personality traits. Selby, Treffinger, and Isaksen (2007) outlined expected relationships for each of VIEW's

three dimensions, so this study sought to validate those hypotheses. In general, we expected moderate relationships, in that problem-solving style demonstrated only slight overlap with personality. In other words, problem-solving style, as assessed by VIEW, should offer some value beyond personality, functioning as a bridging concept between personality and cognitive function.

Pearson correlation coefficients were computed for all 16PF facets and global scales with the three dimensions of problem-solving style (see Table 1 on page 3). Twenty-eight of the possible 72 correlations were significant (39%). The values of the significant coefficients ranged from .153 to .392. The pattern of correlations suggests unique personality profiles for each of the dimensions of problem-solving style.

Within the Orientation to Change Dimension, and consistent with our hypotheses, we found support for the Developer style tending toward being rule bound and conforming, less abstract, and less open to change. They preferred to have more structure, produce solution-oriented ideas, and may be more attached to the familiar. In addition, Developers tended to be focused on perfectionism – taking an organized approach to change. Explorers, on the other hand, tended to take a more flexible approach and tolerate disorder, to be more non-conforming, idea-oriented, and open to change. From the global scale perspective (second-order factors), we found that Developers tended to be more tough-minded or resolute and self-controlled, while Explorers tended to be more independent and intuitive.

To further explore differences between Explorers and Developers we performed an Analysis of

Variance (ANOVA) by separating those with more extreme scores on Orientation to Change (removing those who scored within a half standard deviation from the observed mean) resulting in 51 subjects with strong Explorer preferences and 59 with strong Developer preferences. The results supported the correlational findings, Among those with more extreme scores, Explorers tended to have higher scores on Liveliness (being more animated, spontaneous, and impulsive), and Developers were more serious, restrained, and prudent (15.9 versus 13.63, $F = 5.042$, $p < .007$, $df = 2$, partial $\eta^2 = .075$). Explorers tended to be more Socially Bold or uninhibited and Developers to be more threat-sensitive and timid (14.86 versus 11.59, $F = 5.22$, $p < .006$, $df = 2$, partial $\eta^2 = .06$). Finally, those who scored as strong Explorers were more Extraverted than Developers (7.31 versus 6.44, $F = 4.96$, $p < .008$, $df = 2$, partial $\eta^2 = .057$).

For Manner of Processing, Internals were less Socially Bold and more hesitant, providing confirmation of our hypothesis. In addition, we found the personality profile of the Internal was less emotionally stable or reactive, more careful, more likely to be self-doubting, more solitary and self-reliant, individualistic, slightly less open to change, and tended more toward perfectionism. Externals tended to be more Socially Bold, more affiliative and group oriented, and outgoing. On the second-order factors, Internals were more Introverted, socially inhibited, reserved and distant and Externals more Extraverted. Again, we identified subjects who scored more strongly resulting in 57 clear Externals and 51 clear Internals. The correlational results were confirmed and we found that stronger Externals were more Dominant than Internals (13.84

versus 12.76, $F = 5.86$, $p < .003$, $df = 2$, partial $\eta^2 = .067$), and that stronger Internals had higher scores on Abstractedness indicating that they tended to be more absorbed with ideas (6.88 versus 6.42, $F = 5.29$, $p < .006$, $df = 2$, partial $\eta^2 = .061$). For the global scale of Self Control, Internals were more likely to be self controlled and inhibit their urges than Externals (5.63 versus 5.07, $F = 3.53$, $p < .032$, $df = 2$, partial $\eta^2 = .041$).

For Ways of Deciding, Task-oriented deciders were more re-

served and impersonal, objective and utilitarian, supporting our hypotheses. In addition, the profile for Task-oriented deciders included being less attentive to others and more Self-Reliant. On the Global scales Task-oriented deciders tended to be tough-minded or less attentive to others when making decisions and focused more on practical and grounded solutions. They also tended to be more Self Controlled. Person-oriented deciders tended to be more Extroverted. Again, after separating the results for Ways of Decid-

ing we identified 50 participants with strong Person-oriented and 55 with strong Task-oriented preferences. Person-oriented deciders were more Abstract than Task-oriented deciders (9.12 versus 7.76, $F = 5.50$, $p < .005$, $df = 2$, partial $\eta^2 = .038$).

The 16PF includes a brief measure of mental ability called Reasoning (Facet B). It includes 15 items to assess verbal, numerical, and logical reasoning ability and correlates well with other measures of intelligence (Karol & Russell,

Table 1: Correlations Between 16PF and VIEW

16 PF Primary Scales	Orientation to Change	Manner of Processing	Ways of Deciding
Warmth	-.127	-.220**	-.333**
Reasoning	-.024	-.065	.153*
Emotional Stability	-.051	-.211**	.081
Dominance	-.103	-.140	.078
Liveliness	-.114	-.206**	-.121
Rule Conscious	.245**	-.027	.138
Social-Boldness	-.150	-.275**	.086
Sensitivity	-.069	-.044	-.294**
Vigilance	-.097	.114	-.011
Abstractedness	-.310**	.060	-.073
Privateness	.044	.086	.184*
Apprehension	.098	.212*	-.168*
Openness to Change	-.376**	-.196*	-.110
Self-Reliance	.005	.326**	.056
Perfectionism	.205**	.213**	.171*
Tension	-.078	.015	.019
16PF Global Scales			
Extroversion	-.127	-.322**	-.225**
Anxiety	-.002	.187*	-.078
Tough-Mindedness	.392**	.193*	.332**
Independence	-.254**	-.198*	.013
Self-Control	.367**	.151	.207**

** Significant at the 0.01 level; * Significant at the 0.05 level; N = 167

2009). The results indicated no significant relationship between reasoning and the Orientation to Change and Manner of Processing dimensions of VIEW. There was a small, but significant correlation between reasoning and the Ways of Deciding dimension of VIEW illustrating a positive relationship between reasoning and a Task-oriented Way of Deciding. When those with a moderate preference on Ways of Deciding were removed and ANOVA was performed, no significant difference was observed.

The results of this study provided support for our hypotheses and also produced additional insights into the personality facets that undergird problem-solving style. The personality profiles that emerged for each of the VIEW style dimensions added evidence supporting the construct validity for problem-solving style.

The results of this study also provided support for the level-style distinction. Orientation to Change and Manner of Processing dimensions were not correlated with Reasoning – a cognitive ability measure. The rather small correlation between the 16PF Reasoning facet with a Task-oriented Ways of Deciding preference could be explained by that style's preference for logical and objective decision-making strategies.

It is also important to consider that this relationship disappeared when comparing those with stronger Task and People preferences. These results are consistent with earlier findings supporting the independence of problem-solving style with level measures of creativity (Houtz & Selby, 2009; Woodel-Johnson, Delcourt, & Treffinger, In Press) and provide support for the discriminant validity of VIEW as an assessment of problem-solving style. We expected and found different personality profiles for each of the three dimensions of problem-solving style. These results provide support for a low level of overlap between the two constructs of personality and problem-solving style.

Two main practical applications emerge from these findings. The first is that problem-solving style can be a bridging concept between personality and cognitive functioning. Basic personality structure is deep and relatively stable over time. Since style operates between personality and cognitive function, it is likely that people can learn strategies and tools to strengthen their natural preferences for dealing with certain kinds of tasks and challenges. Further, when people must deal with tasks that demand that they operate outside their preferences, they can also learn and apply methods that help them work in different ways.

The second main application is that people who understand their own problem-solving styles, and the benefits of working with others who have different style preferences, can collaborate when dealing with opportunities and tasks that require behaviors and thinking outside their preferred range. Everybody wins when we can improve peoples' ability to engage in productive teamwork – and effectively utilize the diversity of styles.

References

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Meet With the CCL Team at the NAGC Conference in Denver

Dr. Don Treffinger, Dr. Pat Schoonover, Dr. Ed Selby and several other members of the Center for Creative Learning team will be making presentations at the National Association for Gifted Children (NAGC) Conference in Denver, November 15-18, 2012. We will be presenting sessions on problem-solving style and on our recent international evaluation of the Future Problem Solving Program on Saturday, and a session on CPS on Sunday morning at 9:15. If you're up early on Sunday, join team member Kathy Henderson for a session at 8:00 AM on problem solving through art. On Friday, join Dr. Treffinger with team members Dr. Stephen Schroth and Ms. Connie Collins in a presentation on the Levels of Service (LoS) approach to talent development. Please feel free to stop by to attend these sessions or just to "meet and greet us." We are always happy to meet and network with *Creative Learning Today* readers! For more information about the NAGC Conference, visit www.nagc.org.

Creating Caring Communities: WeR3C™

By Bob Purifico

You may be familiar with the statement that passion can drive the heart and soul, enable us as individuals to accomplish tasks we never thought possible, and encourage all people to live, work and respect one another. We R 3C, Inc. is a new nonprofit organization and program, in which we have joined the program's founder, Bart Dentino, to build on that passion, dedicated to building and sustaining caring communities through programs that develop and celebrate respect, kindness and compassion.



Inspired by the realization that demonstrations of respect such as kindness, compassion

and empathy can only be spontaneously, consistently and sincerely shown if one first develops an understanding that *respect* means to recognize the value of someone or something, Bart Dentino developed a "revolutionary" approach to teaching character education and community building. Bart has been a teaching artist and curriculum consultant for over 25 years. In 2008, Bart started to reach out to communities throughout Western New York state in an effort to introduce a different approach to character education. His initial work involved schools and community organizations (e.g., YMCAs, Boys and Girls Clubs). With each presentation, his passion and motivation grew. He found that once participants understood the meaning of respect, the respectful behaviors that followed were intrinsically motivated and

genuinely demonstrated regardless of the situation or setting. In 2011, Bart reached out to an individual with whom he had previously worked in the development of a creativity program kit for young children: Bob Purifico. Bob's vision of helping children to make a positive difference in the world and Bart's vision of teaching children methods and processes by which they could sincerely interact selflessly, compassionately and benevolently towards others matched perfectly. Together, their mutual passion merged into creating the We R 3C™ Program and We R 3C, Inc.

A major dimension of We R 3C, Inc.'s vision and mission is to tackle one of the most pressing social issues of our time, *bullying*. The We R 3C™ Program is a holistic approach to the concept of character education. It is based on the successful development of meaningful relationships that are based in kindness, compassion and respect. We believe the social reality of bullying does not occur in a vacuum and that in order to deal with the issue, communities have a responsibility to their members and the members to their community. In learning to respect and value one another, we move towards building communities that are in fact caring communities.

The We R 3C™ Program accomplishes its mission through process-based programming materials that encourage the development of personal relationships as a foundation for intrinsically motivated, positive behaviors within a variety of communities. The We R 3C™ Program provides the how to, the

motivation, and the encouragement to begin and sustain a behavior of caring. It is through the creation and nurturing of this behavior that meaningful relationships are built and provide individuals the opportunity to learn about each other as well as recognize and appreciate what each person brings to that particular community.

How the We R 3C™ Program promotes creative and critical thinking skills that support rigorous learning.

We R 3C™ draws on methods, skills and knowledge that support intrinsically motivated behaviors that are demonstrated throughout an individual's life, in his or her given community, school, youth group, faith-based organization and beyond. We R 3C™ consists of four themes, each having two Lessons. They are:

The Meaning of Respect

Recognizing the Value in Others
Love and Indifference

Fixing a Problem

Hurting and Healing
Forgiveness, Apology & Resolution

Self-Respect

Valuing Yourself
Self-Confidence

Bullying

The Meaning of Disrespect
How to Forgive

A fifth theme is *Communities Within Communities*. This theme contains a Lesson plan that addresses a specific community within a larger existing community. In the case of a school, the *Communities within Communities* additional lesson is called "The To and From School Community." This specialized lesson gives students an opportunity to practice the skills that they've learned in Themes 1 - 4 in a smaller real-time, real-life environment. "The To and From School

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Caring Communities

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Community” lesson includes exercises and activities for students who are members of the School Bus community, the walking to and from school community or the riding with a parent or friend to school community.

Combined, the five themes form a holistic approach to character education that permits participants to identify, learn, engage, create and think critically about relationships, and addresses one of the most pressing issues of our time, bullying. Understanding that bullying does not, nor has it ever, occurred in a vacuum, We R 3C™ identifies the importance of learning how respect, caring, compassion, kindness, self-respect and problem-solving skills interact to build communities that are responsible to all of its members and each member to the community.

“We R 3C is dedicated to building and sustaining caring communities through programs which develop and celebrate respect, kindness and compassion. . . . I believe that We R 3C™ is critical for the classroom environment and beyond. The program helps program participants see, at a concrete level, that developing community takes time, effort, creativity and is worth the endeavor. This program will go a long way to help classroom teachers create the type of environment that will allow the free flow of ideas, as well as the acceptance that we are all important individuals with something to offer others.”

Patrick Kruchten,

*Quest International Baccalaureate Elementary School,
Founder and Teacher*

The methodology utilized in the development of the We R 3C™ Program lent itself to the Creative Problem Solving Model, Version 6.1 (Isaksen, Dorval, & Treffinger, 2011), familiar to many *Creative Learning Today* readers. CPS involves both creative and critical thinking in order to engage participants in rigorous learning that enables them to understand a challenge, generate options, and

prepare for action. In the We R 3C Program, the dynamic of Creative Problem Solving is mirrored in the process-based approach we apply to relationships. Substituting the word “relationship” for “problem,” We R 3C teaches techniques and provides tools to help participants understand the construction of relationships, determine qualities and options in relationships, and develop and sustain caring relationships. We R 3C teaches “how to” processes

that allow participants to go from not knowing about someone, to knowing about them on a personal and functional level. Using We R 3C processes, participants are able to recognize and appreciate the value each person contributes to the community.

Considering the variety of communities in which we participate each day and the diversity

among the people with whom we interact, knowing ourselves well, knowing others well and knowing how to find and recognize the value of others, will maximize the ability to problem solve. Having the skills and ability to create, develop and sustain healthy, benevolent and cooperative relationships will help participants achieve goals both individually and collectively and can only help us all in the creative problem solving endeavors we face in our lives.

For further information about We R 3C, Inc. visit: <http://www.WeR3C.org> and like the organization on Facebook at: <https://www.Facebook.com/WeR3C>.

Contact the founder, Bart Dentino, at bdentino@wer3c.org or CEO and President, Bob Purifico (also a Center for Creative Learning team member), at bpurifico@wer3c.org. Susan Beth S. Purifico, also a CCL team member, is We R 3C’s Director of Program Design and Development, and can be reached at sbpurifico@wer3c.org. Don Treffinger serves as a member of the We R 3C, Inc. Advisory Board.



Plan Now for Our 2013 Workshop: Creative Learning and Problem Solving in Education January 24-26, 2013 • Sarasota, Florida

Participating in this fast-paced, hands-on, minds-on program will enable you to learn and apply Creative Problem Solving (CPS Version 6.1™)— a powerful but practical framework of tools and resources for thinking creatively and critically, solving complex, open-ended challenges and problems, and managing change. Our CPS framework builds on more than five decades of research, development, and practical application worldwide in schools and other non-profit settings as well as in corporations. CPS Version 6.1™ provides tools that can be applied successfully by children adolescents, or adults. Applications of CPS include:

- Guiding planning for student success and positive gains in achievement.
- Supporting leadership and teamwork in projects (for both adults and students).
- Enhancing curriculum development and empowering individuals and teams to deal with real-life problems and challenges.
- Expanding and enhancing life skills and career planning and counseling activities.
- Providing tools to link creative and critical thinking with academic content standards.
- Supporting and empowering school advisory teams, site-based management, and school improvement or strategic planning efforts.
- Guiding teams or groups in planning new programs or revising existing programs in any area.

You will return home with a wide variety of skills and tools that you can use on your own, when you are working with students of all ages in a classroom or training setting, or when you are working with other adults to solve problems, plan new projects or programs, or manage change. You will receive an extensive set of supporting materials and handouts, books, and CD-based reproducible resources, to enable you to incorporate CPS in any educational setting. You will also receive an assessment of your personal problem solving style preferences. You will also receive follow-up coaching and support for CPS implementation (two phone or email consultations with a Workshop staff member for each participant).

The Workshop hours are from 9:00 AM. to 4:00 PM daily, on **Thursday through Saturday, January 24-26, 2013**. The number of places is limited, so we recommend early registration. Late enrollments will be accepted subject to space availability. Individual participants are welcome, but we also encourage teams to attend from the same school or school district. Team participation helps to build a foundation for follow-up implementation. The fee is \$550 for an individual participant, \$500 per person for two or three participants, or \$450 per person for a team of four or more attending the same Workshop. Special rates at the host hotel will be available, and information will be provided upon registration. To register, please send the following information with payment information for your Individual or Team registration to the Center for Creative Learning, P.O. Box 53169, Sarasota FL 34232, or fax to 941-342-9122:

Total number of participants on your team

Name of School or Agency:

Primary Contact Person:

Name, Title, Address, Phone, and Email (specify whether participating)

For each additional participant: Name, Mailing Address, Phone, email address.

Method of payment

Problem Solving Style as a Tool for Differentiating Instruction (Part 2)

By Dr. Don Treffinger and Dr. Pat Schoonover

In the last issue of *Creative Learning Today* (Volume 19, Number 1; available on our website), we began a three-part series on the instructional implications of each of the three dimensions of VIEW: An Assessment of Problem Solving Style. In that issue, we examined the Orientation to Change dimension and its two styles, the Explorer and the Developer. This installment deals with the Manner of Processing dimension, and its External and Internal styles.

Students with an External style may:	Students with an Internal style may:
seek opportunities to be actively engaged with other students in varied size groups (pairs, triads, larger groups) in all phases of their work; look for opportunities for networking and exchanging ideas with others;	seek projects in which they can work initially (and perhaps for extended periods) on their own; look to print or web resources to identify, locate, and use study resources, rather than seeking out their peers;
value and be active in participating in a “discussion” or interaction site in conjunction with the course, and be active in “social networking” sites;	prefer groups made up of friends who are well-known and trusted (rather than groups of relative strangers); share products or results with a close or trusted friend or small group before sharing with larger groups;
prefer projects that involve taking action or doing things, especially in concert with others;	prefer projects that involve conducting their own research, analyzing data, and preparing reports largely on their own;
prefer oral products and presentations (e.g., sharing podcasts or video clips) rather than written products or assignments; seek opportunities to network with in video formats (Skype, iChat, Face Time, etc.);	prefer projects for which rehearsal and practice are possible before sharing a final product or result, and prefer written or displayed products rather than oral products or presentations;
share work in progress early, often, and widely, seeking input and suggestions for improvement and development;	share their work with others for review, comment, or evaluation after they have had time to work it through for themselves;
comment, “I love learning like this but I greatly miss the interaction with others in a ‘regular’ class”;	need support in feeling comfortable to express their ideas (especially if groups include many Externals—who will usually be quite ready to “fill the gap”);
be interested in, and excited about, outside audiences and personal connections (live or virtual); value your support (or that of peers) in identifying, locating, and contacting groups or organizations with whom to share products or results, and thrive on opportunities to do so;	work primarily on their own, and seldom communicate with instructors or peers unless they need information or assistance. (Those with Task style also tended to “do the job” and then check in on completion, perhaps adding a comment that they liked the class quite a bit);
need support in doing the reflection and analysis necessary to complete a high-quality project or product, or in receiving input and feedback beyond an immediate circle of friends (or from Internal processors, who may not be prepared to respond early and quickly).	be uncomfortable with deadlines that do not allow time for ample reflection and polishing, making them feel rushed or pressured to sacrifice depth and quality.

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Creative and Wise: A Correlational Analysis of Student Perceptions

By James A. Reffel, Karen A. Baker, Caitlin R. Bailey, and David M. Monetti (Valdosta State University)

Creativity and wisdom are integral activities that both ignite the production of new ideas and balance how individuals assess the results and ultimate consequences of events (Lubart, 1994; Ochse, 1990; Sternberg, 1988; Sternberg & Lubart, 1996; Sternberg 2003). Sternberg (2003) views intelligence, creativity, and wisdom as different but involving fundamental connections.

Creativity has been variously defined as attitudes, processes and acts of creation that express the uniqueness of the person (Clark, 1997). Clark (2002) proposed that creativity is a holistic combination of cognitive, intuitive, affective, and physical functions of the brain. Creativity can also be characterized by uniqueness, originality, and the ability to make something novel and useful (Tardif & Sternberg, 1988). Torrance (1962) defined creativity as the process of sensing gaps, forming and testing hypotheses, and communicating the results. There is general consensus that creativity is connected to the production of work that is novel, high in quality, appropriate, useful, and meets task constraints (Lubart, 1994; Ochse, 1990; Sternberg, 1988; Sternberg & Lubart, 1996; Sternberg, 2003).

Wisdom has been described as an integration of the affective, conative, and cognitive aspects of human abilities in response to life's tasks and problems (Birren & Fisher, 1990). Claxton (2008) merged these constructs by describing wisdom as advanced creativity. Both creativity and wisdom were seen as good things possessed by individuals who managed to fully realize their potential (Craft, Gardner, & Claxton, 2008).

A high level of knowledge, an awareness of uncertainty, an acute understanding of the limitations of knowledge, and a consideration of multiple points of view has characterized wisdom. Wisdom-related knowledge involves the expertise needed for understanding a situation in a deep, insightful, wise manner (Sternberg & Jordan, 2005). Wisdom is stereotypically considered a development associated with later life (Sternberg, & Jordan, 2005), however, there are certainly adolescents and young adults who may demonstrate exceptions to this rule.

To engage in the wise promotion of creativity in schools is to be able to recognize and suspend prejudices, to be sensitive to biases, and to open the door to imagination. In wise creative education, teachers respect intuition, embrace the unexpected, ambiguous, complex, and the risky. If creativity and wisdom are to develop in educational settings, we need to embrace practical judgment and innovation over preoccupations with performance, prescription, and drilling information. The result will be a departure from this time of stagnation, and a shift in our eminence as a collaborator in solving the world's problems.

We hypothesized correlational relationships between various factors of creativity, specifically perceived creativity as measured by the Khatena-Torrance Creative Perception Inventory (Khatena & Torrance, 1976) and various aspects of wisdom as measured by the Self-Assessed Wisdom Scale (SAWS; Webster, 2003; 2007).

Method

Participants and Procedures.

Thirty-eight graduate volunteers completed the Something About Myself (SAM) inventory of the Khatena-Torrance Creative Perception Inventory (Khatena & Torrance, 1976). SAM yielded an overall score and six factor scores. Volunteers also completed the Self-Assessed Wisdom Scale (SAWS; Webster, 2003; 2007), which yielded an overall score and five factor scores.

Participants were enrolled in graduate courses in education and pursuing advanced degrees in education. Most subjects were female (93%), which was representative of their education program. The average age of participants was 35.4 years of age with a standard deviation of 8.7 years (ranging in age from 25 – 55 years). Seventy-six percent of the participants classified themselves as white, 21% as Black or African American, and 3% as Asian.

Instruments. The SAM inventory of Khatena-Torrance Creative Perception Inventory (Khatena & Torrance, 1976) yielded a creative perception index standard score and six factor scores: Environmental Sensitivity, Initiative, Self-Strength, Intellectuality, Individuality, and Artistry (Khatena & Torrance, 1998). Internal consistency was established for the SAM by using the split-half method corrected by the Spearman-Brown formula ($r = .92$; Khatena & Torrance, 1998). Khatena and Torrance (1998) also provided support for content, construct, and criterion-related validity.

SAWS yielded an overall score and five factor scores (Webster, 2003; 2007): Experience, Emotional Regulation, Reminiscence/Reflection, Humor, and Openness.

Taylor, Bates and Webster (2011) reported reasonable reliability for the SAWS. The Cronbach's alpha for the total SAWS was .89, .896, and .883 for studies 1, 2, and 3, respectively. Webster (2003) established that the SAWS has good content validity, excellent discriminant validity, and demonstrates construct validity.

Results

Significant correlation coefficients ($df=38$), between the SAWS total and the SAM total, $r = .44$, $p < .01$, supported the hypothesis. Also, significant coefficients between the SAWS total and SAM factor 1, $r = .50$, $p < .01$, factor 5, $r = .35$, $p < .05$, and factor 6, $r = .40$, $p < .05$ provided additional support for the hypothesis. In addition, there were significant coefficients between the SAM total and SAWS factor 5, $r = .59$, $p < .001$, as well as various factors of perceived creativity and wisdom: SAM factor 5 and SAWS factor 1, $r = .45$, $p < .01$; SAM factor 1 and SAWS factor 4, $r = .48$, $p < .01$; SAM factor 1 and SAWS factor 5, $r(38) = .46$, $p < .01$; SAM factor 6 and SAWS factor 4, $r(38) = .33$, $p < .05$; SAM factor 2 and SAWS factor 5, $r = .40$, $p < .05$; SAM factor 3 and SAWS factor 5, $r = .39$, $p < .05$; SAM factor 4 and SAWS factor 5, $r = .59$, $p < .001$; and SAM factor 5 and SAWS factor 5, $r(38) = .51$, $p < .01$.

Discussion

The results supported the hypothesis. There were significant correlations between SAM total score and several factors and the SAWS total score and factors suggesting a relationship between these two constructs. These findings suggest that those who assessed themselves as being wise also were more likely to perceive themselves as creative.

Specifically, the creativity factors of environmental sensitivity, individuality, and artistry appeared to be related to overall wisdom.

So, the openness to the ideas of others, the preference for working alone, and the production of artwork, songs, dances, or stories all appeared to require traits reflected in wisdom.

The creativity factor of individuality was related to the wisdom factor of experience. This could indicate that the preference for working alone was related to experiences in interpersonal contexts. This relationship was difficult to explain in the context of the proposed theory. Further research on the specific aspects of these two constructs is warranted. Perhaps a different sample of participants or one composed of individuals from a profession other than education may shed some additional light on the relationship.

The creativity factor of environmental sensitivity was related to the wisdom factors of humor and openness. It is not surprising that the openness to the ideas of others was related to recognition of life's ironies, a sense of humor, ability to make others feel comfortable, and also related to the openness to ideas, values, and experiences that may be different from one's own. These are both important aspects of wisdom.

The creativity factor of artistry was related to the wisdom factor of humor. It was refreshing to find this relationship between the production of artwork and the recognition of life's ironies, a sense of humor, ability and willingness to make others feel comfortable, and use of humor as a mature coping strategy. Certainly, more study is necessary to tease out the importance of this relationship and these initial results are encouraging.

Finally, the wisdom factor of openness showed moderate relationships to several factors of creativity including environmental sensitivity, initiative, self-strength, intellectuality and individuality

as well as to overall creativity. It appeared that openness to ideas, values, and experiences that may be different from one's own, willingness to sample novelty, appreciation of multiple perspectives that may be controversial, and tolerance of others was correlated with openness, directing, risk-taking, intellectual curiosity, and the preference for working alone. The strongest relationships to the wisdom factor of openness were the creativity factors of intellectuality and overall creativity.

Gifted and talented populations would benefit from a greater understanding of wisdom, creativity, and how these constructs are related. Future research should aim to discover to what extent wisdom and creativity correlate with intelligence. These findings would be useful in a variety of gifted or talented populations, in schools, businesses, or other settings. Additional research would lead to a better understanding of how these constructs are related and can play an important role in the further development of wisdom and creativity. One possible recommendation might be encouraging gifted and talented students' increased participation in service learning projects and leadership academies—experiences that give students critical practical experiences in decision-making and problem solving and that will nurture their creativity and wisdom.

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Creativity Crisis

Continued from page 1

have meant that, as additional data were added to the growing data set over time, there may have been a “leveling” of the overall results brought about by attaining a broader cross-section of subjects rather than by any “decline” over time. Those added to the data set who gave the appearance of lowering the overall results, might actually have been lower had they been part of the original sample. There is no evidence to suggest that the results added over time represented the same population as those in the original set. The accumulation of samples of convenience may also fail to take into account variations in test administration or educational and instructional context.

So, does that mean that there really isn't a “crisis,” after all? Certainly, we need to be cautious, if not highly skeptical, about the supposed “decline” in creativity, or at least in performance on those aspects of creativity represented by the Figural forms of the TTCT, we must certainly be cautious about proclaiming it as a cause of alarm. Nonetheless, there may well be reasons to be concerned

about a crisis— deeper than at the level of performance on figural divergent thinking tests! The greater concern seems to be that we need to pay more attention to those more substantial issues. (The original article's author does note several concerns as needs to be addressed, although the media give primary attention to the presumed “decline” of scores. The potentially more striking indicators of a creativity crisis in education, for example, include:

- Our continuing and inappropriate over-emphasis on high-stakes testing that drives teachers and administrators to focus on “covering the content” and “preparing for the test.” The relentless focus on test scores redirects the attention and energy of professionals, parents, and students away from more important priorities, even while reports are talking about the importance of creativity.

- Misuse of “standards” to drive instruction to the lowest levels of knowledge and recall without attention to creativity, innovation, and open-ended problem solving. As we have attempted to illustrate in our extensive set of “thinking with standards” activities (see www.creativelearning.com), specific content standards and productive thinking can be integrated; unfortunately, that often does not occur.

- Narrow focus in professional development on skills and strategies that promote enhanced test performance rather than building expertise and support for higher level goals and outcomes.

- An overall failure to inspire schools and communities to strive for a loftier vision and to build awareness and support for creative learning. There is too little recognition that creativity creates pathways to quality of life for all and makes possible a better world. Just as the mantra of the school improvement movement some years ago was, “all students can learn,” we need broad recognition and support for the powerful principle that “all students can think.”

The best news is that if, indeed, there is a “crisis,” there is an abundance of tools and resources readily at our disposal to turn it around. Let's focus our attention on putting them to better use in every school, for every learner!

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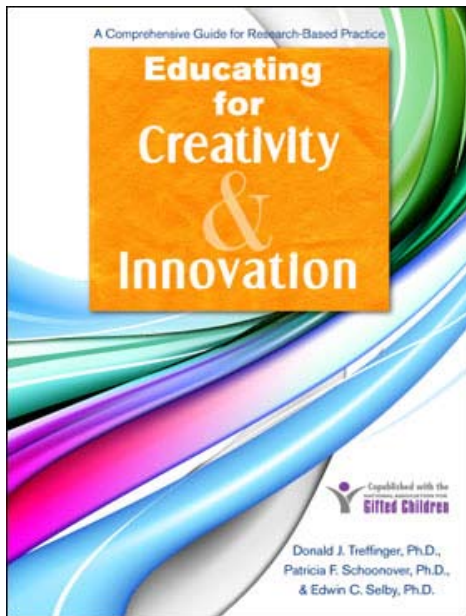
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Editor: Dr. Don Treffinger

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Creative Learning Today is published on an occasional basis and distributed electronically without cost to interested readers.

Direct all inquiries and changes of email address to don@creativelearning.com

Creative Learning Today,
ISSN #0895-9234.

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