

# Creative Thinking Abilities of Adolescent Substance Abusers

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**ABSTRACT.** Using the Torrance Test of Creative Thinking, Figural Form A, I have studied the creative-thinking abilities of 15 substance-abusing hospitalized adolescents and 15 non-substance-abusing hospitalized adolescents. The determination of substance-abusing versus nonsubstance abusing was made on the basis of psychiatric evaluation and diagnosis. I performed *t* tests to determine differences between groups on the variables of flexibility and overall creativity. The substance-abusing group showed significantly lower scores on both criteria. These findings suggest that substance-abusing adolescents may lack some creative-thinking abilities that, if present, might increase their ability to adapt to environmental changes and remain functional rather than resort to drug abuse. These findings support the need for creativity and spontaneity training as an adjunctive therapy in drug treatment.

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**CREATIVITY HAS LONG BEEN A FOCUS** of interest among those in the field of psychology. Once thought to be a rare attribute associated with artists and great thinkers, creativity is recognized today as an essential element, basic to all individuals and their behavior. A review of the literature on creativity and creative thinking reveals a plethora of theories, from Freud's idea that creativity is essentially a neurotic defense mechanism formed by the sublimation of regressed and aggressive tendencies (Freud, 1959) to Guilford's (1950) more scientific attempts to distinguish between convergent and divergent thinking. Few, however, have viewed creativity as a teachable skill, enhancing one's ability to meet life's unexpected challenges. In this regard, creativity is what allows an individual to adapt and evolve.

Jacob L. Moreno, the originator of psychodrama, began incorporating his creativity theory into his group psychotherapy methods as early as 1921 (Blatner & Blatner, 1988). Moreno believed that spontaneity and creativity are two factors, working in tandem, that allow us to respond to the unique challenges of everyday life. "Spontaneity can be thought of as the readi-

ness for an action, and creativity as the response (act)” (Buchanan, 1984, p. 788). Moreno feared that as society became more and more conserved, that is, relying on past acts of spontaneity and creativity rather than on creating new ways, individuals would follow that trend. He called upon individuals to summon the “godhead” within each of us and become creators rather than be acted upon by others’ creations. He believed that this ability could be nurtured and be developed through psychodrama and spontaneity training. The Blatners (p. 48) echoed these concerns with their statement, “Elements of spontaneity are our natural heritage, and they must be reclaimed and reintegrated if we are to utilize the tremendous psychological energies that can serve as resources for helping us to cope with the challenges of an increasingly changing world.”

Moreno (1985, p. 117) saw spontaneity and creativity as separate from intelligence: “The intelligence tests have been made after the standard formal interview. But to answer set questions and to meet reality are two different things.” As demonstrated by his work at the New York State Training School for Girls, Moreno (p. 133) was able to help the girls, through spontaneity training, “act and look better oriented toward life, more inspired, more real, wiser, and, if perhaps less learned, certainly more intelligent than some pupils in the formal school who are of similar I.Q.’s.”

Where Moreno broke ground, others followed. E. Paul Torrance, a student of psychodrama and contributor to early volumes on psychodrama and education (Torrance, 1948), defined creativity

as a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them and finally communicating the results. (1974a, p. 8)

Torrance seems to have combined Moreno’s ideas of spontaneity-creativity to come up with one comprehensive definition of creativity that has four subcategories: fluency, flexibility, originality, and elaboration. *Fluency* reflects the ability to produce a large number of responses to a situation. *Flexibility* represents a person’s ability to produce a variety of kinds of ideas, to shift from one approach to another, or to use a variety of strategies. *Originality* represents the ability to produce ideas that are away from the obvious, common place, banal, or established. *Elaboration* reflects the ability to develop, embroider, embellish, carry out, or otherwise elaborate ideas (Torrance, 1974b, pp. 56–58). Although Torrance based his scoring system on factors developed by Guilford, his intent was to have the tests reflect the natural complexity of the creative process and be applicable to creativity training in the classroom setting (Anastasi, 1988).

Richards (1981), in a study of creativity theory, found two aspects common to all definitions of creativity: “(a) that it involves an unusual or uncommon element; and that (b) the product be appropriate to a context or purpose—i.e., not haphazard, bizarre, or fully idiosyncratic” (p. 266).

In an article entitled “Creativity and Personal Growth,” Sarnoff and Cole (1983) discussed, in detail, the need for an individual to maintain levels of creative ability in order to adapt to one’s environment. They concluded:

For these reasons, the most basic form of creativity is that concerned with personal growth and integration. . . . In short, these studies reveal an inability to deal with change, and a desire to regress which results in illogical cognitive and interpersonal functioning in many areas. (p. 99)

They discussed two forms of creativity that must remain in balance in order for an individual to remain healthy. Level one is concerned with the process of personality growth and development. Level two is concerned with the application of these newly developed skills to the environment in terms of tools, concepts, systems, and behaviors across all disciplines.

### **Chronic Substance Abusers**

When persons lack creative abilities, their dysfunctional behavior may be manifested in many ways. Current theories on personality traits of substance abusers suggest evidence of this phenomenon. It is easy to draw parallels between the language used to describe addicted personalities and the language used to describe the creative process.

Chein (1980, p. 80), in a discussion of personality disorders among substance abusers, stated, “These disorders were evident either in overt adjustment problems or in serious intrapsychic conflicts, usually both, prior to their involvement in drugs. . . .”

Gorusch found a lack of an internal motivating factor at work in these individuals. “If more creative means were available, then novelty seeking, curiosity, or relief from boredom” would not be sought by individuals through drug use (1980, p. 23).

Greaves (1980) hypothesized:

[P]ersons who become drug dependent are those who are markedly lacking in pleasurable sensory awareness, who have lost the childlike ability to create natural euphoria through active play, including recreational sex, and who, upon experimentation with drugs, tend to employ these agents in large quantities as a passive means of euphoria or least as a means of removing some of the pain and anxiety attending a humorless, dysphoric lifestyle. (p. 27)

Milkman and Frosch (1980) discovered similarities between ampheta-

mine and narcotics users that seem to coincide with Sarnoff and Cole's findings regarding coping skills. They emphasized the following:

The drug state helps to ward off feelings of helplessness in the face of the threatening environment. The pharmacologic effect bolsters the characteristic defenses deployed to reduce anxiety. Drugged consciousness appears to be a regressive state which is reminiscent of and may recapture specific phases of early child development. (p. 44)

Insufficiency of coping mechanisms also was discussed by Peele: "Persons who are faced with persistent difficulties and anxieties in their lives and who are not prepared to cope with them realistically resort to analgesic drugs for comfort" (1980, p. 143).

Khantzian (1980, p. 29) suggested that drug dependence is intimately tied to individual attempts to cope with their internal emotional and external social and physical environment. If drug dependency is viewed from a contemporary psychoanalytic perspective, it can "best be understood by examining how such a person's ego organization and sense of self serve or fail the individual's attempts to cope and how the specific effects of various substances facilitate or impede such attempts."

A team of researchers at Tel-Aviv University studied the relationship between personality types and the drug of choice among substance abusers. They asserted, "Our central claim is that the use of drugs is one of the ways by which individuals try to cope with their intra-psychic imbalance. Other possible avenues to achieve balance would be creativity, revelation, and love" (Shoham, Baruch, Rahav, Markowski, Chard, & Ben-Haim, 1984, p. 303).

### **Statement of the Problem and Hypotheses**

It has been postulated that one of the more significant factors contributing to the use and continued abuse of drugs and alcohol is the inability of the individual to adapt to changes in the environment, or stated differently, the individual's lack of sufficient coping mechanisms. Creativity may be, among other things, an ability within the individual to adapt to the environment in order to continue to grow and develop into a healthy being.

Torrance has claimed, and research has been conducted that supports his contentions, that if the potential for creative thinking can be identified at an early age, those individuals who show creative potential can be taught in such a way that they use their creative abilities to strengthen areas where deficiencies exist (Torrance 1965; 1967; 1968).

Until very recently, the creative potential of those identified as behaviorally or emotionally disordered or delinquent has not been explored. Under the heading of delinquent behavior, there exists a population that may be

using and abusing chemicals as a sort of cultural conserve, possibly because of their inability to respond spontaneously and creatively to challenges in their environment. If a deficiency in creative-thinking abilities can be identified within the substance-abusing population, then steps can be taken to work with these individuals in a new way. It seems likely that programs to help develop creative abilities could be as successful within this population as they have been with other populations (Torrance, 1967). Two hypotheses were explored: (a) The substance-abusing subjects would be less creative, as measured in terms of their mean composite scores on the Torrance Tests of Creative Thinking (TTCT), Figural Form A, than on the non-substance-abusing group. (b) The substance-abusing group would score lower on the measurement for flexibility as measured by the TTCT, Figural Form A, than the non-substance-abusing group.

## Methodology

### *Subjects*

The subjects consisted of 30 adolescents, ages 14 to 17 years old, with a mean age of of 14.9 years, who had been hospitalized at a private psychiatric hospital for the purpose of assessing and treating their chemical dependencies and psychiatric illness. Each group consisted of 6 females and 9 males. The subjects were evaluated by an intake psychiatrist, a social worker, and a nursing-staff member, assigned by the hospital, to determine their appropriateness for treatment. In addition, the subjects were interviewed by a staff substance-abuse counselor to obtain a drug-use history. Involvement was voluntary, and all patients were eligible to serve as subjects with the following exceptions. Subjects were not to be actively psychotic, that is, experiencing auditory or visual hallucinations, or suffering from delusions or rapid changes in mood that might affect test performance. Subjects were not to be suffering from drug or alcohol withdrawal, as determined by the nursing staff. Subjects were given time to become oriented to the unit, also determined by the nursing staff.

The subjects were divided into two groups according to the individual patient's diagnosis. Patients with a substance-abuse diagnosis made by the admitting physician using DSM-III-R criteria formed one group, and patients hospitalized without a substance-abuse disorder were in the second group. Research conducted on the interrater reliability of the DSM-III diagnostic classes for children's and adolescents' substance-abuse disorders showed a reliability score, using a kappa statistic, (.7 or above indicated good agreement) of 1.0 in phase one of the research and .56 for phase two (Williams & Spitzer, 1979).

### Tests

Within the TTCT, Figural Form A was chosen to allow for more representative scores from subjects who might be restricted by poor reading or writing skills. Intra- and interscorer reliability has been shown consistently to correlate above the .90 level (Torrance, 1974b). Test-retest reliability studies (Goralski, 1974; Hagender, 1974) have shown reliability coefficients consistently rated at .70 or higher. Other studies have demonstrated significant content and construct validity (Lieberman, 1965; Long, Henderson, & Ziller, 1974; Torrance, 1962).

Intelligence test scores were taken from archival data on the subjects. All subjects in this study had completed psychological evaluations that included intelligence testing.

### Results

The non-substance-abusing group of 15 subjects had the following characteristics: a mean age of 14.9 years, with an age range from 13 to 17 years, and a mean grade level of 9.3, with a range from the 7th to the 12th grades. The substance-abusing group of 15 subjects had the following characteristics: a mean age of 15.5, with a range of 13 to 17 years, and a mean grade level of 9.6, with a range from 7th to 12th grades. Each group consisted of 6 females and 9 males. A comparison of the mean ages of the two groups showed no significant difference,  $t(28) = 1.18$ .

The non-substance-abusing group scored significantly higher than the substance-abusing group on the overall composite creativity score  $t(28) = 1.94$ ,  $p < .05$ , as well as on the measure of flexibility,  $t(28) = 1.79$ ,  $p < .05$  (see Table 1). Intelligence scores were not significantly different between the groups.

**TABLE 1**  
Flexibility, Creativity, and Intelligence Test Scores of  
Substance- and Non-Substance-Abusing Adolescents

Test	Group				
	Substance-abusing		Non-substance-abusing		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Flexibility	93.53	21.06	105.80	16.17	1.79*
Creativity	97.60	17.34	108.40	12.78	1.94*
Intelligence	106.33	11.31	110.4	11.04	.99

\* $p < .05$ .

## Discussion

The results of this study indicate that there were significant differences between the substance-abusing group and the non-substance-abusing group in terms of flexibility and overall creativity, with the latter group scoring higher on both criteria. Therefore, both the first and second hypotheses were supported. Although there has not been any quantitative information regarding these comparisons in the past, these findings support theories of creativity developed by Paul Torrance (1965) and J. L. Moreno (1985). According to both these theorists, dysfunctional behavior, such as chemical dependency, may be related to an inability to adapt to environmental changes, the operational definition of creativity, and, more specifically, flexibility.

There is no basis to compare this research with past studies because this study was unique in its investigation of substance abusers' creative-thinking abilities. Finch (1977) and Kandil and Torrance (1979) did not find that socially or emotionally maladjusted youth differed significantly in their creative-thinking ability from socially and emotionally adjusted children. Harvey and Seeley (1984) found that antisocial youth also exhibited creative potential similar to that of nondelinquent children. Thus, it may be possible that among all persons with dysfunctional behaviors, substance abusers have a unique deficiency, one involving their creative-thinking abilities. Specifically, as compared with other hospitalized adolescents, their deficiency in this area is significantly greater and may contribute to their current dysfunctional status.

Although it is unclear whether the deficiency predated the chemical addiction and initially led the subjects to abuse drugs or the drug dependency brought about the deficiency, these findings have implications for treatment and prevention. Torrance (1965) developed courses that facilitate the ability to think creatively, and these have been used successfully with gifted and talented students. Similarly, Moreno proposed spontaneity training as an aid to help individuals reclaim their ability to respond to the moment in ways that help them create viable new roles. In *Psychodrama: Volume 1*, he outlined courses in spontaneity training for children and adults and recommended that they become a part of mainstream education (1985). I suggest that further research efforts be directed toward examining the phenomena of spontaneity and creativity and their place in substance-abuse treatment and prevention.

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