

Brief Report

Screening for Aggression Using the Draw a Story Assessment

Cheryl Earwood, Miami, FL; Melinda Fedorko, Miami, FL; Eileen Holzman, Airmont, NY; Linda Montanari, Hollywood, FL; and Rawley Silver, Sarasota, FL

Abstract

The purpose of this study was to find out if the Draw a Story (DAS) assessment can be used as a screening technique to identify children and adolescents at risk for aggression. Four art therapists presented the DAS tasks to 30 students with histories of aggressive behavior and to 181 students with no histories of aggression. After the 211 responses were scored on 5-point rating scales for assessing Emotional Content and Self-Image, a psychologist analyzed the findings. The aggressive students had significantly lower Emotional Content scores and significantly higher Self-Image scores. Aggression also was significantly related to responses that received 1 point in Emotional Content along with 5 points in Self-Image. Significant gender differences, but no age differences, also emerged. The findings suggest that the DAS assessment shows promise as a technique for identifying students at risk for aggressive behavior. The report concludes with implications for art therapists and educators, and suggests questions to be explored in further study.

Introduction

The purpose of this study was to determine whether the Draw a Story (DAS) assessment (Silver, 1988b/1993/2002a) could facilitate the identification of students at risk for aggressive behavior. Previous studies suggested that it

could serve as a screening technique to identify children and adolescents at risk for clinical depression (Silver, 1988a, 2002b). Screening techniques are defined as preliminary instruments and need additional testing or clinical follow-up.

The present study asked if there were significant differences between aggressive students and a control group of presumably nonaggressive students, as measured by scales for assessing emotional content and self-images of the students' responses to the drawing task. If significant differences were to emerge between the scores of aggressive and control groups, the DAS might serve as a screening technique to identify students at risk. After reviewing background literature, this report presents procedures and findings and discusses the implications for future investigation.

Background

Recent studies suggest that punitive reactions to youthful violence and aggression have not had good results (Christle, Jolivet, & Nelson, 2002). According to Skiba and Peterson (2000), some effective school programs use preventive strategies instead of waiting for aggressive behaviors to occur and provide both therapeutic and preventive strategies to reinforce appropriate behaviors and facilitate academic and social success.

Connor (2002) distinguished between aggressive behaviors that are maladaptive and those that are adaptive. He noted that maladaptive aggression is an angry reaction to perceived frustration. Its goal is to defend against threat or inflict harm on the source of frustration, and it produces intense feelings of anger and fear. Among children and adolescents, overt aggression such as fighting occurs frequently, as does covert aggression such as stealing, lying, and vandalism.

Maladaptive aggressors tend to misinterpret and overreact, blame others, and expose themselves to harm. They also tend to be impulsive, hypervigilant, and out of control. Their aggressiveness emerges early in life and may result from abuse, harsh parental discipline, family instability, and exposure to violence. This form of aggression is

Editor's note: Cheryl Earwood, MA, ATR-BC, has worked as a clinical art therapist for the Miami-Dade County public schools in Florida for 16 years; Melinda Fedorko, MA, ATR-BC, LMFT, has been in active practice since 1978 as a family and art therapist and is currently employed by the Miami-Dade County public schools; Linda Montanari, MA, ATR, LMFT, has been employed for the last 10 years as a clinical art therapist by the Miami-Dade County public schools, working with severely disturbed adolescents; Eileen Holzman, MA, ATR-BC, worked as an art therapist and art teacher in the New Jersey public schools for 35 years and is currently employed in a social service agency in New York; and Rawley Silver, EdD, ATR-BC, HLM, is the editor of a forthcoming book, *Aggression and Depression Assessed Through Art*, scheduled for publication in November 2004 by Brunner-Routledge. Correspondence regarding this report may be addressed to Dr. Silver via e-mail at rawled@aol.com.

associated with overall functional impairment and calls for clinical or therapeutic intervention (Connor, 2002).

Adaptive aggression, on the other hand, arouses little emotion (Connor, 2002). Its goal is to obtain a desired outcome or reward such as social dominance, territory, or the acquisition of objects. It tends to be predatory, deliberate, coercive, and a learned behavior, reinforced by social role models as well as previous success. Some degree of aggression is normal and healthy, facilitating competition in games and competence in social assertiveness. According to Connor, many studies have found that boys are consistently more aggressive than girls and that the time spent in social conflict decreases as children mature. With younger students, aggression tends to be physical with overt confrontations; its goal is to obtain possessions. With older students, aggression tends to become verbal, covert, and hidden; it is triggered by social threats, and its goal is to maintain self-esteem.

Adaptive aggressors tend to hide aggressiveness and protect themselves from injury. They gang up on victims and use force to dominate, threaten, or have their way. This form of aggression calls for educational or preventive programs rather than clinical intervention. Connor (2002) suggested that there is a continuum from adaptive to maladaptive aggression and that children and adolescents may show either or both forms, as well as no aggressive behavior.

Connor (2002) also distinguished between male and female aggression. If only overt aggressive symptoms are recognized, females may be mistakenly underidentified. Studies of female aggression have lagged far behind. Aggressive female behavior tends to be relational and indirect such as excluding and rejecting others or spreading rumors.

Fischer and Watson (Dupree, 2002) have observed two predictors of future aggression: inhibited temperament and physical punishment by parents. Using longitudinal methods, they tracked 440 children for 8 years, tracing the antecedents of teenage aggression that ranged from hostile behavior to physical violence.

Responses to the DAS by Depressed and Nondepressed Students

Two studies suggested that responses to the DAS task provide access to fantasies and that strongly negative responses are associated with clinical depression. In these studies, children's responses were scored on a rating scale ranging from strongly negative themes such as suicide, scored 1 point, to strongly positive themes, scored 5 points. The validity and reliability of this scale were examined and reported in the original publication (Silver, 1988a). To summarize the results concerning validity, the score of 1 point was based on observations by various mental health professionals. Although some of these professionals did not refer to drawing behavior, their observations about the behavior of depressed individuals served as a paradigm for evaluating responses on the DAS scale. In the study of scorer reliability, three registered art therapists practiced scoring together then scored 20 unidentified response drawings blindly and independently. Findings indicated that correla-

tions between the judges were highly significant at the .001 level of probability. In the study of test-retest reliability, 24 third-graders were presented with the drawing task on two occasions. When 12 normal children were retested after an interval of approximately 1 month, seven received the same scores. When 12 other children were retested after an interval of approximately 2 years, 11 received the same scores.

The first study examined responses by 254 depressed and nondepressed children and adolescents aged 8 to 21 (Silver, 1988a, and summarized in Silver, 1993, 2002). Of these, approximately 111 were presumably normal, 27 were clinically depressed, 31 learning disabled, 61 emotionally disturbed with nondepressive psychopathology, and 24 were normal children who responded to the drawing task on two occasions.

Approximately 56% of the depressed group responded with strongly negative themes, compared with 11% of the normal group, 21% of the emotionally disturbed, nondepressed group, and 32% of the learning disabled group. To determine whether the difference was significant, chi-square analysis found that the proportion of depressed children and adolescents scoring 1 point was significantly greater than the proportion of any other group scoring 1 point ($\chi^2 = 27.63, p < .001$). It was also greater than the emotionally disturbed youth scoring 1 point, but to a lesser degree ($\chi^2 = 10.54, p < .01$).

The second study asked whether strongly negative responses to the DAS task were associated with clinical depression. DAS Form A was presented to 350 children, adolescents, and adults by 24 art therapists, teachers, and school counselors (Silver, 1988b; 2002). The sample included 35 depressed children and adolescents, 15 depressed adults, 117 presumably normal children and adolescents, 74 emotionally disturbed children and adolescents with nondepressive psychopathology, 64 learning disabled adolescents, 18 hearing impaired children and adolescents, and 27 elderly residents residing in eight states.

Approximately 63% of the clinically depressed subjects responded with strongly negative themes compared with approximately 10% of the nondepressed subjects, a proportion significantly greater than the proportion of any other group ($\chi^2 = 43.2, p < .0005$). The findings suggest that strongly negative responses to the task are associated with adolescent or childhood depression, and that the assessment can serve as a screening technique to identify some, but not all, depressed children and adolescents. Although strongly negative responses did not necessarily indicate depression—and conversely, positive responses did not exclude depression—the findings suggested that those who drew strongly negative fantasies were at risk for depression.

Responses to the DAS Task by Delinquent and Nondelinquent Students

Responses by delinquent adolescents have been investigated in two studies. In the first, 53 juveniles aged 13 to 18 in a residential facility in California responded to the DAS drawing task (Silver & Ellison, 1995, and summarized in Silver, 2002). Ellison, an art therapist in the facili-

ty, observed that the adolescents often depicted themselves as victims or as heroes defending the weak. When newly incarcerated, they tended to draw pictures about aggressive or isolated subjects, and then, as they adjusted to the structured setting, their subjects became sad, anxious, and fearful. She suggested that both aggressive and sad stories might indicate depression.

Silver and Ellison's (1995) study asked two questions. The first asked, "Can self-images be identified blindly without knowing the person who drew them?" Ellison presented the DAS task to the juveniles and discussed their self-images with them, then sent their evaluations along with her own to a psychologist for statistical analysis. Ellison then sent only their drawings to Silver, who scored the responses blindly and sent them to the psychologist for analysis.

The psychologist analyzed the three sets of evaluations. Of the 53 juveniles, 39 identified characters in their drawings as themselves. Ellison accurately matched 76.9% of the adolescents in identifying self-images. Silver, judging blindly, matched 71.8%. Approximately three out of four juveniles (71.4%) agreed with the art therapists on the identity of their self-images. Five juveniles disagreed with both art therapists. The therapists, however, agreed with each other in identifying the self-images of these five students. Interscorer agreement between Ellison and Silver, across the 53 respondents, was 94.3%.

The second question asked whether art therapists or social workers are more likely to agree in identifying self-images in responses to the drawing task. After 10 response drawings were selected at random, three additional art therapists and five social workers assessed self-images in the 10 drawings. Among the five social workers, average agreement was 54.0%; among the five art therapists, 78.2%; and among the subgroup of three registered art therapists (ATRs), 93.4%.

The second study focused on attitudes toward self and others expressed in response to the DAS task. Its participants included 64 adolescents in detention in California, as well as 74 nondelinquent adolescents attending public schools in Ohio, New York, and Florida (Silver, 1996, 2002). The total sample included 82 boys and 56 girls ages 13 to 17. The responses were divided into four groups: delinquency, gender, drawings about relationships, and drawings about solitary subjects. They were then evaluated on a scale based on attitudes toward the self-images or relationships portrayed. A psychologist analyzed mean scores. For details, the reader is referred to the original report (Silver, 1996 or Silver, 2002). The findings are summarized below.

The first analysis examined whether delinquency or gender was related to self-image scores on the rating scale (Table 1). No significant results were found when a group (delinquent vs. control) by gender (male vs. female) 2 x 2 analysis of variance (ANOVA) was conducted on the self-image rating. The second analysis asked whether the proportions of drawings about solitary subjects or assaultive relationships differed depending on delinquency or gender. Significant gender differences emerged in both solitary and

assaultive content, and the finding of assaultive content was reversed for solitary content. Overall, males and females differed in both aggressive content ($\chi^2 = 11.00, p < .01$) and solitary content ($\chi^2 = 6.33, p < .05$); 31.7% of the males drew pictures about assaultive relationships as compared with 5.4% of the females. In solitary content, however, 37.5% of the females drew pictures about solitary subjects compared with 15.9% of the males. Solitary content also distinguished between delinquent and control groups; 33.8% of the control subjects drew solitary subjects as compared with 14.1% of the delinquent subjects. These differences reached significance ($\chi^2 = 9.11, p < .01$). The difference between male and female delinquents, however, did not reach significance (28.3% of the males drew assaultive relationships). No female delinquents drew assaultive relationships. Although males in the control group differed significantly from females in the control group, delinquent males did not differ significantly from delinquent females. Nondelinquent males used aggressive humor in 45.4% of their assaultive drawings, but no other groups used aggressive humor.

Although no differences in gender or delinquency appeared in mean scores, differences emerged between drawings about solitary subjects or assaultive relationships. More than twice as many females (18%) as males (8%) drew sad or helpless solitary subjects (scored 1 or 2 points). Delinquency also made a difference in positive responses scored (4 or 5 points). More than three times as many nondelinquent males portrayed fortunate subjects (14% vs. 4%). None of the delinquent girls, but 20% of the nondelinquent girls, drew fortunate subjects. The effect was reversed for aggressive content. In drawing fantasies about assaultive relationships, delinquent females were more like males regardless of delinquent behavior.

Method

In the current study, four art therapists (the first four coauthors of this study) presented the DAS Form A set of stimulus drawings to 30 students with histories of aggressive behavior. These therapists worked in the schools attended by the participants and selected them based on their personal experiences, school records, and teacher reports. The same art therapists presented the task to 181 additional students with no histories of aggressive behavior who were attending the same schools. A psychologist analyzed the scored responses to determine whether there were significant differences between groups.

Participants

The 211 children and adolescents ranged in age from 8 to 19 and attended public elementary or secondary schools in low- to high-socioeconomic neighborhoods in New Jersey and Florida. The subsample of aggressive students included 25 boys and 5 girls. Twenty-three were classified as emotionally disturbed and were in special programs in their schools, and seven were attending a school that does not provide preventive or therapeutic programs. The nonag-

Table 1
Guidelines for Scoring Emotional Content and Self-Image in Responses to the Drawing Task

Emotional Content

- ___1 point: *Strongly negative themes*, for example,
Solitary subjects portrayed as sad, helpless, isolated, suicidal, dead, or in mortal danger;
or relationships that are destructive, murderous, or life-threatening.
- ___2 points: *Moderately negative themes*, for example,
Solitary subjects portrayed as frightened, angry, frustrated, dissatisfied, worried, destructive, or unfortunate.
Relationships that are stressful, hostile, or unpleasant.
- ___2.5 points: *Ambivalent themes with negative or hopeless outcomes*
- ___3 points: *Neutral themes*, for example,
Ambivalent, both negative and positive.
Unemotional, neither negative nor positive.
Ambiguous or unclear.
- ___3.5 points: *Ambivalent theme with positive or hopeful outcomes*
- ___4 points: *Moderately positive themes*, for example,
Solitary subjects portrayed as fortunate but passive, such as watching television or being rescued.
Relationships that are friendly or pleasant.
- ___5 points: *Strongly positive themes*, for example,
Solitary subjects portrayed as happy, effective, or achieving goals.
Relationships that are caring or loving.

Self-Image

- ___1 point: *Morbid fantasy*, respondent seems to identify with a subject portrayed as sad,
helpless, isolated, suicidal, dead, or in mortal danger.
- ___2 points: *Unpleasant fantasy*, respondent seems to identify with a subject portrayed as frightened, frustrated,
or unfortunate.
- ___2.5 points: *Ambivalent fantasy with negative outcome*, respondent seems to identify with
subject who is hopeless or likely to fail.
- ___3 points: *Ambivalent, unemotional or ambiguous fantasy*, unclear or with invisible narrator
- ___3.5 points: *Ambivalent fantasy with positive outcome*, respondent seems to identify with
subject who is hopeful or likely to succeed.
- ___4 points: *Pleasant fantasy*, respondent seems to identify with a subject portrayed as fortunate
but passive, such as watching television or being rescued.
- ___5 points: *Wish-fulfilling fantasy*, respondent seems to identify with a subject represented as
happy, loved, powerful, admirable, intimidating, destructive, assaultive, or achieving goals.

gressive students (96 boys and 85 girls) were attending the same schools.

The parents of all students in the sample had granted permission for them to participate in a research study that was testing a new art therapy procedure. Permission had been requested for students attending English and art classes in the schools. Each of the art therapists who administered the drawing task selected seven or eight students with histories of aggressive behavior in their schools. Two schools were in upper- to middle-socioeconomic neighborhoods; two schools, in low- to middle-socioeconomic neighborhoods.

The Instrument

The DAS Form A assessment includes 14 stimulus drawings, sketches of people, animals, places, and things (Silver, 1988/1993/2002). Respondents are asked to choose two or more stimulus drawings, imagine something happening between the subjects they choose, and then show what is happening in drawings of their own. They are encouraged to change the stimulus drawings and add their own subjects and ideas. As they finish drawing, they are asked to provide titles or brief stories about what is happening in their drawings.

In the current study, responses were evaluated on the rating scales shown in Table 1. The Emotional Content Scale ranges from strongly negative to strongly positive themes or content. The score of 1 point is used to identify strongly negative themes, such as drawings about sad solitary subjects or lethal relationships between subjects. The score of 5 points is used for strongly positive themes, such as drawings about powerful subjects or caring relationships. Scores of 2 and 4 points are used, respectively, for moderately negative and positive content, and the intermediate score of 3 points is used for ambiguous, ambivalent, or unemotional content.

On the Self-Image Scale, strongly negative self-images are scored 1 point (e.g., a subject portrayed as sad or in mortal danger seems to represent the respondent). Strongly positive self-images are scored 5 points (e.g., a subject portrayed as powerful or effective seems to represent the respondent). Scores of 2 and 4 points are used, respectively, for unfortunate or fortunate self-images, and the 3-point score, for ambiguous, ambivalent, or invisible self-images.

Results

Brooke Butler, PhD, compared and analyzed the scores of aggressive and nonaggressive students to determine whether there were significant differences between groups. ANOVA revealed that aggressiveness was significantly related to scores for emotional content, $F(1, 209) = 7.06, p = .01$. Specifically, when compared to nonaggressive students, aggressive students exhibited lower, more negative scores on the emotional content scale, as shown in Figure 1. Additional ANOVA revealed that aggressiveness was significantly related to scores in self-image, $F(1, 209) = 3.86, p = .05$. In this case, aggressive students, when compared with nonaggressive students, exhibited higher scores

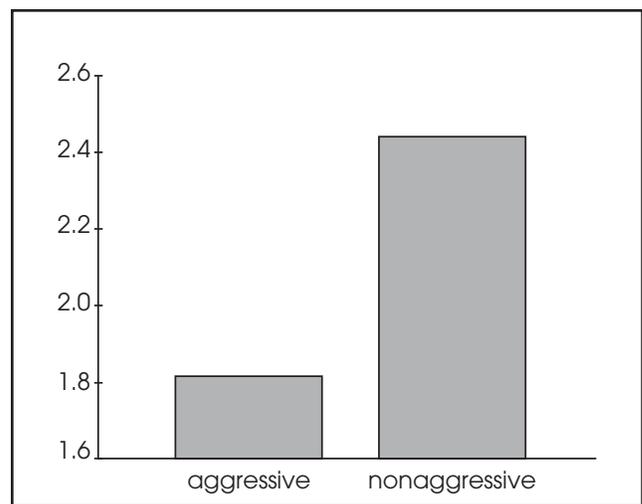


Figure 1
Emotional content mean scores of aggressive and control groups

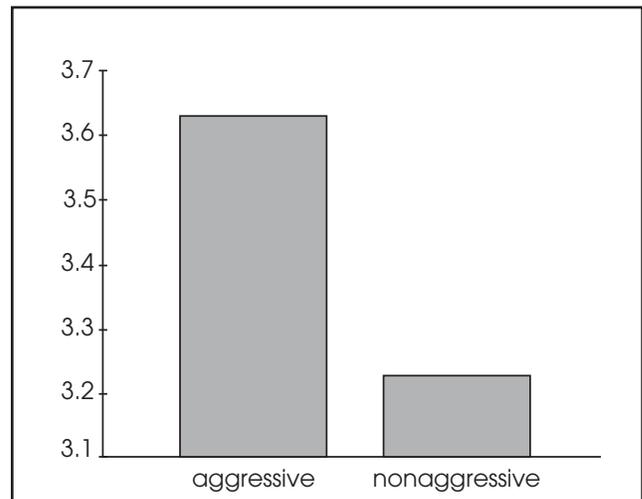


Figure 2
Self-image mean scores of aggressive and control groups

on the self-image scale, as shown in Figure 2. A chi-square analysis confirmed that aggression was significantly related to responses that scored 1 point in emotional content together with 5 points in self-image, $\chi^2 = 27.57, p < .001$. In other words, aggressive students were significantly more likely than nonaggressive students to draw strongly negative fantasies and strongly positive self-images.

Significant gender differences in aggression also emerged, as they emerged in the studies of attitudes toward self and others cited previously (Silver & Ellison, 1995). Chi-square analysis found that gender was significantly related to aggressiveness, $\chi^2 = 9.66, p = .002$. Specifically, male students were more likely than female students to be classified as aggressive. In addition, one ANOVA found that gender was significantly related to scores in emotional

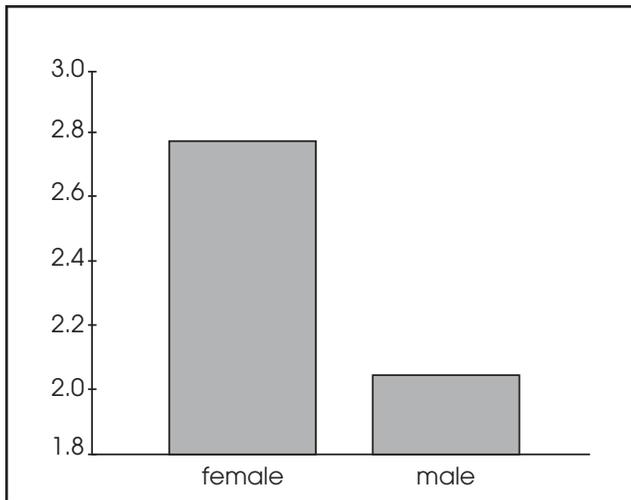


Figure 3
Gender differences in emotional content mean scores

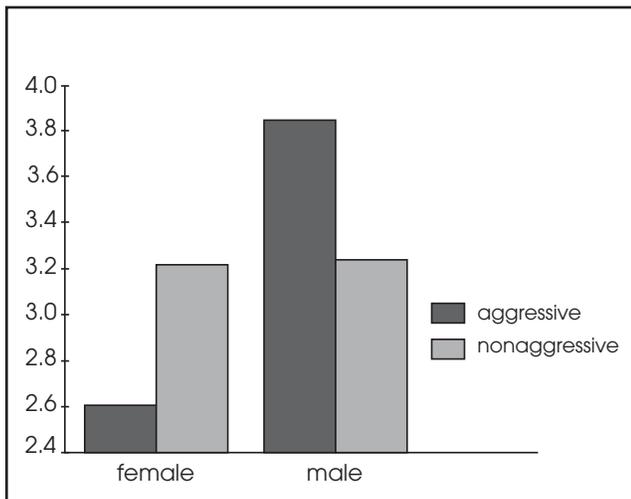


Figure 4
Gender differences in self-image mean scores

content, $F(1, 209) = 19.68, p < .001$. Specifically, female students, when compared to male students, exhibited higher scores on the emotional content scale, as shown in Figure 3. Another ANOVA revealed a significant interaction between gender and aggressiveness in self-image scores, $F(1, 207) = 5.39, p = .02$. Specifically, aggressive male students, when compared to aggressive female students, exhibited higher scores on the self-image scale, as shown in Figure 4. No significant age differences emerged.

Discussion

The findings suggest that the DAS assessment shows promise as a screening technique to identify students at risk for aggression because aggressiveness was related to scores

in emotional content and self-image. The aggressive students had significantly lower scores in emotional content and significantly higher scores in self-image than the nonaggressive students. In other words, the aggressive students, when compared with the nonaggressive students, expressed strongly negative perceptions of their worlds together with strongly positive perceptions of themselves. They drew fantasies about homicidal and life-threatening situations and represented themselves as powerful and effective while performing murderous or heroic deeds.

It should also be noted that 5 of the 30 aggressive students (17%) drew strongly negative perceptions of themselves as well as of their worlds, scoring 1 point in both emotional content and self-image. Perhaps these five students were depressed as well as aggressive. Two previous studies have found significant correlations between the score of 1 point and clinical depression (Silver, 1988a, 1988b). Eight nonaggressive students also scored 1 point in both self-image and emotional content, suggesting that they, too, may have been depressed.

It was surprising to find that none of the aggressive students expressed moderately negative views of themselves and their worlds, scoring 2 points on both scales. One student did score 2 points in self-image, representing himself as frightened, but then scored 1 point in emotional content, portraying himself running away from life-threatening danger. Another student scored 2 points in emotional content (hostile relationships) but then scored 5 in self-image.

Nine students (30%) scored 3 points in emotional content, self-image, or both. Fifteen (50%) drew wish-fulfilling fantasies, and three of these were moderately positive (scored 4 points). Twelve of the 15 (40%) represented themselves as powerful and effective, six drawing homicidal fantasies, lethal encounters in which the murderers seem to be themselves. One student represented himself as an exploding volcano; another, as an aggressive mouse. Four portrayed themselves as heroes protecting victims.

These findings raise a number of questions. Most of the aggressive students had been identified previously as emotionally disturbed. However, six of the nonaggressive students also scored 1 point in emotional content and 5 points in self-image. Were they aggressive in fantasy only, not behavior? Was their aggressiveness masked or under control and normal? How do we distinguish between destructive and constructive aggression, between antisocial aggression and athletic competition, between fantasies and acting out, between bullies and heroes? Does a drawing that expresses a wish to be heroic reflect a desire to protect someone in real danger, or does it reflect an attempt to justify or conceal a desire to punish?

A final question is whether the self-image or emotional content scores persist over time. Consistencies across multiple responses could reveal unresolved problems, just as changes in emotional content or self-image scores could provide evidence that a preventive or therapeutic program has been effective. These questions, as well as questions about the gender differences that emerged, suggest that further investigation would be worthwhile.

References

- Conner, D. F. (2002). *Aggression and antisocial behavior in children and adolescents*. New York: Guilford Press.
- Christle, C. A., Jolivet, K., & Nelson, C. M. (2002). *Youth aggression and violence*. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED449632, Clearinghouse on Disabilities and Gifted Education).
- Dupree, C. (2002, September-October). Inhibited killers. *Harvard Magazine*, 104(1), 12-13.
- Silver, R. A. (1988a). Screening children and adolescents for depression through *Draw a Story*. *American Journal of Art Therapy*, 26(4), 119-124.
- Silver, R. A. (1988b/1993/2002a). *Draw a Story: Screening for depression*. Sarasota, FL: Ablin Press Distributors.
- *Silver, R. A., & Ellison, J. A. (1995). Identifying and assessing self-images in drawings by delinquent adolescents. *The Arts in Psychotherapy*, 22(4), 339-352.
- *Silver, R. A. (1996). Sex differences in the solitary and assaultive fantasies of delinquent and non-delinquent adolescents. *Adolescence*, 31(123), 543-552.
- Silver, R. A. (2002b). *Three art assessments: The Silver Drawing Test of Cognition and Emotion; Draw a Story, Screening for Depression; and Stimulus Drawings & Techniques*. New York: Brunner-Routledge.
- Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads. *Exceptional Children*, 66, 335-347.
- *Can be downloaded at no charge from www.rawleysilver.com.

Limited quantities of the following books authored by American Art Therapy Association, Inc. members are available for purchase.
 Make checks or money orders payable to AATA in U.S. funds and return with this order form to:
 American Art Therapy Association, Inc., 1202 Allanson Road, Mundelein, IL 60060-3808.

PUBLICATIONS	MEMBERS	NONMEMBERS
<i>A History of Art Therapy in the United States</i> Junge with Asawa (1994) ISBN 1-882147-23-5	\$40.00	\$65.00
<i>Continuous Quality Improvement Manual</i> (used by hospital art therapists to meet JCAHO accreditation standards) Howie & Gutierrez (1994) ISBN 1-882147-16-2	\$23.00	\$38.00
<i>A Guide to Conducting Art Therapy Research</i> ISBN 1-882147-03-0	\$35.00	\$60.00
<i>National Registry of Master's Theses & Practicum Papers</i>	\$15.00	\$25.00
<i>Addendum to National Registry of Master's Theses & Practicum Papers</i>	\$15.50	\$25.50
<i>Applying for Funds from Your Area Agency on Aging</i>	\$10.00	\$17.00
<i>The Twelve Steps and Art Therapy</i> Monograph Julliard (1999)	\$10.00	\$20.00

NOTE: Ten (10) or more copies—10% discount. **All prices include postage/handling on United States deliveries—
 call for postage/handling charges for outside of the United States.**

Please enter my order. Enclosed is a check/money order for the appropriate amount: \$ _____

Name _____ AATA Member ID # _____

Address _____

City _____ State _____ Zip+4 _____