

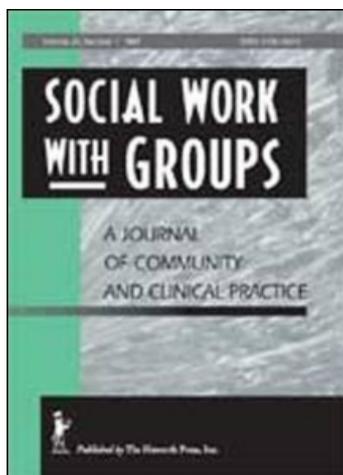
This article was downloaded by: [Canadian Research Knowledge Network]

On: 20 April 2010

Access details: Access Details: [subscription number 783016864]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Social Work With Groups

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t792306972>

Releasing the Steam: An Evaluation of the Supporting Tempers, Emotions, and Anger Management (STEAM) Program for Elementary and Adolescent-Age Children

Bruce A. Bidgood ^a; Heather Wilkie ^b; Annette Katchaluba ^c

^a University of Northern British Columbia, Terrace, British Columbia, Canada ^b University of Windsor, Windsor, Ontario, Canada ^c Kitchener-Waterloo Family & Children's Services, Waterloo, Ontario, Canada

Online publication date: 12 April 2010

To cite this Article Bidgood, Bruce A. , Wilkie, Heather and Katchaluba, Annette (2010) 'Releasing the Steam: An Evaluation of the Supporting Tempers, Emotions, and Anger Management (STEAM) Program for Elementary and Adolescent-Age Children', *Social Work With Groups*, 33: 2, 160 – 174

To link to this Article: DOI: 10.1080/01609510903366186

URL: <http://dx.doi.org/10.1080/01609510903366186>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Releasing the Steam: An Evaluation of the Supporting Tempers, Emotions, and Anger Management (STEAM) Program for Elementary and Adolescent-Age Children

BRUCE A. BIDGOOD

University of Northern British Columbia, Terrace, British Columbia, Canada

HEATHER WILKIE

University of Windsor, Windsor, Ontario, Canada

ANNETTE KATCHALUBA

Kitchener-Waterloo Family & Children's Services, Waterloo, Ontario, Canada

This paper chronicles an evaluation of the Supporting Tempers, Emotions, and Anger Management (STEAM), a school-based emotion management program for elementary and adolescent age children. A quasi-experimental design was used to assess the program impacts as reported by children, their parents, and teachers. The results revealed that STEAM was associated with an array of significant positive changes in both the home and school environment. The program was particularly effective with young children (Grades 1–3) relative to students in the older age cohorts (i.e., Grades 4–6 and 7–8). The findings suggest the importance of early intervention to assist children in the development of emotion management.

KEYWORDS anger, emotion management, group therapy, elementary school, adolescents, children

Emotions are responses to environmental stimuli that create an intense but short-term affective state. Although they are a natural part of the human experience, many children experience difficulties in managing their

Received March 16, 2008; revised January 18, 2009; accepted May 27, 2009.

Address correspondence to Bruce A. Bidgood, Ph.D., Associate Professor, Social Work Program, University of Northern British Columbia, 4837 Keith Avenue, Terrace, BC V2N 4Z9.
E-mail: bidgoodb@unbc.ca

emotions in adaptive ways. These difficulties often arise in children because of poor role modeling and a general unawareness that there are positive ways to express and manage emotions (Wilde, 1995). Little data is available on the prevalence of emotional difficulties in children, but rates between 1.2% and 10% have been reported (Achenbach & Elderbrood, 1981; Bower, 1981; Cullinan, Epstein, & Kauffman, 1984; Dice, 1993), with 3 times more males affected than females (Dice, 1993).

Children who are unable to successfully manage their emotions may manifest behavioral difficulties in the home and school environment. This may be disruptive to the classroom and learning atmosphere (Wilde, 1995), and consequently, emotional difficulties have been associated with academic performance (Gumora & Arsenio, 2002) and educational and career outcomes (Eisenberg, Fabes, & Murphy, 1996; Nelson & Colvin, 1996). A child's inability to manage emotions may also lead to poor interpersonal relationships with peers and adults, and future social maladjustment is often predicted for children who are exposed to negative expressions of emotion (Crick, 1996).

Successfully teaching young children about feelings and emotion management increases their ability to understand the feelings of others, their own feelings, and how to appropriately act upon their emotions (Dunn & Brown, 1991; Dupont, 1994). Furthermore, when children are able to control their expression of emotions, they have a higher likelihood of developing prosocial behavior and excelling in interpersonal relationships (Garner & Power, 1996). For these reasons it is important to teach children and adolescents the necessary skills to manage their emotional expressions before any patterns of poor emotional management become ingrained (Osher & Hanley, 1996; Whitesell & Harter, 1996).

Anger is one particular emotion that children often struggle with, and learning to deal with anger has been called one of the "most important maturational tasks of emotional development" (Akande, 1996). A child's inability to properly express anger may lead to internalizing behavior (e.g., depression) and externalizing behavior (e.g., aggression) (Zeman, Shipman, & Suveg, 2002). Research has supported the effectiveness of relaxation strategies and systematic desensitization for use with individuals experiencing problems managing their anger (Ecton & Feindler, 1986). For instance, Zaichkowsky and Zaichkowsky (1984) found that relaxation training reduced the physiological responses of fourth-grade students when exposed to anger-provoking situations. Similar positive results were found when aggressive fourth- and fifth-grade boys received cognitive-behavioral treatment. In this instance, teachers later rated the boys as being less angry and having fewer anger-related problems than those that did not receive treatment (Deffenbacher, Lynch, Oetting, & Kemper, 1996; Sukhodolsky, Solomon, & Perine, 2000).

Although some programs choose to focus exclusively on anger management, programs such as the PATHS (Promoting Alternative Thinking Strategies) curriculum (Greenberg, Kusche, Cook, & Quamma, 1995) focus on the expression, understanding, and regulation of a broader range of emotions. It aims to develop social problem solving through the use of self-control and emotional awareness. Developed for first- to third-grade children, the PATHS curriculum is intended to be taught throughout the school year by regular classroom teachers. PATHS involves the use of such activities as the creation of "Feeling Faces," which allows the children to communicate how they are feeling through the display of various facial expressions. Another activity used in this program is the Control Signals Poster, which uses a stoplight format to walk the child through the necessary steps for social problem solving. Greenberg et al. (1995) demonstrated the effectiveness of this program in regular and special-needs classrooms and reported that PATHS appears to particularly increase children's ability to discuss their feelings and their self-efficacy in controlling their emotional displays.

Some programs such as Second Step (e.g., Frey, Hirschstein, & Guzzo, 2000) combine both approaches by focusing on anger management and generalized emotion management. Second Step, which was first developed in 1986 and has subsequently been used around the globe (Frey et al., 2000), is a primary prevention program to promote social competence through the use of empathy, social problem solving, and anger management. Second Step has lessons that are taught twice a week by regular classroom teachers and has been designed for children from preschool to Grade 9. These program lessons are age appropriate and include such tasks as role-playing, group work, recognizing internal physical cues for anger, stress-reduction techniques, and group discussions (Frey et al., 2000). Research suggests that across all age levels, children who participate in the program display significant increases in social skills knowledge compared to children in control classrooms (e.g., Moore & Beland, 1992). A large-scale behavioral study of 790 second- and third graders also provided evidence that physical aggression was reduced in children randomly assigned to receive this training, relative to children not enrolled in the program (Grossman et al., 1997).

The Supporting Tempers, Emotions, and Anger Management (STEAM) program adopts a similar approach to Second Step by combining generalized emotion management with anger management. It is designed to help children and adolescents by teaching them to identify what emotion they are experiencing and to employ the skills necessary to express their feelings in a positive and healthy manner. The program aims to teach emotion management through an emphasis on self-awareness, triggers of emotions, body signals, and skills to express emotions before the child has lost control. Considerable emphasis is placed on teaching techniques to handle anger, as most students were referred based on their inability to manage this emotion. It was hoped that participation in this program would

increase self-control by reducing impulsive behavior, reducing the incidence and intensity of temper situations, strengthening self-esteem, and increasing social support by improving interpersonal skills. The STEAM program is designed to facilitate an interaction between the child's parents and teachers, as research suggests this is the most effective way to produce lasting changes (Friesen & Osher, 1996; Illback & Nelson, 1996; Osher & Hanley, 1996). It was therefore expected that improvements in emotion management would be demonstrated in both the home and school environment.

METHOD

Participants

A total of 143 children participated in the STEAM program. All were recruited from five schools in the Waterloo Region District Separate School Board in Waterloo, Ontario, Canada. The children ranged from Grades 1 to 8, with the following breakdown: Grade 1: $n = 15$; Grade 2: $n = 16$; Grade 3: $n = 35$; Grade 4: $n = 23$; Grade 5: $n = 23$; Grade 6: $n = 13$; Grade 7: $n = 9$; Grade 8: $n = 9$. Although specific demographic information was not collected by the programs to protect the anonymity and confidentiality of participants, anecdotal reports by the leaders revealed that boys and girls were enrolled in each of the groups and that the sample was overwhelmingly White.

Measures

Behavioral and Emotional Rating Scale. The Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998) is a 52-item questionnaire consisting of statements such as "Identifies own feelings" and "Uses anger management skills." Responses are given on a 0 (*not at all like the child*) to 4 (*very much like the child*) Likert-type scale. These questions assess five dimensions of childhood strengths: Interpersonal Strength, Intrapersonal Strength, School Functioning, Affective Strength, and Family Involvement. The BERS is suitable for use with children ages 5 to 18 and is designed for use by parents and professionals at school or home (Epstein & Sharma, 1998). When administered to children with emotional or behavioral disorders, the BERS has been shown to be reliable and valid. Internal consistency for the five BERS subscales ranges from $\alpha = .84$ to $\alpha = .92$; test-retest reliability ranges from $r = .85$ to $r = .99$; and interrater reliability ranges from $r = .83$ to $r = .96$ (Epstein & Sharma, 1998). The BERS subscales have also been shown to significantly correlate with other measures of social competence and teacher reports (Epstein & Sharma, 1998). The BERS was completed at pre- and posttest by parents and teachers in the current study.

Child self-report. Children were asked to complete an author-compiled 10-item questionnaire assessing their ability to manage their emotions. Items

included statements such as, “I can find ways to solve the problems that make me angry” and, “I can tell in my body when my feelings are sneaking in.” Responses were given on a 0 (*never*) to 3 (*always*) Likert-type scale. No psychometric information is available for this questionnaire as it was designed specifically for the current study. Children were asked to complete this measure at pre- and posttest.

Procedure

Teachers and school principals were educated regarding the aims of the STEAM program, and these school professionals subsequently referred children that they felt would benefit from involvement. Letters were also sent to parents of all children at each of the participating schools, informing them of the emotions management program and that they could themselves make a referral if they could answer *yes* to any of a series of questions (such as, “Does your child hit or explode if angry?” and “Does your child seem sad or depressed?”). This letter also outlined the timeline of the group meetings and informed them of the opportunity for them to attend parent sessions (including an initial information session on the program). This contact with parents ensured that children who only demonstrated deficits in emotion management within the home environment were also included. All parents gave written consent for their children to participate in the program.

Children who were referred to the STEAM program were then interviewed by a BSW student and were assessed on set criteria, including group readiness, past group experiences, and willingness to participate. Target signs such as low tolerance for frustration, inability to deal with authority figures, and poor self-control were also assessed. Principals, teachers, and group leaders assigned children who were deemed appropriate for the intervention to the group programs until the enrollment capacity was reached. Children who could not immediately be accommodated were assigned to the wait-list and were subsequently offered the program in the following school year. Children were placed into three selected cohorts based on grade: eight Primary groups of Grades 1–3, seven Junior groups of Grades 4–6, and two Intermediate groups of Grades 7–8. Each group consisted of 7 to 11 students. The group format was chosen because this approach has become recognized as the most efficacious form of therapy with children as it normalizes the experiences of children, provides social reinforcement, and assists in the development of interpersonal skills (Rose, 1974; Schiffer, 1984).

The groups met during the normal school day at a local youth center. Children were bussed from their respective schools to the youth center. The STEAM program consisted of 12 sessions, 90 minutes in length, which occurred on a weekly basis. All groups were led by a MSW facilitator and a volunteer co-facilitator (either a MSW, a BSW, or a youth center employee), who received training on this program prior to its initiation.

The STEAM program followed the activity-interview theoretical framework (Schiffer, 1984) by combining play activities with traditional talk therapies techniques, such as group discussion. Activities included such things as relaxation training, role-playing, journaling of the child's feelings, completion of a log of anger-provoking situations, and exercises in self-esteem. These activities were modeled after those used in both the Second Step and PATHS curriculums. Group sessions consisted of an initial emotional check-in (including the use of a temper-a-ture scale), a relaxation exercise, presentation of the material to be covered, a snack, and a closing ritual. Two specific STEAM programs were offered: The Temper Taming Program (for Grades 1 through 6) and the Taming the Dragon Program (for Grades 7 and 8). Both programs covered the same material but differed in activities to ensure that they were age appropriate (see the Appendix for session topics and objectives).

Part of the STEAM program also involved training for school professionals and parents. A designated staff member at each of the participating schools was involved in a 3½¹/₂-day training session on the concepts of the program. The principal of one of the schools also voluntarily participated in this training. Parents of children in the program were also invited to participate in three voluntary parent-training sessions, held at 6-week intervals throughout the course of the 12-week program. These sessions focused on transferring the skills learned through the STEAM program to the home environment and also allowed the parents to express their experiences of having their child participate in the program. School professionals, group facilitators, and parents were also given a final opportunity to participate in focus groups that discussed the benefits and limitations of the STEAM program.

RESULTS

Teacher Ratings

Teacher-completed BERS were screened, and any questionnaires with more than 10% of the responses missing were excluded. Most excluded questionnaires were missing well over this criterion, and 10% of teacher-completed questionnaires were excluded for the pretest BERS and 5% for the posttest BERS. Remaining questionnaires with missing data were replaced with the mean of that child's score for the particular dimension. Scores for each dimension were calculated as the total of all items comprising each dimension. Due to a large number of missing data (only 35% of children had a complete teacher-reported Family Involvement BERS subscale at pretest), the Family Involvement subscale could not be calculated for the teacher reports.

Although the subscales for each BERS administration were found to be significantly correlated ($p < .001$), the various subscales were analyzed

independently in addition to the total score. It was reasoned that analysis at this level would yield useful information and would not obscure potential findings that may not be evident in the total score. It was also felt that analysis of the individual subscales would direct attention to what areas of functioning, if any, were most affected by the STEAM training. No explicit hypotheses regarding differences in the subscales were made.

For students in Grades 1 through 3, teachers reported increases in Interpersonal Strength, $t(49) = -2.52$, $p = .015$; Intrapersonal Strength, $t(49) = -3.82$, $p < .001$; and School Functioning, $t(49) = -2.91$, $p = .005$ (see Table 1). No difference in Affective Strength was found for this group. Analysis of the total BERS scores (based on four subscales) indicated an overall improvement for Grades 1 through 3. Teacher reports revealed no changes on any of the dimensions for Grades 4 through 6 or Grades 7 through 8.

Parent Ratings

Parent-completed BERS were screened in the same manner as those completed by the teachers. This resulted in 7% of completed questionnaires being excluded for the pretest BERS and 1% for the posttest BERS. In contrast to the teachers, all five dimensions could be calculated based on the parent reports. For Grades 1 to 3, parents reported increases in all five dimensions: Interpersonal Strength, $t(35) = -2.50$, $p = .017$; Intrapersonal Strength, $t(35) = -2.38$, $p = .023$; School Functioning, $t(35) = -2.52$, $p = .017$; Affective Strength, $t(35) = -2.51$, $p = .017$; and Family Involvement, $t(35) = -2.19$,

TABLE 1 Teacher Ratings on the Behavioral and Emotional Ratings Scale

	Grades 1–3 ($n = 50$)	Grades 4–6 ($n = 48$)	Grades 7–8 ($n = 13$)
Interpersonal			
Pre	21.58 (9.33)	20.09 (9.26)	18.61 (6.90)
Post	23.74 (9.30)*	20.71 (8.70)	17.47 (10.19)
Intrapersonal			
Pre	17.26 (6.87)	16.72 (6.01)	17.85 (4.81)
Post	19.15 (6.55)***	16.56 (6.20)	16.61 (6.20)
School Functioning			
Pre	14.29 (6.45)	12.59 (6.17)	9.85 (6.09)
Post	15.64 (6.71)**	12.69 (5.55)	9.69 (6.33)
Affective Strength			
Pre	10.98 (4.56)	9.66 (4.35)	9.04 (3.60)
Post	11.45 (4.06)	9.36 (4.67)	8.98 (5.53)
Total Score			
Pre	64.10 (22.92)	59.06 (21.22)	55.35 (15.08)
Post	69.98 (22.94)**	59.32 (21.09)	52.75 (23.87)

* $p < .05$, ** $p < .01$, *** $p < .001$.

TABLE 2 Parent Ratings on the Behavioral and Emotional Ratings Scale

	Grades 1–3 (<i>n</i> = 36)	Grades 4–6 (<i>n</i> = 35)	Grades 7–8 (<i>n</i> = 7)
Interpersonal			
Pre	21.82 (6.09)	20.15 (8.22)	22.57 (5.32)
Post	24.32 (7.05)*	22.68 (8.50)*	25.43 (9.48)
Intrapersonal			
Pre	21.06 (4.90)	19.29 (5.68)	20.94 (5.17)
Post	22.74 (4.75)*	20.93 (5.19)	23.71 (5.25)
School Functioning			
Pre	15.96 (3.18)	14.16 (4.86)	16.00 (6.00)
Post	16.98 (3.60)*	14.39 (4.83)	16.49 (4.77)
Affective Strength			
Pre	13.76 (2.66)	12.48 (4.06)	13.14 (2.61)
Post	14.89 (2.36)*	13.18 (4.19)	14.10 (3.84)
Family Involvement			
Pre	19.91 (4.04)	18.77 (5.27)	20.16 (2.48)
Post	21.06 (3.90)*	20.00 (5.43)*	19.59 (4.44)
Total Score			
Pre	92.58 (16.19)	84.84 (24.07)	92.82 (18.56)
Post	99.99 (17.74)**	91.19 (24.72)	99.32 (23.39)

* $p < .05$, ** $p < .01$.

$p = .035$ (see Table 2). Analysis of the Total BERS scores indicated that across all five subscales, parents of the Grades 1 through 3 students reported significant improvement. For Grades 4 through 6, parents reported significant improvements only on the dimensions of Interpersonal Strength, $t(34) = -2.25$, $p = .031$, and Family Involvement, $t(34) = -2.12$, $p = .041$; however, the levels of reported change on the Intrapersonal Strength, $t(34) = -2.08$, $p = .053$, and Total BERS scores, $t(34) = -1.99$, $p = .055$, both approximated the level of statistical significance. No improvements were found based on parent ratings of the students in Grades 7 through 8.

Student Ratings

Responses on the child self-report measure were averaged to create a total score for each child. A series of paired t tests assessing pre- and posttest scores revealed a significant change was found for the Grades 1 through 3 students, $t(63) = -3.96$, $p < .001$, although no difference over time was found for the Grades 4 through 6 or the Grades 7 through 8 students (see Table 3).

In regards to the wait-list students, no significant difference was found when their baseline self-reports were compared to those of the program participants, $t(162) = -1.69$, $p > .05$. In contrast to the program participants, paired t tests revealed that the wait-list participants did not significantly change, $t(20) = -1.67$, $p > .05$, in their pre- to posttest self-report ratings

TABLE 3 Student Self-Reports of Emotional Management Skills

	Treatment Group		
	Grades 1–3 (<i>n</i> = 64)	Grades 4–6 (<i>n</i> = 57)	Grades 7–8 (<i>n</i> = 17)
Pre	1.06 (.39)	1.33 (.39)	1.31 (.37)
Post	1.32 (.50)***	.42 (.35)	1.43 (.35)
	Comparison Group		
	Grades 1–3 (<i>N</i> = 10)	Grades 4–6 (<i>N</i> = 9)	Grades 7–8 (<i>N</i> = 3)
Pre	1.36 (.42)	1.25 (.47)	1.20 (.56)
Post	1.48 (.39)	1.41 (.36)	1.25 (.21)

****p* < .001

(Table 3). When analyzed by grade, no change over time was found for any of the age groups on the waiting list.

DISCUSSION

Results indicated that the STEAM program, as rated by teachers, parents, and the children themselves, was effective in producing changes in emotional management skills. These positive outcomes are similar to those reported by such programs as PATHS and Second Step. However, this research demonstrated that these changes vary by age group, with the youngest children showing the most improvement. Specifically, children in Grades 1 through 3 rated themselves as improving significantly following the program, which was further supported by parent ratings that revealed improvement in all five dimensions of the BERS, and teacher ratings that revealed improvement on three of the four dimensions that were assessed by the teachers. Comparatively less improvement was shown by children in Grades 4 through 6, with a significant change on two of the five BERS dimensions, as rated by their parents. Children in Grades 7 through 8 demonstrated no improvement following the STEAM program, as measured by their self-report, and teacher and parent ratings.

These findings show evidence for the efficacy of early-intervention programs targeting children with poor emotional management skills. The potential for improvement demonstrated by the children in Grades 1 through 3 appears to be dampened even by the time children reach Grades 4 through 6. This supports Whitesell and Harter's (1996) view that interventions should occur as soon as possible before patterns of poor emotional management become ingrained. Overall, these results appear to suggest that it grows increasingly difficult to produce improvements in emotional management skills as children age.

The results of the current study also suggest difficulties in using a single instrument such as the BERS to address children's behavior across a variety of settings (i.e., home and school). Although Epstein and Sharma (1998) claimed to have designed the measure for use by parents and school professionals, our data suggest that a number of the questions assess areas of the child's functioning that may not be known to parents and teachers. In particular, only about one third of the teachers responded to all questions measuring the dimension of the child's Family Involvement. Teachers also appeared to have difficulty answering other items that were not included on the Family Involvement dimension; specifically, items 3 ("Accepts a hug"), 22 ("Enjoys a hobby"), 25 ("Accepts the closeness and intimacy of others"), and 47 ("Studies for tests"). Parents appeared to have a much better understanding of their child's functioning in all areas, and they were subsequently able to respond to all five dimensions of the BERS. The only item parents appeared to have trouble endorsing was item 29 ("Interacts positively with siblings"), which suggests that scoring allowances should be made for children who have no siblings. Further potential difficulties with the use of the BERS were illustrated by the finding that changes reported by parents were not related to the changes reported by teachers. To determine if the same children who were reported to make improvements by their teachers were also seen to make improvements by their parents, correlations on the pre- to posttest difference scores for the BERS were run. No significant correlations (range of $r = -.05$ for intrapersonal strength to $r = .22$ for school functioning) were found for the BERS total score or for any of the four subscales that were completed by parents and teachers. This perhaps reflects some of the difficulty that parents and teachers have in assessing areas of the child's life of which they are not particularly knowledgeable. More important, this finding supports the importance of multiple sources of information from the home and school, as emotion management skills may not be manifest in the same way in both environments.

The limitations of the current study include the utilization of the BERS and the high frequency of missing data that resulted from the use of this measure. That said, the omission of BERS ratings by teachers and parents for the wait-list groups cannot be seen as having enhanced the effort to assess the efficacy of the STEAM program. Although no significant baseline differences were found, it is possible that the absence of random assignment of participants to the treatment and waiting-list groups could introduce a potential bias into the sample. Another limitation of the current study that deserves mention is the small number of students in Grades 7 through 8. It would have been preferable to have a larger sample of the older age group in order to increase our confidence in the age-based effects that were demonstrated in the current study. Finally, the practice of aggregating the data across groups run by different leaders (i.e., age cohorts and

total sample) could obscure material between-group variation in the STEAM program's efficacy.

Overall, the strengths of the STEAM program were the wide age range that it targeted as well as the focus on overall emotional management skills rather than just anger management. A strength of this evaluation was that it assessed change in the home and school environment and allowed for input on any behavioral changes from the children themselves. The collection of program evaluation data from multiple sources (i.e., triangulation) leads to greater confidence in the validity of the study's findings (Posavac & Carey, 2002).

Although the STEAM program and earlier curriculums such as Second Step and PATHS have been shown to be effective, there are important methodological differences that deserve further attention in the literature. Specifically, Second Step and PATHS are classroom-based programs, whereas the STEAM program was conducted with students on a pull-out basis (i.e., in a community agency). Future research should attempt to determine the relative effectiveness of both approaches. Furthermore, though the current study suggests that early-intervention emotional management programs are the most effective at producing change, future research should determine what interventions may be most appropriate for inducing change in children in Grades 4 and beyond. A longer follow-up period may also reveal the ability of such intervention programs to produce permanent changes in behavior.

ACKNOWLEDGMENT

This research was sponsored by the Waterloo Catholic Separate School Board, K-W Counseling, and the Betty Thompson Youth Centre to teach practicum students about the principles of evidence-based practice. The authors would like to thank Lisa Beck and Sarah Storry as well as the other MSW students from Wilfrid Laurier University and the BSW students from Renison College who facilitated the program and participated in the collection of data for this research. Special appreciation is extended to the parents, teachers, and principals at each of the schools that participated in the program.

REFERENCES

- Achenbach, T. M., & Elderbrood, C. S. (1981). Behavior problems and competencies reported by parents of normal and disturbed children aged four through 16. *Monographs of the Society for Research in Child Development*, 46.

- Akande, A. (1996). Treating anger: The misunderstood emotion in children. *Early Child Development & Care*, 132, 75–91.
- Bower, E. M. (1981). *Early identification of emotionally handicapped children in schools* (3rd ed.). Springfield, IL: Charles C Thomas.
- Crick, N. R. (1996). The role of overt aggression, relational aggression, and prosocial behavior in the prediction of children's future social adjustment. *Child Development*, 67, 2317–2327.
- Cullinan, D., Epstein, M. H., & Kauffman, J. M. (1984). Teachers' ratings of students' behaviors: What constitutes behavior disorder in the schools? *Behavioral Disorders*, 10, 9–19.
- Deffenbacher, J. L., Lynch, R. S., Oetting, E. R., & Kemper, C. C. (1996). Anger reduction in early adolescents. *Journal of Counseling Psychology*, 43, 149–157.
- Dice, M. L., Jr. (1993). *Intervention strategies for children with emotional or behavioral disorders*. San Diego, CA: Singular Publishing Group, Inc.
- Dunn, J., & Brown, J. (1991). Relationships, talk about feelings, and the development of affect regulation in early childhood. In J. Garber & K. A. Dodge (Eds.), *The development of emotion regulation and dysregulation*. (pp. 89–108). New York: Cambridge University Press.
- Dupont, H. (1994). *Emotional development theory and applications: A neo-piagetian perspective*. Westport, CT: Praeger Publishers/Greenwood Publishing Group.
- Ecton, R. B., & Feinder, E. L. (1986). *Adolescent anger control: Cognitive-behavioral techniques*. Toronto, Canada: Pergamon Press.
- Eisenberg, N., Fabes, R. A., & Murphy, B. C. (1996). Parents' reactions to children's negative emotions: Relations to children's social competence and comforting behavior. *Child Development*, 67, 2227–2247.
- Epstein, M. H., & Sharma, J. M. (1998). *Behavioral and emotional ratings scale: A strength based approach to assessment*. Austin, TX: Pro-Ed.
- Friesen, B. J., & Osher, T. W. (1996). Involving families in change: Challenges and opportunities. In R. J. Illback & C. M. Nelson (Eds.), *Emerging school-based approaches for children with emotional and behavioral problems: Research and practice in service integration* (pp. 1–5). Binghamton, NY: Haworth Press.
- Frey, K. S., Hirschstein, M. K., & Guzzo, B. A. (2000). Second step: Preventing aggression by promoting social competence. *Journal of Emotional and Behavioral Disorders*, 8, 102–112.
- Garner, P. W., & Power, T. G. (1996). Preschoolers' emotional control in the disappointment paradigm and its relation to temperament, emotional knowledge, and family expressiveness. *Child Development*, 67, 1406–1419.
- Greenberg, M. T., Kusche, C. A., Cook, E. T., & Quamma, J. P. (1995). Promoting emotional competence in school-aged children: The effects of the PATH curriculum. *Development and Psychopathology*, 7, 117–136.
- Grossman, D. C., Neckerman, H. J., Koepsell, T. D., Liu, P. Y., Asher, K. N., Beland, K., et al. (1997). Effectiveness of a violence prevention curriculum among children in elementary school. A randomized controlled trial. *Journal of the American Medical Association*, 277, 1605–1611.
- Gumora, G., & Arsenio, W. F. (2002). Emotionality, emotion regulation, and school performance in middle school children. *Journal of School Psychology*, 40, 395–413.

- Illback, R. J., & Nelson, C. M. (1996). Conceptual foundations of school-based integrated services. In R. J. Illback & C. M. Nelson (Eds.), *Emerging school-based approaches for children with emotional and behavioral problems: Research and practice in service integration* (pp. 1–5). Binghamton: Haworth Press.
- Moore, B., & Beland, K. (1992). *Evaluation of Second Step, pre-school-kindergarten: A violent prevention curriculum kit. Summary report*. Seattle, WA: Committee for Children.
- Nelson, J. R., & Colvin, G. (1996). Designing supportive school environments. In R. J. Illback & C. M. Nelson (Eds.), *Emerging school-based approaches for children with emotional and behavioral problems: Research and practice in service integration*. (pp. 169–186). Binghamton, NY: Haworth Press.
- Osher, D., & Hanley, T. V. (1996). Implications of the national agenda to improve results for children and youth with or at risk of serious emotional disturbance. In R. J. Illback & C. M. Nelson (Eds.), *Emerging school-based approaches for children with emotional and behavioral Problems: research and practice in service integration* (pp. 7–36). Binghamton, NY: Haworth Press.
- Posavac, E. J., & Carey, R. G. (2002). *Program evaluation: Methods and case studies* (6th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Rose, S. D. (1974). *Treating children in groups: A behavioral approach*. Washington, DC: Jossey-Bass.
- Schiffer, M. (1984). *Children's group therapy: Methods and case histories*. New York: Free Press.
- Sukhodolsky, D. G., Solomon, R. M., & Perine, J. (2000). Cognitive-behavioral, anger-control intervention for elementary school children: A treatment outcome study. *Journal of Child & Adolescent Group Therapy*, *10*, 159–170.
- Whitesell, N. R., & Harter, S. (1996). The interpersonal context of emotion: Anger with close friends and classmates. *Child Development*, *67*, 1345–1359.
- Wilde, J. (1995). *Anger management in schools: Alternatives to student violence*. Lancaster, PA: Technomic Publishing.
- Zaichkowsky, L. B., & Zaichkowsky, L. D. (1984). The effects of a school-based relaxation training program on fourth grade children. *Journal of Clinical Child Psychology*, *13*, 81–85.
- Zeman, J., Shipman, K., & Suveg, C. (2002). Anger and sadness regulation: Predictions to internalizing and externalizing symptoms in children. *Journal of Clinical Child & Adolescent Psychology*, *31*, 393–398.

APPENDIX A

Session Topics and Objectives for both STEAM Programs

Session Topic	Temper-Taming Objectives	Taming the Dragon Objectives
Getting acquainted	<ul style="list-style-type: none"> • To provide structure and purpose for the group • To develop group norms, ground rules, and cohesion 	<ul style="list-style-type: none"> • To provide structure and purpose for the group • To develop group norms, ground rules, and cohesion
2. Clues to my emotions	<ul style="list-style-type: none"> • To externalize temper • To determine the who, what, where and when of temper 	<ul style="list-style-type: none"> • To identify physiological and situational “triggers” for anger and other emotions
3. Dealing with feelings	<ul style="list-style-type: none"> • To identify the physiological responses to emotions and temper 	<ul style="list-style-type: none"> • To use “triggers” as a cue to reduce intensity of feelings
4. Feelings awareness	<ul style="list-style-type: none"> • To facilitate identification and expression of feelings 	<ul style="list-style-type: none"> • To identify ways to deal with feelings • To increase repertoire of strategies to cope with emotions
Sometimes I wear a mask	<ul style="list-style-type: none"> • Concept of “being in charge” of temper through making choices • Review of sessions 1–4 	<ul style="list-style-type: none"> • To enhance communication strategies • To illustrate that there are more ways to interpret an event or situation
Staying in control	<ul style="list-style-type: none"> • How not to explode • Looking critically at reactions to emotion-provoking situations • Continuation of “being in charge” of temper through making choices 	<ul style="list-style-type: none"> • To illustrate that anger does not equal aggressive behavior • To demonstrate that choices are available in all situations
Our actions	<ul style="list-style-type: none"> • Staying in control • To provide opportunities to utilize coping statements to help control emotions • Making choices • Introduce and practice the concept of “self-talk” 	<ul style="list-style-type: none"> • Staying in control • To provide opportunities to utilize coping statements to help control emotions • Making choices • Introduce and practice the concept of “self-talk”

(Continued)

Ways people handle emotions	<ul style="list-style-type: none"> ● To understand that people handle emotions/anger in different ways ● To present six different ways people handle anger ● To identify their own style 	<ul style="list-style-type: none"> ● To understand that people handle emotions/anger in different ways ● To present six different ways people handle anger ● To identify their own style
9. Changing angry thinking	<ul style="list-style-type: none"> ● Productive problem solving ● Assist group to realize there are some situations in their lives they cannot change ● To help become familiar with passive, aggressive, and assertive reactions ● To present problem-solving situations 	<ul style="list-style-type: none"> ● Productive problem solving ● Assist group to realize there are some situations in their lives they cannot change ● To help become familiar with passive, aggressive, and assertive reactions ● Discussion of positive and negative thinking
10. My responsibility	<ul style="list-style-type: none"> ● Review concepts and attempt to integrate skills ● How to get “back on track” when “old habits” kick in ● To enhance the ability to take responsibility for personal actions and apologize where suitable 	<ul style="list-style-type: none"> ● Review concepts and attempt to integrate skills ● How to get “back on track” when “old habits” kick in ● To enhance the ability to take responsibility for personal actions and apologize where suitable
I'm in charge	<ul style="list-style-type: none"> ● Celebrate being “in charge” of temper ● Discuss the concept of complimenting others as well as receiving compliments 	<ul style="list-style-type: none"> ● Celebrate being “in charge” of temper ● Discuss the concept of complimenting others as well as receiving compliments
12. Putting it all together	<ul style="list-style-type: none"> ● To transfer skills and strategies learned in group to school setting ● To develop leadership skills in children 	<ul style="list-style-type: none"> ● To transfer skills and strategies learned in group to school setting ● To develop leadership skills in children