

The value of a dog in a classroom of children with severe emotional disorders

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Abstract

The purpose of the present study was to determine how a dog's presence in a self-contained classroom of six children diagnosed with severe emotional disorders affected students' emotional stability and their learning. Across an eight-week period of time, the children were observed, the children and their parents were interviewed, and behavioral data were recorded when students went into emotional crisis. Qualitative analysis of all coded data indicated that the dog's placement in this self-contained classroom: a) contributed to students' overall emotional stability evidenced by prevention and de-escalation of episodes of emotional crisis; b) improved students' attitudes toward school; and c) facilitated students' learning lessons in responsibility, respect and empathy.

Keywords: dog, classroom, emotional disorders, special education, students

From the time of his serendipitous discovery in 1953 of his pet dog's usefulness as an adjunct in his work as a child psychotherapist, Dr. Boris Levinson led a passionate crusade for the use of animals to unlock children's troubles and to stimulate positive change (Melson 2001). Throughout the literature, there are case study reports supporting the notion that pets, in general, have been successful at helping children learn valuable lessons in respect, responsibility, and empathy and have provided children with emotional stability through their accepting and ongoing interactions (Fine 2000). However, as Rowan and Beck (1994) point out, "large scale scholarship on human-animal interactions still languishes, mainly because of a lack of funds" (p. 87).

To document how human-animal interactions influence children's learning, Rud and Beck (2000) conducted research on companion animals in classrooms. Based on the findings of the 428 teachers surveyed, it was determined that teachers see animals as more than just part of the atmosphere; they have the potential to be prompts for creative activities in the classroom (e.g., writing and drawing), as well as to be subjects of research for academics. Although teachers reported a low occurrence of having students use the animals as a calming tool, a large percentage reported having them for "enjoyment" (37.4%) and for "psychological well-being" (22.1%).

Zasloff, Hart and DeArmond (1999) surveyed 37 teachers representing 30 schools in California to explore current practices regarding animals in elementary

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education, with the intent of providing descriptive data that would encourage further research in the area. Results from this survey indicated that animals are a popular feature in many elementary school classrooms. The participating teachers reported that "animals can be very effective for formal instruction in science and other subjects and for teaching humane attitudes and values, and can interest and motivate young students with learning problems and other difficulties" (p. 355). Problems that were identified with live animals in classrooms included: allergies, children's fear of animals, zoonotic diseases, the time and cost required for ongoing care, and the general welfare of both the students and the animals.

Based on a study conducted by Robin, ten Bensel, Quigly and Anderson (1983) of 269 children who were institutionalized due to their emotional disturbance, 47% of the children reported the importance of having pets in order to have someone to love. Comparatively, students who received their education in a public school served as a control group in this study, and they, too, reported on the importance of pets, but because the pets taught them responsibility. Levinson (1968, 1971) reported that children who are institutionalized frequently attach themselves to living things such as dogs, cats, and even mice, which in many instances can serve a therapeutic function.

Mallon (1994) wrote extensively about his research on the benefits and drawbacks of incorporating dogs into the living units at Green Chimneys, a residential treatment center in New York City for children with significant behavior and academic difficulties. His study consisted of in depth interviews with six senior child care workers, twelve children, and several housekeepers, administrative staff and child care supervisors for their experiences with the 24-hour placement of a dog in each of six dormitories. Open-ended questions and five-point Likert scale questions about the dogs-in-the-dorm program were also completed by 20 child care workers. Additional sources of data included field observations, inter-agency correspondence, and a book of poetry written by the children. Mallon concluded that the presence of dogs in the dormitories provided the following benefits to the children: (a) opportunities for love, companionship, and affection; (b) acceptance and non-judgmental love; (c) confidential listening to their inner most thoughts and feelings; (d) therapeutic relationships that assisted them in relating to others; and (e) nurturing opportunities. According to his study, the drawbacks of incorporating dogs into the living units were related to issues of abuse, housekeeping, and staff attitudes toward the program. First, "abuse is always an issue in pairing children and animals, especially when the combination involves children who have experienced abuse themselves" (p. 97). However, Mallon noted that abuse of the dog was the only negative that the children could identify with the placement of the dog in their dorm, and only a small number of students engaged in any form of abuse. Second, the incorporation of dogs into the living units did produce additional housekeeping tasks due to them tracking dirt inside, shedding hair, having accidents indoors, needing attention for medical problems, and possibly biting and/or transmitting some contagious communicable disease. Third, Mallon reported that the staff managing the dorms had some strong input about how the program was initiated and about the nature of the program itself. Two dorms were supportive of the placement of dogs, three were "somewhat skeptical, but generally supportive" (p. 99), and only one was totally unsupportive. Overall, 95% of the staff and 100% of the children felt that benefits outweighed difficulties.

What is still needed is research that focuses on children at risk (Rowan and Beck 1994) and systematically investigates the interaction of special education students and classroom animals (Rud and Beck 2000). The purpose of the present study was to determine how a dog's presence in a self-contained classroom of six children diagnosed with severe emotional disorders affected students' emotional stability and their learning.

Methods

Setting and Participants

This research study was conducted in urban North Dakota in an elementary school serving approximately 400 students from predominately low socioeconomic areas of the city. Participants in the study were the teacher (also the researcher), two para-educators, six students, and a two-year old toy poodle named J.D. who was owned by one of the para-educators.

The six students in this study ranged in age from 6 to 11 years, had been a member of this self-contained classroom from three months to three years, and carried one to three diagnoses, including oppositional defiant disorder, attention deficit disorder with hyperactivity, reactive attachment disorder, intermittent explosive disorder, central auditory processing disorder, mood disorder, bipolar disorder, and Asperger's Syndrome. All six students had been unsuccessful in the general education classroom and had been placed in this self-contained setting within this school or from neighboring schools. While each of the students still spent time in one or more general education classes, the teacher/researcher or one of the para-educators always accompanied them to these classes.

It should be noted that the dog in this study was not a certified therapy dog, nor was he trained to interact with children or adults through animal-assisted activities. Furthermore, J.D.'s previous exposure to younger children was limited due to the age discrepancy between the students in this study and his owner's children.

Procedure

Prior to beginning the study, the local university's Institutional Review Board for protecting human subjects and animals approved the planned procedures. The following actions were taken by the researcher to reduce risks for the students as well as for the dog:

- 1) Because the toy poodle was free to roam about the classroom, it was established that if/when students entered emotional crisis (i.e., severe verbal or physical aggression requiring removal from the classroom for the safety of self or others), the teacher or one of the two para-educators would contain the dog in a locked kennel. This procedure was established to also ensure that the dog would not harm the students if it felt threatened. In the event students ever became physically aggressive, they would be placed in an unlocked padded room (known as the quiet room) to ensure their safety and the safety of all others involved. It was planned that students would have no contact with the dog until they demonstrated self-control and followed rules established for the quiet room. The dog was professionally groomed monthly and was current on his vaccinations.

- 2) Interviews with all parents were conducted to insure that no child had an allergy to dogs. The study would have been discontinued if an allergic reaction had been reported.

3) Respect for the dog's needs and boundaries were established on the first day of the study with its owner present. A list of "do's and don'ts" was generated from a discussion with the students led by the classroom teacher. This list was posted in the classroom, and the owner explained the dog's likes and dislikes. Essentially, the students were not allowed to touch or sit next to the dog when he ate, to approach him while he was sleeping, or to remove toys from his mouth (i.e., other than when playing fetch).

4) Bonding with the dog was considered important in the study. Positive verbalizations from the student about his/her relationship with the dog as well as the dog's willingness to interact with individual children were considered evidence of bonding. Had any student not been able to bond with the dog, the researcher was prepared to increase that child's one-on-one time with the dog and to explain to the child that, like humans, dogs are attracted to certain personality traits in people and may pledge loyalty to a select few.

A case study design was chosen as the qualitative method, since it allowed for the study of uncharted social circumstances and the description of complex social realities (Mallon 1994). Data for the study followed suggestions by Creswell (1998) for collecting in-depth data from multiple sources:

1) During the eight weeks prior to the study, baseline data were collected for all six of the students. The central focus of the qualitative and quantitative data gathered was on episodes of emotional crisis displayed by these students. Baseline data were documented using Problem-Solving Sheets and ABC Analysis Forms. Each time students entered emotional crisis (defined as severe verbal and physical aggression), a Problem Solving Sheet was filled out by the teacher/researcher or para-educators. This sheet recorded how the student described a problem he or she was having, how the problem had been solved, and what might be done differently the next time a problem occurred. A data collection procedure known as an ABC Analysis was utilized and recorded on a form by the teacher or her para-educators each time the student entered the quiet room for severe verbal or physical aggression. Antecedents (A) were events that preceded the words, actions or behaviors (B) of the students observed, and the events or consequences (C) were noted that followed the behaviors. While antecedents may actually cause behaviors, consequences are thought to maintain or reinforce the behaviors. Both the ABC Analysis Forms and the Problem-Solving Sheets were continued tools for data collection throughout the eight-week study. However, for the study period, the Problem-Solving Sheet was revised to include a section on how the students used the dog to assist in their problem solving (if any).

2) Daily observations were conducted by the teacher/researcher five days per week for a period of eight weeks. The dog was present from 8 a.m. to 3 p.m. each day with the exception of three days during this study period. Two days the teacher/researcher was absent and once the dog's owner kept him home, because she was ill. Notes recorded related to the students' one-on-one sessions with the dog (approximately 30 minutes every day), the students' unstructured play with the dog at recess, the students reading books to the dog during reading class, the students' comments about and interactions with the dog during social skills instruction, and the students' spontaneous interactions with the dog. For all 37

days of the study, group interactions with the dog were observed and recorded; in addition, on 32 of those days, observations of individuals' interactions with the dog were made and recorded.

3) At the beginning of each day, the classroom teacher provided 30 minutes of social skills instruction that focused on helping students interact appropriately with adults and peers and on maintaining emotional stability. At the onset of J.D.'s placement into the self-contained classroom, the teacher's focus of instruction was for students to gain an understanding of how J.D.'s communication patterns for addressing his needs and emotions were similar and different from their own patterns. Although the teacher/researcher did not attempt to personify the dog, she felt it was necessary for students to become aware of, and gain respect for, J.D. as a living, breathing creature who also had needs and emotions, even if they were not comparable to their own. The teacher/researcher taught the use of physical touch and verbal praise as rewards for the dog when he was responsive to students rather than the use of tangible rewards (e.g., dog treats). During the time the toy poodle was in the classroom, the following topics were also addressed: a) how to be respectful of the dog, b) how to be responsible for meeting J.D.'s needs, c) how to use J.D. as a calming tool, d) how to use the dog to socialize with others and e) ways to interact with J.D. during their 30-minute individual sessions with him. The methods of instruction used in this social skills class included discussions (with the use of books on how dogs help people), teacher modeling, and role-playing.

4) The classroom teacher conducted one-on-one interviews with the six students on six consecutive Fridays during their 30-minute individual time with the dog. While 67 questions were asked across the eight-week period, only a few questions were asked at any one time. The number of interview questions grew so large, because they were developed from the observational notes relating to student comments and behaviors while interacting with the dog as well as from the Problem Solving Sheets and the ABC Analysis Forms. With respect to the dog, the students were asked for descriptions of their interactions with him, positive and negative aspects of his presence, their understanding of his behaviors, and how they specifically benefited from having him in the classroom. The teacher/researcher also interviewed any student who entered emotional crisis when the dog was used as a de-escalation tool (i.e., a way to calm down through a time-out period).

5) Individual hour-long interviews with parents were conducted by the teacher/researcher during the fourth week of the study in a conference room within the school building. The 28 questions that were asked of parents were formulated by the teacher/researcher after students' responses to interview questions were gathered. As a result, the parents were asked to verify verbalizations made by their children about the dog, to compare their own perceptions regarding how their children responded to the dog, and to describe their thoughts about the study procedures and results. In the end, students were asked 11 questions and parents were asked six questions that elicited specific "benefits" relating to the dog. It should be noted that students were also asked 12 questions that probed for "drawbacks" relating to the dog. While parents were not asked specific questions related to drawbacks, it was felt that the parents in this study had a strong enough rapport with the teacher/researcher that they would have felt comfortable expressing drawbacks relating to the dog or the study in general.

6) Three weeks after the school year and the eight-week study concluded, the teacher/researcher interviewed the students and their parents in their homes to discern any effects of the dog's presence in the classroom during the last four weeks of the study as well as any post-study effects noted in the home environment. All student and parent interviews were audio taped and transcribed and reflective notes were written by the teacher/researcher at the conclusion of each interview. The interview protocols for students and parents are available from the authors upon request.

Analysis

Data analysis began with an examination of Problem Solving Sheets and ABC Analysis Forms collected during the eight-week period prior to the dog's presence in the classroom. Triangulation of data was achieved by comparing information from the following sources: participant observations, student and parent interviews, recordings on Problem Solving Sheets, and recordings on ABC Analysis Forms. As data were collected, pieces were classified through a procedure known as coding (i.e., segmenting the data within running records) (Stainback and Stainback 1988). Codes were subsequently organized into categories, followed by the search for themes or patterns among these categories. Finally, the relationships that tied themes together were identified and labeled assertions. To assure validity of these assertions, the researcher conducted an extensive review of the professional literature, promptly transcribed observations and interviews, routinely collaborated with her two para-educators in auditing explanations and interpretations, and analyzed any discrepant data to assess whether conclusions were to be retained or modified (Maxwell 1996).

Results

It was of interest in this study to determine what happened when a dog became a member of a self-contained classroom for students diagnosed with severe emotional disorders. Because observations and recordings were a routine part of every day prior to the dog's arrival in the classroom, it was possible to see the impact the animal's presence had on each of the six students (see Table 1). Qualitative analysis of all coded data indicated that the dog's placement in this classroom: a) contributed to students' overall emotional stability, evidenced by prevention and de-escalation of episodes of emotional crisis; b) improved students' attitudes toward school; and c) facilitated students learning lessons in responsibility, respect, and empathy (see Figure 1). In the paragraphs that follow, a brief profile of each student is provided as well as an explanation of data gathered that supported these three assertions.

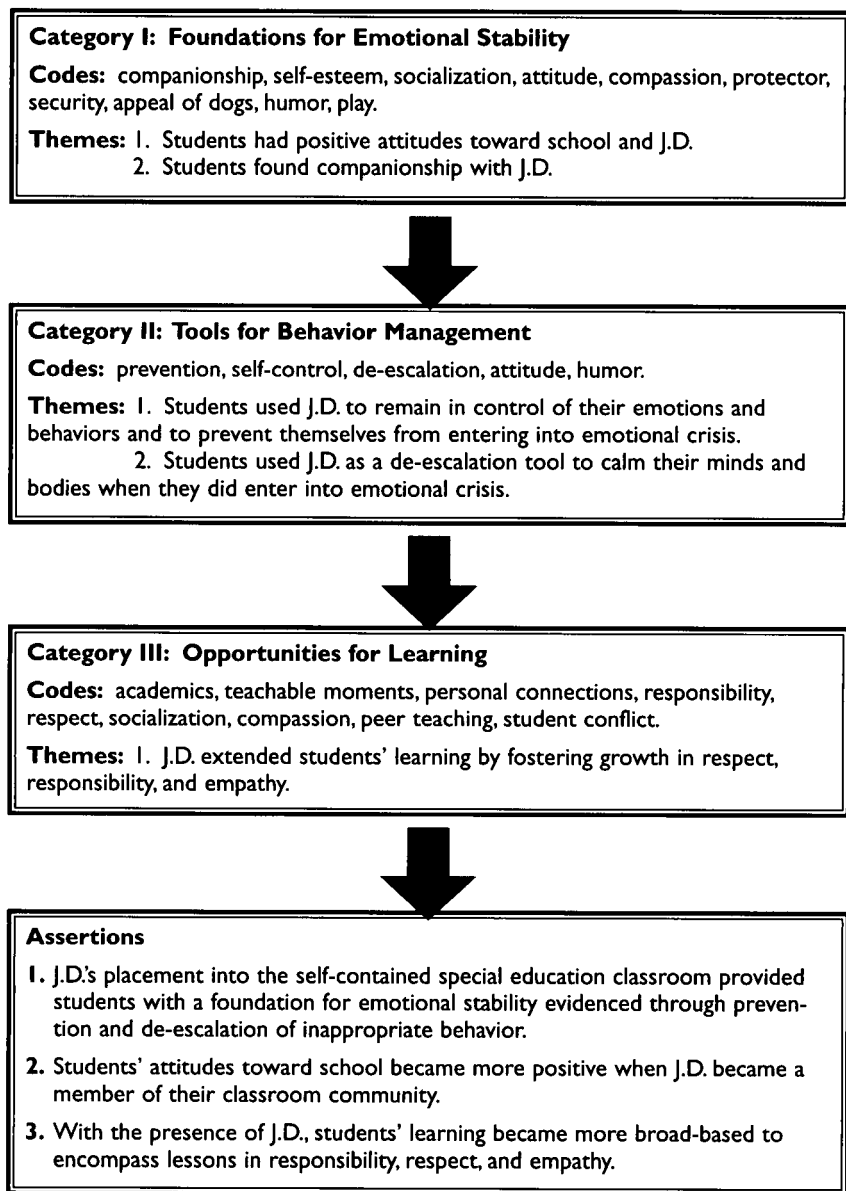
Jake

Of Hispanic descent, Jake was one of two first graders in the class. He was diagnosed with Oppositional Defiant Disorder as well as Attention Deficit with Hyperactivity Disorder. Although he had been a victim of domestic and physical violence prior to his placement in foster care, he missed his mother terribly. It was difficult to build a relationship with him, because he commonly hit or kicked teachers and peers when he became angry. Jake entered emotional crisis three times in the eight-week period prior to the study.

Table 1. Crisis behaviors: Baseline and study period.

Student	Pre-Dog (February and March)	With Dog (April and May)
Jake	<ul style="list-style-type: none"> • 3 emotional crises • yelled • swore/called names • threw objects • acted physical toward people 	<ul style="list-style-type: none"> • 0 emotional crises
Ben	<ul style="list-style-type: none"> • 5 emotional crises • refused to take time outs to possibly avoid crisis • refused to follow directions • refused to walk to quiet room • swore • yelled • acted physical toward self and others (violent) • threatened self and others with violent acts • average duration of crisis was 40 minutes 	<ul style="list-style-type: none"> • 1 emotional crisis • took time outs to avoid crisis • refused to follow directions • refused to walk to quiet room • cried • duration of crisis was 15 minutes
Emma	<ul style="list-style-type: none"> • 7 emotional crises • refused to complete work • refused to follow directions • threw materials on floor • yelled/called people names • kicked quiet room door 	<ul style="list-style-type: none"> • 2 emotional crises • kicked a student • cried • yelled/screamed • kicked quiet room door
Abby	<ul style="list-style-type: none"> • 2 emotional crises • refused to follow directions • yelled, "No!" • swore • stomped feet • refused to speak 	<ul style="list-style-type: none"> • 0 emotional crises
Matt	<ul style="list-style-type: none"> • 16 emotional crises • refused to complete work and follow directions • acted physical toward objects and people (violent) • swore/called people names • threatened others verbally • threw objects across classroom • destroyed property 	<ul style="list-style-type: none"> • 7 emotional crises • refused to complete work and follow directions • acted physical toward objects and a teacher (one occasion) • yelled at people • would sit quietly in quiet room with shirt over his head
Molly	<ul style="list-style-type: none"> • 3 emotional crises • made inappropriate comments to peers • talked negatively about herself • used self-injurious behaviors • cried 	<ul style="list-style-type: none"> • 1 emotional crisis • refused to complete work • bit pencil in half • wrote inappropriate comments about herself • manic mood due to her Bipolar Disorder

Figure 1. Schematic of data analysis.



Jake's sister attended the same school but was placed in a different foster home. It was decided by their respective teachers that it would be good for the two of them to be together during the school day, and this 20 minutes of family time was planned for Jake's time with J.D.

At the beginning of the dog's time in the classroom, he would whine whenever his owner left the room. Jake was quick to comfort him and (unlike other students) never asked to take the dog home, because he knew that J.D. would be saddened by the separation from his owner. Jake noticeably began interacting

more with his peers and teachers when playing with the dog and also loved reading J.D. books and making certain the dog was always attached to his leash and had water to drink.

Interviews with Jake revealed that he felt better when he played with J.D. and was able to avoid bad behavior toward his peers and his teachers because of the dog. Jake's foster mother said that J.D. seemed to be a good sidetrack for Jake's anger; furthermore, she saw benefit from the dog's presence in the classroom carry over to the home environment in that Jake would immerse himself in conversations about his daily interactions with the dog and verbalize his anticipation for engaging in activities with J.D. the following day. Prior to the study, Jake did not talk about his time in school and showed no excitement about going to school.

The Problem Solving Sheets and ABC Analysis Forms showed that Jake did not enter into emotional crisis during the period of time that the dog was present in the classroom.

Ben

Of Asian American descent, Ben was a first grader who had also been a victim of physical and domestic violence in his biological home and was placed in foster care at the time of this study. His records revealed diagnoses of Reactive Attachment Disorder, Intermittent Explosive Disorder, and Oppositional Defiant Disorder. He was guarded about involving himself in relationships, tended to force laughter, and was very egocentric and competitive in his relationships with peers. Ben entered into violent emotional crisis five times in the eight weeks prior to the study period.

In the classroom, Ben seemed calm and at ease with J.D. and was very astute regarding the care of dogs. When lying with the toy poodle, he would laugh loudly and often, and was always willing to share him with others. Ben said he knew J.D. was scared like he was when he went to his foster home. When in the dog's presence, he seemed to put down his guard, talk about how smart the dog was, and spoke with teachers about problems in his home life.

When interviewed, Ben said that J.D. made him laugh and laughing made him forget about being angry; petting the dog also calmed him enough to make school easier. His foster mother noted an improvement in his self-esteem, his willingness to go to school, his ability to be compassionate, and his remorsefulness over poor choices after the dog's introduction to the classroom.

While J.D. was a member of the class, Ben went into emotional crisis once, and the episode was significantly less intense than on previous occasions. The dog barked during Ben's physical behaviors during this crisis and was released from his kennel once these behaviors stopped. J.D. would go to Ben, who would then begin to pet the toy poodle; the dog's response was to lie on his back while Ben rubbed his belly. This interaction would continue until Ben was ready to talk about his problems.

On the problem-solving sheets, Ben indicated that he should have petted J.D. before he went into crisis, because it relaxed him. On two other occasions, he was sitting in the time-out area thinking of a plan to make better choices, and J.D. would jump up on his knee and Ben would pet him. Prior to the study, Ben refused to take a time-out, yet he said that the dog helped calm him so that he did not have to go into the quiet room. During the study period he entered emotional crisis once.

Emma

Of African American descent, Emma was a second grader who had also been placed in foster care; hers was a case of abuse and neglect. By age three she had been adopted and was diagnosed with Reactive Affective Disorder and tended to be very egocentric. Emma had a history of abusing the dog in her home setting, and the dog was removed for his own safety. During the eight-week period prior to the study, Emma entered emotional crisis seven times.

Emma loved to continuously engage J.D. in play. Initially, she had difficulty sharing him with others, although her behaviors with him were always appropriate. She did not like it when he would chew his paws, because she thought he was hurting himself. At these times, she would give him kisses and let him lick her face, laughing loudly. Emma did not share J.D. with her classmates well; however, when students with severe autism would come to see the dog, she would engage them in play with J.D. and try to get them to verbalize words like "puppy" and "ball." On one occasion, J.D. played tug of war with her pigtail and she did not get angry—merely laughed.

During interviews, Emma shared that school was better with J.D., because he had taught her how to get along better with friends by sharing him. The dog "taught" her to interact more appropriately with her friends by modeling acceptance, affection and trust (e.g., lying on his back to be petted). In Emma's words, the dog "helped her slow down and keep her engine running just right." When she felt like fighting, she would pet J.D. until the feeling went away. Emma expressed the opinion that dogs were good for kids, because they helped kids get out of trouble. Even when J.D. was not around, thinking about him helped her make better choices. Emma's adoptive mother felt that the dog's presence had a positive effect on her daughter's behavior at school and at home in that J.D. served as a model for Emma on how to have a relationship with another living thing, and also helped teach her cause and effect relationships. J.D. did not threaten her daughter in that he did not use big words or social conventions that would pass her by.

Emma entered emotional crisis twice during the dog's time in the classroom. Both times, she was in the quiet room yelling and kicking the door, when the teacher carried J.D. into the room. Emma immediately stopped her behaviors and started petting the dog without speaking. The teacher then placed J.D. in her arms to hold, and the dog licked her, which made her laugh. The laughter seemed to offer her a positive release for her pent up emotions. Emma would then begin engaging in discussion with the teacher about her problems and said that when the dog licked her face, she felt he understood her feelings and that her body felt happier. She also said that looking into J.D.'s face was calming.

Data gathered from the Problem Solving Sheets and ABC Analysis Forms indicated that Emma's behaviors escalated to a level of inappropriateness on two occasions during the dog's time in the classroom. In all instances, she was provided an opportunity to pet J.D. (while he was being held by a teacher). As her behaviors began to de-escalate, J.D. was placed in her arms to hold and pet. Each time, this interaction resulted in a good problem-solving discussion with teachers.

Abby

A quiet, soft-spoken third grader of Native American descent, Abby carried a dual diagnosis of Attention Deficit Disorder and Central Auditory Processing Disorder.

Perhaps because of the latter condition, she often misunderstood verbal exchanges with peers. While she tended to be quiet and passive with boys in the classroom, she often entered into power struggles with female classmates and required teacher intervention. Abby entered emotional crisis twice in the eight-week period prior to the study period.

Abby loved to hold and carry J.D. and initially found it difficult to discipline him. She spoke to him in a soft baby-like voice and always let him play as he wanted. Abby often told the dog about problems in her home life, and at the day's end always gave him a hug and a kiss.

When interviewed, Abby said that when she was having a problem at home, she would close her eyes and think about playing with J.D. to feel better, because she thought that his feelings were similar to hers. If she was having a bad day at school, she also helped herself pull out of it by petting the dog. Abby's mother noted that before J.D.'s presence in the classroom, her daughter had resisted going to school. The toy poodle provided Abby needed companionship, and she talked about him constantly at home.

Problem Solving Sheets and ABC Analysis Forms indicated that Abby did not enter emotional crisis during the dog's presence in the classroom.

Matt

A third grader of Euro American descent, Matt was the most difficult student the classroom teacher had encountered in her seven years working with students having severe emotional disorders. Each spring he would cycle into a mood that was characterized by extreme oppositional and violent behaviors and was diagnosed with Oppositional Defiant Disorder, Mood Disorder, and Attention Deficit Disorder with Hyperactivity. Matt was on grade level academically and could build relationships but not maintain them because of his behaviors. He loved animals. During the eight-week period prior to the study, Matt entered emotional crisis sixteen times.

Each day Matt entered the classroom, J.D. would greet him excitedly, and they would play together. When Matt would leave for breakfast, the dog would whine and stay by the door until he returned. J.D. was often found sleeping on top of or underneath Matt's desk throughout the day. When Matt did not feel physically well from tonsillitis, he slept on a beanbag in the classroom, and J.D. would curl up next to him and sleep, as well. One day when Matt's mother visited the classroom, J.D. was on top of his desk; he said to her, "He likes me, Mom!" On another occasion when the dog vomited in the classroom, Matt became very concerned and wished he could tell what was wrong. He shared J.D. easily with his classmates and would feel badly if ever he accidentally hurt the dog.

During one interview, Matt revealed how the toy poodle had taught him about sharing by saying, "J.D. taught me how to do what he wants to do, not what I want to do!" In other words, the dog responded warmly to activities that pleased him and walked away or barked when he was displeased. Matt also considered the dog a better friend than humans, because J.D. played with him more and accepted him no matter what. In particular, he noted that dogs "forgive better" than humans. Matt

gave the toy poodle credit for helping him control his anger, because if J.D. saw him getting mad, he would come over to him. School was made easier because of J.D.'s friendship, and Matt felt that all kids in the school district would benefit from having this dog around. When interviewed, Matt's mother felt the toy poodle was influential in increasing her son's self-esteem, his ability to make friends in the summer, his dramatically improved behavior, and his increased willingness to get on the school bus each day. She also said that being able to touch J.D. was very calming for Matt and that he would remember this dog for the rest of his life.

Problem Solving Sheets and ABC Analysis Forms indicated that Matt entered emotional crisis seven times during the dog's presence in the classroom. On only one occasion did he become physically aggressive with teachers and he never became physically aggressive with the dog.

Molly

Of Euro American descent, Molly was a fifth grader carrying a dual diagnosis of Asperger's Syndrome and Bipolar Disorder. She communicated very little with peers and preferred the company of teachers. At home she was not affectionate and had rather immature play interests. She admitted to having suicidal thoughts. Molly entered emotional crisis three times during the eight-week period prior to the study.

Molly called herself J.D.'s "fake mother" in that she was very protective of him. It was not uncommon for her to give advice to her classmates on how to hold the dog or how loud to talk in his presence. She would enter the classroom in the morning and walk directly over to play with J.D. Molly enjoyed watching J.D. and would talk about the things he did. A positive behavior that developed after the dog's arrival in the classroom was her inviting a fifth-grade boy to accompany her on walks with J.D. Molly shared the dog easily with others and even spoke to an entire kindergarten class about J.D.

When interviewed, Molly expressed her desire not to make bad choices and go into the quiet room, because J.D. would be afraid of her; also, she did not want him to see her like that. Molly loved the way J.D. would stare at her, wiggle his head, and "shake his booty." She felt happy and calmer in the dog's presence and did not wish to go on to middle school without him. Molly felt that when she made good choices, it made J.D. happy. Molly's mother expressed that the dog made a good companion for her daughter, as his love was unconditional. Improvements she saw in her daughter included being more motivated to do well in school, talking about her day with the dog after school each day, and increasing her affection toward family members. The family wanted to get a dog to help Molly at home.

Data from Problem Solving Sheets and ABC Analysis Forms revealed that Molly entered emotional crisis on one occasion during the eight weeks the dog was present in the classroom. Her opportunities for socializing with peers increased and she often engaged with other students in acts of play with J.D. and was respectful of others' turns with him.

Discussion

Based on the findings of this within-site case study, two broad-based conclusions were drawn that are consistent with the literature on the therapeutic value of pets to children (Levinson 1968; Mallon 1994; Zasloff, Hart and DeArmond 1999;

Rud and Beck 2000; Melson 2001). The first conclusion was that a dog, placed in a self-contained educational setting for students with severe emotional disorders, had positive emotional effects on all six of the students. Each formed a bond with the dog that was based on a myriad of interactions throughout the study. For Jake, the toy poodle provided an alternative focus of attention that served as a "side-track" or distraction for his anger. Similarly, Matt, Emma, and Ben were helped in de-escalating their aggressive behaviors through dog-related humor. The dog offered social facilitation for Ben, Jake, Emma, Matt and Molly as evidenced by their improved interactions with teachers, family members or peers. For Jake, Ben, Emma, Abby and Matt, the dog allowed self-other comparison, and in doing so, invited self-reflection and connection. The strong bonds between these children and the toy poodle subsequently contributed to the stabilization of the students' emotions. The students' relationships with the dog were instrumental in effectively managing their behaviors in that they seemed to have a greater sense of self and an increased understanding of their emotional triggers and ways in which to solve their emotional difficulties.

A second conclusion drawn from the data analysis was that integration of the dog into this self-contained setting for students with severe emotional disorders provided each one with lessons in respect, responsibility, and empathy. The six students in this study were respectful of the dog's daily presence, were accepting of his behaviors, were empathic to his feelings, and were able to see the parallel between his feelings and their own. Each student demonstrated responsibility by ensuring that the toy poodle's needs were met and that his behaviors were managed through appropriate discipline and praise. All of the students in this study generalized their lessons on respect, responsibility, and empathy to their relationships with classroom peers.

Drawbacks of having a live animal in the classroom noted by Zasloff, Hart and DeArmond (1999) and of having a dog in a residential facility with children having significant behavior and academic difficulties mentioned by Mallon (1994) did not occur in this study. Had allergies been noted or fear of dogs been expressed, the research study would have been cancelled. Because the dog went home each night with its owner (a para-educator involved in the study), no costs for care were incurred by other participants. While there was some daily care of the dog that took place during the school day, students were eager to share in those tasks. Although four of the six students entered emotional crisis during the dog's presence in the classroom, no acts of aggression were ever directed toward the toy poodle. Precautionary measures taken to protect the animal and the humans in this study helped prevent associated risks.

While the dog's role in this study was an immensely important factor in students' improved behavioral control, sense of self, and demonstrations of respect, responsibility and empathy in their relationships with peers, the teacher/researcher's role was perhaps equally crucial to these positive outcomes. Not only had she spent three months to three years building relationships with these six students and their parents, she also modeled daily for them how to interact with one another and with the dog. Because of the lack of negative findings in this study, one might question the effect of the teacher's expectations on the study's findings. Katcher and Wilkins (2000) caution researchers with these

words, "Many new teaching methods appear to work because the teacher is encouraged, that is, pumped up by the expectation of better results, and that enthusiasm is communicated to the students" (p. 167). Regardless, this teacher worked with six very troubled children and had never before achieved such astoundingly positive results using any other interventions.

Further study of the value of pets in special education settings is warranted. Fine (2000) notes that researchers agree that there is qualitative support for the value of the human-animal bond; the problem seems to lie in quantifying this value. When studying methods used in special education settings, quantification is even more challenging, because the number of children in each setting is small. Accumulating a series of qualitative case studies may be the only way to document the effectiveness of future studies involving pets in special education settings. Since the current study gathered data in a single self-contained classroom of children diagnosed with severe emotional and behavioral disorders, it is important to repeat a similar research design in multiple settings with children having other special needs. Educators wishing to incorporate dogs into their classrooms for special needs populations might consider seeking certified therapy dogs and consulting a resource like *The Handbook on Animal-Assisted Therapy* by Fine (2000). Furthermore, it will be important that written consent from administrators, parents, and students involved is obtained. Rules and regulations to assure the safety of all must be established at the outset, and direct instruction on the care and treatment of dogs must become part of the daily curriculum. Finally, fewer interview questions for students and parents than were used in this study are recommended, and the questions should be as open-ended as possible.

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