

Efficacy of Music Therapy and Bibliotherapy as Interventions in the Treatment of Children With EBD: A Literature Review

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Abstract. Expressive arts therapies are commonly used in the treatment of children with disabilities. Two forms of art therapies often recommended to address issues of self-esteem and challenging behaviours are music therapy and bibliotherapy. The purpose of this review is to investigate the literature on the effectiveness of music therapy and bibliotherapy as interventions for students with emotional behaviour disorders (EBD) and challenging behaviours. Eleven studies published in articles involving 523 students in three countries met criteria for inclusion. Results from five studies suggested group music therapy had minimal to no impact on self-esteem or aggression of students with behaviour problems. However, one group music therapy study indicated statistically significant improvement in students' negative self-evaluation, depression, and anger. Data from five studies using bibliotherapy as an intervention in group and individual therapy sessions suggested an increase in self-concept and a decrease in aggression of students with challenging behaviours. Findings from this review indicate a paucity of empirical research in this area and a need for further research on the effectiveness therapies in the treatment of children with challenging behaviours.

Keywords: bibliotherapy; music therapy; emotional behaviour disturbance

Introduction

It is well recognized in the literature that students who present challenging behaviours are more susceptible to social and academic failure at school (McIntosh & Goodman, 2016; Orpinas, Raczynski, Peters, Colman, & Bandalos, 2015). For various reasons, traditional behaviour management and teaching strategies have proven to be inadequate in ameliorating academic and

behavioural concerns of these students. (Crone, Hawken,, & Horner, 2015; Hemphill, Plenty, Herrenkohl, Toumbourou, & Catalano, 2014; Skiba, 2014; Van Acker, Grant, & Henry, 1996; Wehby, Symons, & Canale, 1998). Pehrsson and McMillen (2005) argued for the need for innovative practices so that these students might experience success in school. The notion that the arts are beneficial to the "emotional well-being of the observer or participant has been around since Aristotle proposed the idea of emotional catharsis" (Pehrsson & McMillen, p. 1). Bunt and Stige (2014) note that healers have utilized music therapy plenteously throughout history. Some (Forgan, 2002; Haines, 1989; Montello & Coons, 1998; Sausser & Waller, 2006) feel that bibliotherapy and music therapy offer avenues to address the needs of students with behavioural concerns.

This review examines the efficacy of music therapy and bibliotherapy interventions for students with challenging behaviors and ascertains if they are viable treatment approaches for this student population. This review considered four questions: (a) What were the foci and outcomes of the studies, (b) What were participant characteristics, (c) What were student placements where studies took place, and (d) What intervention formats were used.

Method: Literature Search

Several strategies were employed to find studies suitable for inclusion in this review. A search of ERIC, PyschINFO, Google Scholar, and Web of Science databases was conducted using the key words: *music therapy, adjunctive therapy, bibliotherapy and children with disabilities or special needs students, emotional behavior* in the descriptor fields, abstracts and titles of the articles. Databases were searched from the earliest date available to the present. Only studies presented in peer-reviewed journals were considered.

References contained in literature reviews of music therapy and bibliotherapy and expressive art therapies targeting other special needs populations were examined for additional sources. Ancestral searches were performed by checking citations of acceptable articles. Finally, a manual search of studies published from 1970 to 2015 was performed on the journals *Music Therapy* and *The Journal of Music Therapy* to determine if any studies from these journals had were missed in the ERIC, Psych-INFO, Web of Science, and Google Scholar database searches.

Eleven studies were identified using the following criteria: (a) targeted students with emotional behaviour disorders (EBD), emotional disturbance (ED), behavioural disorder (BD), conduct disorder (CD), oppositional defiant disorder (ODD), or children at risk for developing behavioural difficulties; (b) the studies were empirical in nature and targeting specific behaviors as dependent variables with measurable outcomes; (b) the study involved some form of music therapy or bibliotherapy as an intervention; (c) there were no age limits on subjects, and all settings (i.e., residential treatment facility, home, school, alternate education placement, or vocational) were acceptable; and (d) studies that included students with stated behavior criteria and general education students reported the findings for the special needs students separately.

In this article we discuss within discrete sections definitions of music

therapy and bibliotherapy and discuss relevant literature. The review is further organized under three broad sections: results, discussion, and implications for research and practice. The broad sections results and discussion include three subsections: (a) participants and settings, (b) treatment format and focus, and (c) treatment outcome, with music therapy data followed by bibliotherapy data included in each subsection. The review closes with a discussion of limitation of existing research and suggests directions for future research.

Computation of Effect Sizes

Effects sizes were calculated only from the group design studies reporting significant effects and when the studies provided necessary information (sample size in each group and standard deviation) for the calculation of Cohen's *d*. For example, even if a study reported significant effects of intervention, calculation was not possible when it did not provide information on the number of participants in or the standard deviation data of each group. In addition, effect sizes were calculated for each dependent measure, regardless of the number of the dependent variables in each study. The effect sizes were scaled to Hedges' *g* to account for the overestimation of the studies with small sample sizes.

Music Therapy Literature: Definition

According to the American Music Therapy Association music therapy is defined as "motor skills, social/interpersonal development, cognitive development, self-awareness, and spiritual enhancement" (AMTA, 2016). Further, the AMTA states that "music therapy interventions can address development in cognitive, behavioral, physical, emotional, and social skills. Music therapy can also facilitate development in communication and sensorimotor skills" (AMTA).

Music therapy is used to improve self-concept and communication skills by teaching the child a skill that is important to them and to others. However, music therapists working in schools have little research to aid them in constructing programs that might work in teaching students with emotional and behavioural disorders (EBD). Sausser and Waller stated, "No literature currently available describes a specific music therapy program for working with students with EBD" (p. 5). The trained music therapist may employ two types of music therapy. Active therapy occurs when the student or client actively participates in "music making." In passive music therapy the student or client is not physically active but is involved in "music listening" (Montello & Coons, 1998).

Participants and Settings

One hundred and 37 students participated across six music therapy studies (Bittman, Dickson, & Coddington, 2009; Eidson, 1989; Haines, 1989; Hallam & Price, 1998; Montello & Coons, 1998; Rickson & Watkins, 2003;). Table 1 summarizes the reviewed studies. Seventy eight participants were male, 34 participants were female, and the genders of the remaining 25 participants were not specified. In the study by Montello and Coons (1998), participant ages ranged from 11 to 14 years old. In this study, 14 participants were male and two were female. Six students were Caucasian, seven African-American, and three Hispanic. In the study by Haines (1989), 19 male students, ages 11 to 16 years old, participated. These students were African-American or Caucasian, but

specific numbers of each were not given. In the study by Rickson and Watkins (2003), the ages of the 15 students ranged from 11–15. Nine were ethnic Maoris and nine participants were New Zealand European. In the study by Bittman et al. (2009), 52 students whose age ranged from 12-18 were participants. The participants consisted of 11 females and 22 male subjects. Participants were African American, Asian, Caucasian, and Puerto Rican, but specific numbers of each were not reported. In the study by Hallam and Price, ten students aged nine to ten years old participated. Two females and eight males were included in the study. The participants' ethnicities were not reported. The 25 participants in Edison's (1989) study were between 11 and 16 years old. Genders and ethnicities were not reported.

Five studies occurred in a school setting. Two of these studies (Eidson, 1989; Montello & Coons, 1998) were conducted in self-contained classrooms in public schools. Another was conducted in the United States in an alternative school setting for students with ED (Haines, 1989). The study by Rickson and Watkins (2003) was conducted in a residential school in New Zealand. Children in the study by Hallam and Price (1998) attended a day school for children with emotional behavioural concerns. The study by Bittman et al. (2009) took place in a children's home for adolescents that served as a residential juvenile treatment program.

Participants in one study had been diagnosed as ED, LD, and ADD (Montello & Coons, 1998). All participants in another study were identified as ED (Haines, 1989). The third study included participants with ADHD, ODD, and/or CD (Rickson & Watkins, 2003). Participants in the fourth study had numerous mental health disorders, including CD and ADHD (Bittman et al., 2009). Numbers of participants specifically identified with a condition were not given. Participants in two studies (Eidson, 1989; Hallam & Price, 1998) had no specified diagnoses, but they were identified as emotionally and behaviourally troubled (Hallam & Price) or emotionally handicapped (Eidson).

Calculating an average effect size from the music therapy studies with significant effects was not possible due to either the lack of information on the number of participants or because of a one-group design.

Music Therapy Interventions

Montello and Coons (1998) focused on aggression as the dependent variable and compared active and passive music conditions. Subjects were separated into Groups A, B, and C. Group A underwent active music therapy for 12 weeks and passive music therapy for the 12 following weeks. Group B, the control group, received passive music therapy for all 24 weeks of the study's duration. Group C received active music therapy for 24 weeks. Active music therapy included learning and playing primarily percussive instruments. Passive music therapy involved the students listening to a selection of eclectic music.

Haines (1989) focused on self-esteem as the dependent variable and specifically targeted raising the participants' self-esteem. The study compared an active music condition versus a verbal condition. Ten students received music therapy treatment in a group setting. Activities included song writing, listening to music, singing, and rhythm exercises. Nine other students served as the control group and received verbal therapy

Rickson and Watkins (2003) focused on aggression as the dependent variable. The study implemented four active music activities: creation of a greeting song, rhythm-based exercises, experiencing and caring for musical instruments, and group song writing. Students were not divided into smaller groups but participated in the activities as one large group.

Bittman et al. (2009) focused on numerous variables including behaviour toward others, anger control, self-concept, depression, and school/work performance. The study used active music therapy and implemented an intervention called *HealthRHYTHMS* drumming protocol. Students were divided into two groups and had six weekly, one-hour sessions. Program activities included icebreakers, playing percussive instruments, and responding rhythmically to questions. Group A received the intervention from weeks one through six, while Group B received no intervention. From weeks seven through twelve, Group B received intervention while Group A did not.

Hallam and Price (1998) focused on behaviour and mathematics performance. The study used passive music in a non-therapeutic setting. All participants performed timed mathematics tasks for four consecutive sessions with no background music followed by four sessions with background music. After a gap week, they had three sessions with background music followed by three sessions without it. Teachers and one researcher attended all sessions to observe the amount and type of rule-breaking behaviours and math performance.

Eidson (1989) focused on seven general behaviours and participant behaviours as the dependent variables. Students were divided into three groups: Group 1 received music therapy that targeted specific behaviours, Group 2 received general music therapy, and Group 3 received no music therapy but were monitored as a control classroom with no interaction. Group 3 students were differentiated by the schedule of reinforcement, which resulted in four sub-groups. Students were given tokens and accrued points for performing target behaviours.

Treatment Outcomes

Two studies targeting aggression (Montello & Coons, 1998; Rickson & Watkins, 2003) reported the only significant effect size was an increase in aggression in the treatment group. No other significant effect sizes were reported. Both studies reported an increase in positive behaviours from results obtained from teacher and student self-reports but these increases were not significant. Haines (1989) reported a significant change in self-esteem in both treatment and control groups. Bittman et al. (2009) reported statistically significant positive changes in all dependent variables which ranged from school performance to self-evaluation.

Hallam and Price (1998) reported a significant improvement in mathematics performance during sessions when background music was played. Participant behaviour generally improved in sessions with music, but these findings were not statistically significant. Eidson (1989) reports that scores for behaviours stabilized over time in the experimental groups, but in the control group these scores continued to fluctuate. He also noted the most regularity in

weeks when reinforcement was provided via token distribution. However, no significant increase or decrease in appropriate behaviour occurred when reinforcement was withheld.

Table 1: Music Therapy Studies

Study	Focus	Participant/Setting	Conditions	Format	Length of Treatment	Outcomes
Montello & Coons (1998)	Aggression, motivation, and attention in ED, LD, and ADD cases	16 students (2 females) ages 11-14 years old in a self-contained U.S. class	Active and passive music therapy	Group therapy led by a professional music therapist	24 weeks during regular music class time	Increase in hostility in one experimental group. No significant differences between active and passive therapies on 3 dependent variables
Haines (1989)	Self-esteem in ED cases	19 students (all males) ages 11-16 years old in a private (alternative) ED school in the U.S.	Active music therapy and verbal therapy	Group therapy led by a professional music therapist	2 stages of 6 30-minute sessions over 3 weeks totalling 6 weeks	No significant differences between the effects of music therapy and verbal therapy conditions
Rickson & Watkins (2003)	Aggression in ADHD, ODD, and/or CD cases	15 students (all males) ages 11-15 years old in a residential New Zealand school	Music therapy with various session lengths	Group therapy led by a professional music therapist	16-30 minute sessions twice a week	No definite treatment effects could be detected
Bittman, Dickson, & Coddington (2009)	Anger control, self-concept, and behaviour toward others in mental health disorder cases	52 students (30 females, 22 males) ages 12-18 in a residential treatment facility in the U.S.	Active music therapy	Group therapy led by a trained facilitator	2 stages of 6 consecutive weekly 1-hour sessions	Significant increase in school/work performance, depression, negative self-evaluation, and instrumental anger
Hallam & Price (1998)	Behaviour and mathematical performance in cases with "emotional and behavioural difficulties" (no label specified)	10 students (2 females, 8 males) ages 9-10 at a day school for children with emotional and behavioural difficulties	Passive music therapy	Timed trials facilitated by the students' teachers	7 trials with background music and 7 trials without it. Length of sessions not specified	Significant improvement in behaviour and mathematics performance for all students
Eidson (1989)	Interpersonal skills and behaviour in "emotionally troubled" students (no label specified)	25 students (gender not specified) ages 11-16 in five self-contained classrooms in the U.S.	Group 1: Active behaviour-specific music therapy Group 2: General music therapy Group 3: No-contact control classroom Group 3 divided into three subgroups	Group therapy led by a therapist	9 sessions followed by a performance	In the experimental groups, behaviour was more stable and consistent during weeks when reinforcement was given, but no significant improvement when reinforcement was withheld

Note. ADD = Attention Deficit Disorder; ADHD = Attention Deficit Hyperactivity Disorder; ED = Emotional Disorder; ODD = Oppositional Defiant Disorder; CD = Conduct Disorder

Bibliotherapy Literature: Definition

Unlike other forms of the arts, bibliotherapy has not been academically established as a legitimate form of therapy. The literature reveals two individual types Clinical bibliotherapy usually is administered in a structured setting; is implemented by a counsellor, therapist, or psychologist; and is most often used

to treat individuals with serious emotional or behavioural problems. Developmental bibliotherapy is implemented by lay persons in a school setting such as a classroom or library room and employs guided reading to promote interactions between readers and literature. Developmental bibliotherapy is useful as a proactive approach to dealing with inappropriate behaviours and as a tool for facilitating problem solving in specific conditions (Cook, Earles-Vollrath & Ganz, 2006; Pehrsson & McMillen, 2005).

Bibliotherapeutic theory suggests that students might be able to better understand and deal with their behaviours by identifying with a character in a book, film, poem, or other literary medium. Interaction between the individual and the character in the story provides a safe distance for the child and aids them in verbalizing their problems. A clarifying process intensifies the transition to form insight that facilitates a change in behaviour (Shechtman & Nachshol, 1996). This catharsis enables the person to understand his/her problem and hopefully facilitates improved problem solving using appropriate behaviours rather than unacceptable behaviours to deal with challenging situations presented to the student in everyday life (Cook et al., 2006; Forgan, 2002; King & Schwabenlender, 1994; Shechtman & Nachshol). Cook et al. stated that a basic foundation of bibliotherapy is that when students identify with characters in a story experiencing problems similar to ones they face, the child forms an association that makes it possible to release emotions. This change assists children in gaining an alternate trajectory in life and supports more diverse methods of interacting with other individuals.

Bibliotherapy sessions can be conducted utilizing an individual or group format. Group formats are preferred when working with aggressive children for a number of reasons. Children will feel less threatened in a group session than in an individual session, if implemented correctly group sessions may provide positive role modelling, and groups provide a context for psychoeducation and interpersonal interactions (Shechtman & Ben-David, 1999). Individual group sessions ensure that the therapist-client relationship is fortified and the focus of the interventionist is on the individual child during the session (Shechtman & Ben-David).

Participants and Settings

Three hundred eighty-six students participated across five bibliotherapy studies (Lenkowsky, Barowsky, Dayboch, Puccio, & Lenkowsky, 1987; Shechtman, 1998; Shechtman & Ben-David, 1999; Shechtman & Nachshol, 1996; Shechtman, 2006). Table 2 provides a summary of the reviewed studies. Participant grade levels were reported more frequently than ages and ranged from first through ninth grade. Two hundred sixty eight participants were male, 16 were female, and the genders of 102 participants were not specified. Males participated in at least four studies and females participated in at least one study (Lenkowsky et al., 1987)). In one study (Lenkowsky et al., 1987), participants' grade levels were reported instead of their ages. In this study, 79 male and 16 female students in fourth through seventh grade participated. One hundred and two students ranging from grades one through nine participated in Shechtman and Ben-David's study (1999), but participants' genders were not reported. Though race for each student was not specified, the sample represented diverse schools and peoples

in Israel including Jewish, Arab, and Druz. In another study, age was reported instead of grades (Shechtman & Nachshol, 1997). One hundred and seventeen males ages 13-16 years old participated. Shechtman's study (1998) reported both age and grade. The 10 participants were 8-year-old boys in fourth grade. Participant ages in Shechtman's study (2006), ranged from 8-16 years old. Thirty of the participants were Arab and 31 of the participants were Jewish. Generally, racial and socioeconomic breakdowns were not reported in the studies.

Bibliotherapy participants had learning disabilities, were emotionally handicapped (Lenkowsky et al., 1987); ED, BD, or socially maladjusted (Shechtman & Nachshol, 1996); or "aggressive" or "highly aggressive" (Shechtman, 1998; Shechtman & Ben-David, 1999; Shechtman, 2006) but numbers of subjects specifically identified with a condition were not given. Only one study was conducted in the United States (Lenkowsky et al., 1987) and was carried out in an alternative school that only served students in special education. Participants in this study were identified by their school systems. Two studies in Israel (Shechtman, 1998; Shechtman & Nachshol, 1996) took place in alternative education settings, and two studies in Israel (Shechtman & Ben-David, 1999; Shechtman, 2006) took place in a public education setting. Participants in Israel were identified by the government and referred to an alternate placement or by home room teachers if the participants were in a public education setting.

Bibliotherapy Interventions

Lenkowsky et al. (1987) focused on self-concept as the independent variable and compared bibliotherapy and literature as treatments. Participants were split into four groups. Group 1 and 2 both read the same books of general interest during three periods weekly. Group 2 participants engaged in a dialogue session each week where students talked about "feelings, emotional experiences, and school-related problems" (Lenkowsky et al., p. 486). Participant in Groups 3, and 4 were the initial and second bibliotherapy groups and both read identical literature. Group 3 met three times weekly and read literature focused on problems the students might encounter on a regular basis. There was no weekly discussion session for Group 3. Group 4 participants engaged in a discussion meeting weekly.

Shechtman and Nachshol (1996) focused on aggression, adjusting behaviour, and belief system sustaining aggression as the dependent variables. Students were split in three groups and each received treatment 15 weekly one hour sessions. The control group received an intervention mandatory in Israel but without focus on aggression. The other two groups were from two different schools and received bibliotherapy treatment during these sessions that focused on aggression.

Shechtman (1998) focused on aggression as the dependent variable. Five students were the control group counterparts of the other five students who received bibliotherapy. This single-subject design study consisted of 10 weekly 45-minute affective bibliotherapy sessions. Shechtman and Ben-David (1999) also focused on aggression as the dependent variable. Participants were split into 15 small groups and 15 students did not receive treatment because they were wait-listed. Affective bibliotherapy was administered to the groups during

10 weekly 45-minute sessions.

Shechtman (2006) focused on empathy and aggression. Two to three aggressive students were selected from 24 classrooms and split into three treatment groups for individual counselling. The first group received integrative counselling plus bibliotherapy (ICB), the second received integrative counselling with no bibliotherapy (IC), and the third was the control group. The participant's treatment condition was administered by counselling students during 10 45-minute sessions over the course of 4 months.

Treatment Outcomes

Lenkowsky et al. (1987) reported a significant difference between both treatment conditions and the non-treatment conditions. Each bibliotherapy treatment group, Group 3 and Group 4, exhibited significant increases in self-concept. Non-treatment conditions, Group 1 and Group 2, reported no changes.

Studies targeting aggression (Shechtman & Nachshol, 1996; Shechtman, 1998; Shechtman & Ben-David, 1999; Shechtman, 2006) all reported a reduction in aggression in some capacity. Shechtman and Nachshol (1996) reported no significant differences between treatment and control groups in any targeted variable in the first year but in the second year of the study investigators reported a significant increase in the control group on beliefs maintaining aggression. No other significant changes were noted on other behavioural variables. Shechtman (1998) reported reduced aggression in treatment groups and a non-significant increase in constructive group behaviours. Data from the study by Shechtman and Ben-David (1999) indicated (a) reduced aggression in treatment groups, (b) the individual format showed less aggression over time but the difference was not significant, and (c) therapists in group conditions used more directives and exhibited a lower level of self-disclosure than therapists in individual therapy sessions. There were no changes noted in control groups of any study. Shechtman (2006) reported an increase in empathy and reduction in aggression for both ICB and IC treatment groups, but the gains for ICB were greater than the gains for IC. Effect sizes from the studies reported significant effects of bibliotherapy ranged from 0.15 to 1.84, resulting in about an average effect size 0.964.

Table 2: Bibliotherapy Studies

Study	Focus	Participants and Settings	Conditions	Format	Length of Treatment	Outcomes
Lenkowsky et al. (1987)	Self-concept in LD and emotionally handicapped cases	96 students (79 males and 16 females) in 4 th -7 th grade in a U.S. alternative school for special education students	Group 1: literature Group 2: literature and rap session Group 3: bibliotherapy Group 4: bibliotherapy and discussion session	Group therapy. Implementer not stated.	3 weekly sessions. Length of time unspecified	Significant improvement in self-concept in bibliotherapy treatments. Non-bibliotherapy results insignificant
Shechtman & Nachshol (1996)	Aggression, behaviour adjustment, and belief system sustaining aggression in ED, BD, or socially maladjusted cases	117 male students ages 13-16 years old in alternative schools in Israel (vocational n=46, residential n=44, secondary n=14)	Group A: bibliotherapy Group B: bibliotherapy Group C: no treatment	Group therapy led by graduate students, teachers, and counsellors	2 years	In 1991, no significant differences between control and treatment groups. In 1992, control group indicated significant increase in endorsement of beliefs maintaining aggression.
Shechtman (1998)	Aggression in "highly aggressive" cases (no label specified)	10 males students age 8 years old in an alternative school in Israel	Bibliotherapy. Each student compared to student in control group	Group therapy led by two experienced special education teachers	10 weekly 45-minute sessions	Treatment group: decrease in aggressive behaviours; Constructive group: behaviours increased. Control group: no change
Shechtman & Ben-David (1999)	Aggression, outcome difference in formats, and difference in processes in "highly aggressive" cases (no label specified)	102 students (gender not specified) in 1st through 9th grade	15 small groups and 15 individual students with no treatment	Group and individual therapy led by 30 graduate counselling special education students	10 weekly 45-minute sessions	Reduced aggression in treatment groups and therapists used more directives and exhibited a lower level of self-disclosure
Shechtman (2006)	Empathy and aggression in "aggressive" cases (no label specified)	61 male students ages 8-16 years old from 24 classrooms in Israel. Arabs n=30, Jews n=31	Group 1: ICB Group 2: IC Group 3: no treatment	Individual therapy led by randomly assigned counselling students matched by ethnicity.	10 45-minute sessions over 4 months	Significant improvement in empathy and therapist satisfaction for the ICB group. Slightly less resistance and more insightfulness in the ICB group than in the IC group.

Notes. LD = Learning Disability; ED = Emotional Disturbance; BD = Behavioural Disorder, ICB=adjunctive bibliotherapy, IC=counselling with no literature

Discussion

The review generated five findings. First, data suggested that the main focus of the studies was aggressive behaviour. Second, participants were predominantly adolescent males. Third, student placements were seldom in general education settings. Fourth, group formats were used in music therapy studies, and group clinical bibliotherapy was most frequently used in bibliotherapy studies. Finally, there was little evidence to support the claim that music therapy was effective as an intervention tool for addressing challenging behaviours of this student population, while bibliotherapy studies indicated that these interventions may be more effective.

Most data indicated that music therapy did not produce significant changes in student behaviours and would not be an effective method of intervention to address the needs of students with challenging behaviours. In fact, two studies reported an increase in aggressive behaviours (Rickson and Watkins, 2003; Montello & Coons, 1998). The only study that reported notable, positive effects of music therapy was the study by Bittman et al. (2009). Results also indicated bibliotherapy might reduce aggressive behaviours and have a positive impact on group behaviours of students with behavioural concerns when used as a facilitative agent to promote changes in student behaviours.

At least 66% of the students participating in studies reviewed in this paper were male adolescents. It is commonly accepted that males make up a higher percentage of students diagnosed with behaviour problems (Friend, 2013; Wagner, Kutash, Duchnowski, Epstein & Sumi, 2005), but it appears that such a high percentage might indicate female students were either overlooked, not diagnosed as having behaviour problems, or were not nominated as aggressive students by teachers. Since gender was not specified for 127 of the participants this percentage of male-to-female adolescents must be taken with caution. Only one study included participants in first through fourth grade.

The main focus of three music therapy studies was student aggression (Bittman et al., 2009; Montello & Coons, 1998; Rickson & Watkins, 2003). Results question the efficacy of music therapy as an effective intervention tool when used with students with EBD. Montello and Coons investigated the effects of active versus passive music participation. They hypothesized students in the treatment group (active participation) would exhibit a decrease in aggressive behaviours. The authors stated that the only significant findings were from Group A (active followed by passive) which exhibited increasing hostility in the first half of the study. Group B exhibited an improvement in aggression, motivation, and attention in the second half of the study (passive followed by active). It is unclear what may have produced the effect, active vs. passive therapy, order of therapy presentation, etc. Montello and Coons concluded that the data did not indicate that active music therapy reduced aggression of the participants of this study. This finding is inconsistent with the results of Bittman's (2009) study, which indicated a substantial decrease in aggressive behaviour, among many other variables, after exposure to the intervention.

Rickson and Watson (2003) also examined the effects of music therapy on aggressive behaviours. The treatment group exhibited increased aggressive behaviours while in the of music therapy period and not during the non-treatment phase. The treatment group subjects all had ADHD, despite

randomization during assignment to groups, and the authors suggested that this might have impacted the results. Montello and Coons (1998) also found that boys with ADHD presented more disruptive behaviours during music therapy. This finding suggests that boys with ADHD might become over stimulated during music therapy or in a less structured setting. These findings conflict with Cripe's (1986) study on the effect of rock music as an adjunctive supportive therapy for students with ADD. Data indicated rock music therapy did not negatively impact aggression, attention, or motivation of students with ADD and during periods of listening to rock music levels of motor activities decreased.

Three music therapy studies reviewed (Eidson, 1989; Haines, 1989; Hallam & Price, 1998) focused on the behavioural and emotional improvement of students and not on aggression as a specific dependent variable. Haines (1989) examined the result of music therapy on self-esteem of students with ED and found active music therapy had no significant effect on the self-esteem of students with emotional disturbance. Hallam and Price found that passive music therapy significantly improved students' behaviour and mathematics performance for all participants receiving this intervention. Similarly, Eidson (1989) found behavioural stability and improvement in targeted behaviours for groups receiving music therapy. However, it was difficult to determine whether the changes in behaviour described in the study were a result of the music therapy intervention or if they were a result of the token economy and reinforcement system implemented as part of the intervention.

Four studies explored the effect of bibliotherapy on aggression of students with behavioural problems (Shechtman, 1998; Shechtman & Ben-David, 1999; Shechtman & Nachshol, 1996; Shechtman, 2006). Results indicated that bibliotherapy might be an effective intervention tool for addressing behavioural concerns and self-esteem of students with emotional behaviour problems. Shechtman (2006) reported that individual bibliotherapy resulted in greater empathy and less resistance in the experimental group than the control group. However, Shechtman and Nachshol (1996) conducted a two-year longitudinal study which produced conflicting results. Results from the first year showed no significant differences between experimental and control groups in gains in any targeted behaviour areas. Results from the second year indicated significant differences between groups in attitudes towards aggression and aggressive behaviour. The data from the control group indicated significant increases in validation of beliefs maintaining aggression. There was no difference demonstrated in the experimental group. Shechtman and Nachshol (1996) stated this might indicate the intervention was only able to stop endorsement of this belief system, not eliminate it. Lenkowsky et al. (1987) examined the effect of bibliotherapy on the self-construction of students with emotional disabilities. This study had two bibliotherapy treatment groups, one utilizing a discussion group and one without a discussion group. Both treatment groups showed significant positive changes in self-esteem when compared to equivalent control groups, but there were no differences between treatment groups. Investigators concluded the presence of a discussion group was not a factor impacting the outcome of the study and that bibliotherapy appeared to be the causative agent promoting change.

Suggestions for Future Research

There is a notable paucity of empirical inquiries on effectiveness of bibliotherapy and music therapy related to students with emotional behavioural concerns (Rickson & Watkins, 2003). Much of the evidence that is available is either anecdotal or narrative (Sausser & Waller, 2006). Furthermore, existing empirical evidence is often contradictory (Edison, 1989; Haines, 1989)

Studies from Israel, New Zealand, and the United States were reviewed in this paper. Labels identifying students as students with challenging behaviours ranged from ED to “highly aggressive.” Labels or diagnoses may differ from one country to another or, as in the United States, from one school, district, or state to another. Generalizability is questionable in light of this variable. Shechtman (2003) noted it is not clear whether a population studied in Israel would be different from populations of aggressive children in Western societies such as United States inner city populations. The fact that search procedures found only one empirical study conducted in the United States would indicate that more research should be undertaken with United States student populations to determine efficacy of bibliotherapy in this country. Additionally, more studies need to be conducted in inclusive settings with this population to determine whether music therapy, bibliotherapy, or art therapy might be effective in an inclusive general education setting.

Three studies (Shechtman, 1998; Shechtman & Ben-David, 1999; Shechtman & Nachshol, 1996) implemented an “Affective” integrative model of group bibliotherapy based on a clinical format adjusted to suit individual developmental requirements of the children. One study (Shechtman & Ben-David, 1999) specifically investigated use of group vs. individual therapy and reported no difference between treatment groups. If this finding could be replicated across populations and settings it might indicate that group therapy is as effective as individual therapy. Implications would translate into cost effectiveness for schools and more students would be able to receive treatment.

Several music therapy studies contained weaknesses in study design. Montello and Coons’ (1998) groups were not randomly assigned and Group C was lost in the second half of the study due to attrition factors. Investigators stated that Group A was significantly more hostile than Group B at pre-test and that Group C was more musically talented than Groups A and B. Statistical procedures to ameliorate potential bias in the results were not discussed by the researchers. The study by Bittman et al. (2009) was conducted in a highly structured environment, which would be difficult to duplicate in a general education setting similar to the settings of the other music therapy studies. The results from Edison (1989) cannot be attributed to the music therapy intervention with certainty because student behaviour was reinforced through a token economy. There’s no mention whether this system was used prior to the onset of the music therapy intervention or implemented as a component of the intervention.

Rickson and Watkins (2003) reported all subjects in one group had ADHD despite randomization during assignment to groups. The authors suggested that this might have impacted results. Montello and Coons (1998) also found that boys with ADHD presented more disruptive behaviours during

music therapy. They claimed that boys with ADHD might become over stimulated during music therapy in a less structured setting. Differences between groups and differences between individuals in groups may have acted as proximal causes which impacted targeted study outcomes. Rickson and Watkins suggest conducting studies which utilize larger numbers of subjects. These studies should incorporate procedures that match multiple treatment streams and multiple outcome measures with specifically targeted goals. Again, it is possible that proximal variables impacted study outcomes.

Haines (1989) found factors that may have accounted for a lack of differences between the two groups could be sample size, attrition of participants during the study, length of treatment period, test of instrument, outside variables, numerous interruptions during therapy sessions, and overall design of the study. Students with brain injury and students with emotional disturbance constitute two different disability categories under IDEA, but in Haines' study, no distinction is made between these two populations and targeted behaviours for students with emotional disturbance and those with brain injury were the same.

Bibliotherapy studies appeared to be better designed. Several key factors mentioned by investigators that needed to be considered were small sample size, population demographics, and impact of the therapist on the outcomes of a group. Any of these variables can affect reliability and generalizability of findings.

Conclusion

Special educators are responsible for ensuring that best practices are implemented with their students who have special needs. Only interventions that have a solid base of valid empirical research studies to demonstrate that they are, in fact, best practices should be used with this disability population. Research has demonstrated that there are proven and sound interventions that can be used to address the needs of children with challenging behaviours. Opportunities to Respond (Sutherland & Wehby, 2001), behavioural momentum (Cooper, Herron, & Heward, 2013), proximity control, use of positive reinforcement, principles of applied behavioural analysis, school-wide positive behaviour intervention and supports (SWPBIS), the use of functional behavioural analysis to determine the function of behaviours, and the use of qualified applied behavioural analysts (Alberto & Troutman, 2013; Yell, Meadows, Drasgow, & Shriner, 2013) are just a few of the interventions and tools proven successful and available for educators who work with children with challenging behaviours. Unfortunately, there is also a long list of unproven interventions that have been adopted by special educators (Mostert & Crockett, 1999).

The findings of previous reviews (King & Schwabenlender, 1994; Lee, 2015; Yeaw, 2001) support the findings of this review. Two reviews investigated the efficacy of music therapy in the treatment of children with developmental disabilities (Lee, 2015) and psychiatric and developmental difficulties (Yeaw, 2001). Data from both studies indicated that music therapy research was burdened with methodological issues which weakened findings of the studies. Both Lee and Yeaw both found that the reviewed studies were limited by their

research designs and findings were compromised by small sample size, lack of control groups, and lack of reliable assessment and measurement tools. These researchers concluded that results from the studies in their reviews should be interpreted with caution. Twenty-one years ago, King and Schwabenlender (1994) investigated the use of supportive therapies for individuals at risk for or identified with EBD. They concluded that even though supportive therapies were heuristically rich and offered teachers new strategies to use for addressing the needs of children with behavioural issues, the studies did not "consistently adhere to strict and rigorous scientific methodological efficacy" (p. 2). Results from the current literature review also found that there were methodological and design concerns in both music therapy and bibliotherapy and suggest a lack of enough empirical data to support a conclusion that bibliotherapy or music therapy had a significant, positive impact on target behaviours exhibited by students with or at risk for EBD. Today, Bradt (2016) emphasizes the importance of systemic reviews in research.

History has shown that educators in the United States often implement programs of instruction that have a paucity of empirical research to demonstrate their efficacy and value to our student population (Stahl, McKenna, & Pagnucco, 1994). It is perplexing that such interventions persist and appear regularly (Mostert, 1994; Mostert & Crockett, 1999-2000). Music therapy and bibliotherapy have been in use in the United States since the 1930s and some have suggested their use as interventions for addressing problems presented by students with emotional behavior problems. A finding of this review is there is a marked paucity of evidence to support that assumption. Empirical evidence is limited at best. Further research needs to be conducted on bibliotherapy and music therapy to establish if they are, in fact, viable approaches for addressing problems exhibited by students with behavioural concerns.

Perhaps, as Mostert and Crockett (1999) suggested, as special educators, we need to remember our history of adopting less than empirically sound practices. Professionals in teacher preparation programs must demonstrate "three critical components of informed practice: what has worked, what has not, and the ability to tell the difference" (p. 142). The authors of this review agree with Mostert and Crockett that the use of some practices in the treatment of children with behavioural issues should be employed with caution and an understanding that these practices are by no means "best practices". Educators should not assume that these supportive therapy interventions will result in significant behavioural changes for these student populations until further research is conducted.

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