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Current Practices, Preparation, and Demographics of Music Therapists Working with School-Age Clients Who Have Severe, Profound, and Multiple Impairments

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CURRENT PRACTICES, PREPARATION, AND DEMOGRAPHICS OF
MUSIC THERAPISTS WORKING WITH SCHOOL-AGE CLIENTS
WHO HAVE SEVERE, PROFOUND, AND
MULTIPLE IMPAIRMENTS

by

Erin Dalby

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Music
School of Music

Western Michigan University
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Erin Dalby

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MUSIC THERAPISTS WORKING WITH SCHOOL-AGE CLIENTS
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MULTIPLE IMPAIRMENTS

Erin Dalby, M.M.

Western Michigan University, 2004

The purpose of this study was to determine (a) which music therapy techniques may most effectively assist school-age clients with severe, profound, and multiple impairments to achieve certain goals; (b) assess whether music therapists currently feel that they were prepared to adequately serve the target population; and (c) describe the demographics of music therapists who work with the target population. A researcher-designed questionnaire was completed by music therapists who served school-age clients who have severe/profound and multiple impairments. Results indicated that the use of singing and therapist-composed music were the most effective methods to develop nearly all types of skills. Approximately half of the respondents did not attempt to incorporate music applications of adaptive technology. The majority of music therapists stated that their training had adequately prepared them to work with the target population. The practitioners indicated that they were best equipped to develop communication, motor, and socio-emotional skills, which were also the most frequently addressed. Overall, the participants were female, had worked as a music therapist for more than eight years, and were self-employed full-time. They were as likely to hold a Master's degree as a Bachelor's degree.

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CHAPTER I

Introduction

Historically, people with impairments, particularly severe mental impairments, were viewed by society as being fundamentally different from people without impairments, indicating a qualitative conception that, in its extreme, led to attempts to make deviant persons extinct (Goll, 1994). Gradual shifts in beliefs regarding human rights resulted in the more recent prevalence of the quantitative model of individuals with impairments, which Goll defined as the perception of differences between people with impairments and those without being a matter of degree and not kind. Therefore, the idea that all members of a specific population share the same characteristics and responses is out-dated and implies a qualitative viewpoint. However, this type of change is slow and not universal. Those who function near the lowest end of mental impairment are often still institutionalized since the emotional and physical demands of caring for individuals with severe limitations is greater than many families can bear.

Even without institutionalization, segregation can occur through placement in special programs so the typical socialization and learning processes cannot occur (Goll, 1994). For example, the normal rhythm of the year, the normal events of the life cycle, and living in a heterogeneous world may not be experienced. As there are many domains of functioning in which people with severe, profound, and multiple impairments may be limited, instructional time is spent assisting the child to improve basic skills, such as communication and self-help skills. As a result, normal childhood activities such as play and music might be neglected. Since individuals

with severe mental impairments are often musically deprived (may have had little or no contact with music) and/or have not learned common responses to music, including feelings, associations, and anticipations, music therapy with this population may differ from that with other groups. Goll stated that basic music socialization and enculturation, such as acquiring a body of musical literature that is shared with non-disabled peers and becoming familiar with some instruments that produce music, may need to occur prior to clients being able to respond appropriately to stimulative-sedative music or being able to express themselves non-verbally.

In addition, the adoption of a quantitative conception toward people with severe and profound impairments is not widely accepted (Goll, 1994). According to Goll, some professionals argue that members of the population inherently differ both quantitatively and qualitatively from people without impairments, since individuals with severe, profound, and multiple impairments do not typically, for example, benefit from incidental learning. Goll also described other learning difficulties that are experienced by people who have severe mental impairments: the ability to generalize, synthesize, retain, and relearn information is often diminished. Often, non-disabled individuals respond differently to people who substantially deviate from usual behavior in undesirable ways. Thus, the presence of impairments leads to secondary effects: unnatural treatment by others produces atypical socialization, which results in abnormal behavior, which in turn feeds the belief that individuals with severe, profound, and multiple impairments differ qualitatively and quantitatively from the norm. It is accepted that every person, including those with severe, profound, and multiple impairments, is unique and possesses a distinctive set

of attributes and responses. However, some patterns of this atypical socialization and learning may occur, so some trends regarding effective procedures could exist.

Related to the changing mindset toward people with impairments, intelligence quotient (IQ) testing has become controversial for a variety of reasons, particularly since the results may become self-fulfilling prophecies and not all types of intelligences are measured. Additional disadvantages for the target population include that age-inappropriate infant intelligence tests are often administered; individuals with severe mental impairments generally cannot be tested in a standardized way; and, if a score is even obtained, it falls at the extreme low end, where scores are not reliable (Goll, 1994). Despite these problems, ranges of IQ scores will be given here so that there may be less confusion as to the population under discussion, since the terms “severe impairments” and “profound impairments” are applied inconsistently in different areas of the country and world. Goll provided an example of this when mentioning a group of “severely retarded” adults he observed engaged in learning a second language.

As defined in the Diagnostic and Statistical Manual of Mental Disorders (*DSM-IV*), individuals with mental impairment, or “mental retardation” (p. 39), experience significant limitations both in intellectual functioning and in adaptive behavior (American Psychiatric Association, 1994). These limitations lead to substantial limitations in two or more of the following areas of life skills: social/interpersonal, self-care, receptive and expressive language, academic skills, work, leisure, use of community resources, capacity for independent living, health, safety, mobility, self-direction, and economic self-sufficiency. In order to qualify as

mental impairment, onset must occur before age 18. Specifically, severe mental impairment refers to a person whose IQ is between 20-25 and 35-40. An individual whose IQ is below 20-25 is generally classified as having profound mental impairment. People who display a combination of mental impairments and physical impairments to such a degree that the individual cannot be adequately served by programs designed for any one condition may be considered as having multiple impairments (Krout, 1987).

The American Association on Mental Retardation (AAMR, 2004) has abandoned the traditional definitions regarding the levels of severity of mental impairment in favor of a more individualized person-centered approach focused on the client's unique set of abilities and needs rather than placing the person into a Pre-existing category that may not adequately reflect the individual. Rather than classifying the person as having a particular degree of mental impairment, the level of support required by the individual in nine important areas is specified. These domains of functioning are: home living, community living, health and safety, social, employment, behavior, teaching and education, human development, and protection and advocacy. Supports consist of the resources and services that assist the person to participate as fully as possible in the above areas. The type, frequency, and duration of supports are also indicated. AAMR also described mental impairment not as something that a person has or is, but as reflecting the fit between the person and society's expectations.

According to the *DSM-IV* (1994), individuals with severe and profound impairments constitute approximately 4%-6% of all people with mental impairments.

However, given the high needs and low skills of this population, professionals such as special education teachers, teachers of the visually impaired, and general education teachers often feel inadequately prepared to work with these students (Erin, Daugherty, Dignan, & Pearson, 1990; Gisler, Hardman, & Rose, 1982; Izen & Brown, 1991; M. Smith, 2000). As reported by D. Smith and Hairston (1999), most music therapists who are employed in school settings work with students who have developmental disabilities and multiple impairments (78% and 71%, respectively). This approximates McCormick's (1988) earlier finding that 87% of music therapists in school settings served students who had mental impairments and 78% worked with students who had multiple impairments. No research was found that determined whether these music therapists felt adequately prepared to work with students who had severe, profound, and multiple impairments.

The purpose of this study was to (a) determine which techniques may most effectively assist school-age clients with severe, profound, and multiple impairments to achieve certain goals, (b) assess whether music therapists currently feel that they were prepared to adequately serve children and adolescents who have severe, profound, and multiple impairments, and (c) describe the demographics of music therapists who work with the target population. Specific research questions were:

1. What are the current demographics of music therapists working with children and adolescents who have severe, profound, and multiple impairments, and the clients with whom they work?
2. To what extent do music therapists feel prepared by their university training to work with clients who have severe, profound, and multiple impairments?

3. What goal areas are most commonly addressed by music therapists with school-age clients who have severe, profound, and multiple impairments?
4. To achieve certain types of goals, which techniques are perceived as most effective by music therapists working with school-age clients who have severe, profound, and multiple impairments?
5. Is there a relationship between the amount of experience and music therapists' practices with children and adolescents who have severe, profound, and multiple impairments?
6. How does the amount of experience relate to therapists' perception to work with the target population?
7. Does the level of degree earned impact music therapists' practices with school-age clients who have severe, profound, and multiple impairments?
8. Does the level of degree earned affect the therapists' perception of preparation to work with members of the target population?
9. What, if any, other demographic variables (i.e., geographic region, funding sources, ages of clients served, etc.) affect the therapists' perception of preparation or the interventions which therapists selected?
10. Are the techniques that therapists most commonly report using reflected in the extant literature?

In order to answer these questions, a survey instrument was designed by the researcher based on those implemented by Gisler, et al. (1982), Izen and Brown (1991), and D. Smith and Hairston (1999). It was assumed that survey respondents were qualified music therapists, answered questions honestly, and were representative

of all music therapists who provided services to school-age children and adolescents with severe, profound, and multiple impairments. Delimitations included (a) only therapists who were listed in the American Music Therapy Association (AMTA) member database at the time that the researcher's request was processed (A. Elkins, personal communication, June 18, 2004) as working with school-age children and adolescents who have severe, profound, and multiple impairments were solicited to participate in the survey, (b) only therapists who had access to the e-mail account that they listed in the AMTA member database were able to respond, and (c) only music therapists who were currently working with school-age children and adolescents who have severe, profound, and multiple impairments were included.

Based on the sources cited from extant literature, it was hypothesized that the majority of music therapists working with school-age clients who have severe, profound, and multiple impairments were female, held a Bachelor's degree, had been employed as a music therapist for more than eight years, and worked full-time for a school system (Lathom, 1980; McCormick, 1988; D. Smith & Hairston, 1999). It was expected that music therapists served over sixty clients per week in homogenous group settings (i.e., self-contained classrooms) and saw each group twice weekly (Jones & Cardinal, 1998; Lathom, 1980, McCormick, 1988; D. Smith & Hairston, 1999). It was also hypothesized that therapists who reported having experience with at least one individual diagnosed with severe, profound, or multiple impairments during university training felt that they were better prepared to work with this population (Colwell, 2003; Hastings, Hewes, Lock, Witting, 1996). It was predicted that therapists who had received more education felt better prepared to work with the

population and used a broader range of activities to address specific goals (Erin et al., 1990).

It was likely that the most common goal areas addressed by the music therapists were communication, sensory stimulation, pre-academic skills, motor skills, and affective behavior skills (Lathom, 1980). The activities deemed most effective to achieve those goals were expected to be movement to music, singing, and playing non-pitched instruments (Boxill, 1985; Coleman, 2002; Farnan, 1987; Grant, 1989; Krout, 1987; Pfeifer, 1982). It was expected that the literature would be inconsistently represented by the results of this survey. For example, many respondents may not have viewed therapist-composed songs to address motor and social skills as “highly effective” as Farnan (1987) likely would. However, it was expected that many therapists would probably agree with Krout (1987) that singing is effective in improving communication skills.

CHAPTER II

Review of Literature

Techniques Implemented with Individuals Who Have Severe, Profound, and Multiple Impairments

The literature contains evidence of numerous investigations as to the effectiveness of a certain technique in promoting the development of a specific skill for children and adolescents with severe, profound, and multiple impairments. For example, Sigafoos, Couzens, Roberts, Phillips, and Goodison (1996) examined whether drawings of eating and drinking, when paired with receiving food and drink, would teach students to request such items when offered. Two 5- and 6-year-olds with multiple disabilities received an instructional strategy during which they were taught to touch the corresponding picture when a snack or beverage was offered. Results were maintained over a 6-week period, as tested in three follow-up sessions.

Another important goal area for individuals with severe, profound, and/or multiple impairments is self-care skills. Three children with severe multiple impairments were taught to put on and remove their coats and jackets through a systematic application of graduated guidance (Reese & Snell, 1991). For each step of the task, an error or lack of response was met with one of a range of prompts. The type of assistance provided was gradually reduced from more to less intrusive until the student consistently demonstrated the skill independently, at which point training on the next step commenced. All three children learned to perform all four tasks (put on coat, remove coat, put on jacket, and remove jacket). Results were maintained for 1-2 years, depending on availability for retesting, but unfortunately were not

transferred to other settings due to the increased time required for the students to dress or undress independently.

Music therapists occasionally feel limited by the obligation to incorporate music into every therapeutic activity and by the traditionally narrow concept of music as socially acceptable and abstract groups of sounds (Goll, 1994). Goll reassured practitioners that both any appropriate means (i.e., techniques that are age-appropriate and do not cause physical, social, emotional, or other discomfort), despite typical boundaries between disciplines, and “music in its broadest sense” (p. 112) should be available to promote the attainment of educational goals. For example, a music therapist should not discard a potentially beneficial intervention solely because it does not involve music or is viewed as “belonging” to another profession. Music, in Goll’s opinion, must include not only musical and non-musical acoustical stimuli, but also movement and all elements of music (vibration, rhythm, tone, melody, harmony, texture, tonality, and form).

The primary objective of any member of a helping profession should be to foster the clients’ development; therefore, it is not only acceptable, but imperative that music therapists feel free to combine non-musical procedures such as mentioned above (pictorial communication systems, graduated guidance, etc.) with any type of musical intervention to achieve maximum results. That is the reason, along with the fact that practicing music therapists utilize these techniques, that the use of vibration, non-musical and non-movement props (including communication devices), and rhythmic movement (including vestibular stimulation) were considered appropriate music therapy interventions for this study. In fact, according to Goll (1994),

vibratory and tactile stimulation (near-receptor stimuli) are preferred at an earlier developmental age and may be more effective means to teach and reinforce individuals functioning at a very low level. The author also cited evidence that near-receptor stimulation may be used to promote advancement to the next level, at which distance-receptor stimuli (auditory and visual stimulation) is preferred. He referred to several sources in which both contingent and non-contingent vibration was effective in reducing self-injurious and stereotypical behavior and in teaching a variety of skills, but did not specifically list those skills.

Pfeifer (1982) listed several specific uses of musical elements to address certain goals with children who have multiple impairments. She suggested changing the timbre, rhythm, tempo, and/or dynamics of a selection to elicit client reactions of pleasure or displeasure (i.e., affective or expressive communication domains); encouraging the client to imitate changes in pitch, tempo, and rhythm to improve auditory recall and sequencing (sensory skills); playing bells of different colors with mallets of different sizes (i.e., to achieve sensory or academic goals); and discriminating among and playing various other instruments (could be adapted to train affective or sensory skills).

Rhythmic movement to music was used by Boswell & Vidret (1993) to address communicative and motoric goals for twelve adolescents with severe and profound impairments. The following tasks were presented in sequence: focus attention (secure eye contact), perform passive movements (aides move body parts for the clients), perform imitative active movements, and perform original movements. Each session was divided into three sections which emphasized, in turn, physical and

psychological warm-up, rhythmic skills, and speech sounds. Little information was given regarding results in the qualitative report, but the trends seemed positive.

Sandler and Voogt (2001) found that vestibular stimulation promoted tracking of an auditory/visual object for five of six children with severe multiple impairments. The 5- to 8-year-olds were rocked in a swing chair for three minutes and then exposed to one of five auditory and/or visual stimuli. Vestibular stimulation did not have an effect on four other localization, tracking, and fixation tasks.

Like Sandler and Voogt (2001), Ghetti (2002) also sought to improve alertness in six 7- to 17-year-olds with profound impairments. The students attended three baseline sessions and three experimental sessions in each of three musical treatments: listening to rhythmic playing of a bass drum, singing songs, and playing multi-sensory rhythm instruments. The students' level of alertness was precisely coded and compared among the four conditions. No significant differences were found between baseline and any treatment condition. Possible explanations for these results included unexpectedly high levels of alertness during baseline (perhaps caused by interacting with the experimenter, the novelty of a new environment and/or the process of moving down the hall to the treatment room), the dependent variable consisted of the combined amount of time in the three most alert states without differentiating among them, small sample size, excessive self-stimulation by one participant, the reluctance of two other participants to interact with objects, and limited contact (two 10-minute sessions per week).

Rather than isolating elements of music as described above, many music therapists simultaneously apply multiple techniques to achieve the best results. Boxill

(1985) described her work with numerous 6- to 18-year-olds who had severe and profound impairments in a residential facility. She addressed motor, communication, alertness, reduction of negative behaviors, and academic and pre-academic skills through various combinations of singing, improvising, playing instruments, and moving to music. Though no data was reported, each vignette demonstrates positive gains in at least one goal area. Pfeifer (1982) agreed with Boxill that the use of singing or vocal improvisation was effective in promoting expressive language skills and that non-pitched instruments or body percussion fostered the development of motor and communication skills for children with severe, profound, or multiple impairments. Additional interventions listed by Pfeifer that were not specifically mentioned by Boxill included the use of singing with or without instrument playing and body percussion to teach academic skills (i.e., colors, numbers, or body parts) and instrument playing or movement to music to develop social skills.

Krout (1987) also applied various types of activities and described a process to address different goals for each client within group sessions. Six students with multiple impairments worked toward five different goals during many of the same tasks. Alertness and attending skills were reinforced during each activity (singing, instrument playing, and moving to music). Music-movement activities were also used to replace self-stimulatory behaviors. Singing tasks addressed communication (through pictorial representations of songs for two students and phonation for the purpose of being actively involved in an activity for another student). For the latter student, contingent Omnichord strumming was also used immediately following appropriate responses. Results were discussed in terms of IEP goals, all of which

were achieved within one or two 10-week reporting periods. Though the study was not tightly controlled, it is still useful in providing ways to achieve certain types of goals.

Sample activities for children and adolescents with severe impairments were also given by Coleman (2002). Singing was recommended to improve attending, social, and psychomotor skills. A variety of props (tagboard books, song file folders, puppets, communication devices, etc.), in addition to singing, may be used to address communication, object manipulation, attending, direction-following, and pre-academic (matching) goals. Instrument playing may be effective in increasing students' abilities to attend, move, follow directions, manipulate objects, localize sounds, make choices, and demonstrate awareness of themselves and their environments (Coleman) or to achieve goals related to diaphragmatic breathing (a pre-requisite to controlled vocalization), gross and fine motor, and academic skills (Pfeifer, 1982).

Codding (1988) conducted an extensive review of articles on the use of music to achieve non-musical goals with individuals who were blind, deaf-blind, or multiply impaired. Among other findings, she determined that no substantial reduction in self-stimulatory behavior consistently occurred when music was used contingently. However, Dorow (1975) found that contingent music listening was successful while teaching imitative behaviors, once the music was paired with food. Grant (1989) also stated that music was used effectively as a contingent reinforcer while teaching academic skills, decreasing aggressive and self-abusive behaviors, and to improve other social skills. He described the clinical approach of the music therapy

department at a particular center for children with moderate and severe/profound impairments. Sample activities recommended singing to address communication goals and instrument playing to achieve sensorimotor, visual attending/eye contact, auditory/visual perception, communication (labeling musical instruments), and social goals. Pfeifer (1982) also identified instrument playing as effective in developing skills in the latter three goal areas, as well as to increase motor skills and reduce self-stimulatory and self-abusive behaviors. Like Coleman (2002), Grant suggested music and movement for social (also recommended by Pfeifer) and perceptual motor areas.

The two example songs given by Farnan (1987) also incorporated all three types of activities: singing, instrument playing, and moving to music. However, the emphasis was upon composing original songs. The models discussed were particularly appropriate to achieve motor and social skills for children and adolescents who have severe and profound impairments. The technique focused on a task analysis of the target activity (i.e., touching a tambourine) to reveal key words which are emphasized melodically and rhythmically. The original song composed for use in an individual's sessions provided opportunities to increase the use of the open hand, manipulate objects, recognize names, and receive tactile stimulation. Goals addressed by the group song were to maintain/improve arm extension, locomotor movement, and decrease tactile defensiveness. The process could be applied to produce an original song instructing clients to complete almost any motor or social objective.

Recently, a variety of technology has been developed which allow even the most physically involved students access to creating music. As a result, these devices may provide a new way to produce gains in the motor and social domains, as well as in communicative, affective, and pre-academic skills. As described by Krout (1995), the MidiCreator consists of a set of switches that trigger different sounds. Based upon the client's physical abilities, various types of switches could have been used. The MidiGrid was a computer program that set up a grid in which each square could play a therapist-determined note, chord, or sequence. Finally, the Waverider could use any method of biofeedback (galvanic skin resistance, heart rate, electromyography, or electroencephalograph) to produce "musical soundscapes" (p. 6). The purpose of the sounds was to train the participant to relax.

Perhaps the most easily accessible device was the Soundbeam. As described in a monograph by Swingler, which was printed in Krout (1994), the Soundbeam was a set of ultrasonic beams that could be linked to a variety of sound sources (i.e., a synthesizer). As different combinations of beams were interrupted, the sound source produced music, the rhythm and pitch of which matched the movement within the beam. Ellis (1997) implemented a child-centered program in which children with profound and multiple impairments interacted with the Soundbeam and children with severe impairments improvised on a MIDI keyboard. The author described the technique, a system of video tape analysis in which segments of sessions are rerecorded on other tapes to show specific trends, and a case study of an eight-year-old boy with profound and multiple impairments. The "Layered Analysis" (p. 179) of video tapes included some tapes containing samples of sessions over time

to show progress and others that recorded series of similar responses; for example, all of the times that a child used her right arm. The author claimed that the layers of video tapes revealed that children with severe, profound, and multiple impairments tended to be better able to control their movements, be more interested in their surroundings, and demonstrate more positive facial expressions (which may be a communication goal for some clients).

Improvisation has also sometimes been used to foster the development of communication skills. In another qualitative study, Perry (2003) examined the communicative level of ten school-age children who had severe and multiple impairments. Improvising vocally and on instruments was used to practice turn-taking and to sustain participation in the interaction. Results were not specifically described, but positive trends were implied.

*Surveys of Demographics and Preparation of Professionals
Serving School-Age Clients*

Surveys of members of other professions have revealed that they often did not feel adequately prepared to work with students who have severe, profound, and multiple impairments. General education teachers in a public high school indicated that they were not even sure that students with this diagnosis belong in neighborhood schools (M. Smith, 2000). Even less did the teachers feel prepared to teach students with so many limitations. Music educators indicated a need for music therapy consultation in regard to included students or stated that music therapy is a more appropriate setting for students with impairments to receive music training, revealing a lack of confidence in their ability to teach integrated classrooms (Darrow, 1999).

Erin, et al. (1990) compiled the results of questionnaires from 134 teachers of students with visual impairments. The surveys reported information on teacher demographics, student demographics, and teacher university preparation. Most of the teachers reported working with students who have severe multiple impairments, many of whom indicated that they felt unprepared to do so. Teachers who had been certified earlier tended to feel less prepared to work with this population than those who had received certification more recently. Teachers who had earned either a more advanced degree or a special education certification in mental impairments, multiple impairments, or physical impairments were more likely to feel comfortable with serving students who had severe mental impairments. In addition, itinerant teachers did not feel as prepared as did teachers in residential or public school classrooms.

In 1982, Gisler, et al. reported the results of surveys returned by 59 service providers for students with severe/profound impairments in Utah and Nevada. One quarter of the respondents indicated that they had no prior training or experience with students who had severe or profound impairments. The majority (78%) stated that they had received no in-service training related to severe/profound impairments.

Izen and Brown (1991) also surveyed direct service providers regarding their university preparation and current practices. The responses of 123 special education teachers of students with profound, multiple, and medically fragile conditions were analyzed. The teachers neither strongly agreed nor strongly disagreed with statements concerning the effectiveness of their university coursework and practical experiences. According to the responses, a variety of curriculum domains and techniques could be found in these classrooms. At least 80% of the respondents

trained their students' social, communicative (nonverbal and verbal), leisure or recreation, mobility, and sensory skills. Teaching students to express preferences and choices, functional age-appropriate skill training, behavioral procedures, use of assessment instruments, the criterion of ultimate functioning, partial participation strategies, correct positioning and handling, and ecological approaches were listed as the techniques considered to be most important in working with students who have multiple and profound impairments. The use of one technique, van Dijk procedures, could not be effectively determined since it was not defined on the instrument and 51.5% of the respondents indicated that they did not understand the term. Based on Nelson, van Dijk, McDonnell, and Thompson (2002), the procedures are developed from a child-centered "approach that begins with the establishment of a relationship with the child and creates motivation and interest for communication as 'conversations' or interactions are incrementally built upon the child's interests and successes" (p. 98). Had some type of definition been provided, more teachers may have replied that they use the technique without recognizing the name.

No research was found that thoroughly explored the preparation of music therapists to work with either individuals of a specific population or with individuals who have impairments in general. Most of the recent literature on the training of music therapists focuses on broader issues of clinical training such as the attainment of specific competencies and skills. There are not standardized requirements to work with certain populations during practical training. However, colleges and universities that have music therapy programs report that experience with a variety of populations is required during practicum experiences, in compliance with national guidelines

(Wheeler, 2000). Some schools reported additional specifications, i.e., at least one semester of contact with children and one semester with adults, but student therapists may be assigned to clients representing only a couple of types of impairments within those age groups and not have the opportunity to serve other populations.

Hastings et al. (1996) found that pre-service teachers who had more contact with individuals with severe learning difficulties (SLD; the British term for severe impairments) were more confident in their ability to communicate with such students and were more likely to feel that they would enjoy working with a student with SLD than pre-service teachers who had little or no experience with the population. The authors also suggested that personal contact, rather than a group of teachers observing a group of special education students, is crucial. Thus, one could expect that music therapists who had been assigned to individuals who have severe, profound, or multiple impairments during their clinical training would later feel more comfortable with students who have that classification than music therapists with no prior experience. Unfortunately, music therapists work with many more populations than are generally available during clinical training and even if clients of each type of diagnosis were available, time constraints and scheduling conflicts would not permit all student therapists to receive exposure to the same impairments. Therefore, optimally preparing every music therapist to work with any population during undergraduate training does not currently seem to be feasible.

In addition to clinical experience, classroom techniques can also assist in preparing student music therapists to work with individuals who have impairments. Colwell (2003) described a course in which music therapy students participated in a

disability simulation, lectures, demonstrations, discussions, readings, and guest speakers focused on music for the exceptional child and mainstreaming. Following the disability simulation, students reported that, though they knew the exercise was not flawless, they had gained some insight into the experiences of a person who has the simulated impairment. Sensory and physical, but not mental, impairments were simulated, including the use of a wheelchair, so some of the students gained a slight understanding of the experience of many individuals with severe, profound, or multiple impairments. As indicated by pre- and post-test questionnaires, attitudes toward mainstreaming exceptional students into music classrooms also improved. This type of exercise has another benefit; as indicated by Goll (1994), the ability to “empathize with their clients and participate in their existential so-being” (p. 80) is necessary to establish and maintain an effective pedagogical relationship.

As mainstreaming continues to bring more special needs students into regular education, and especially music, classrooms, music therapists have indicated they are willing to work in integrated settings (Darrow, Colwell, & Kim, 2002; Jones & Cardinal, 1998). However, during that period, music therapists serving individuals who had disabilities overwhelming provided their services in segregated situations. In a survey conducted by Jones & Cardinal of 335 music therapists who were then serving individuals with impairments, over 90% of the clients were treated in the absence of non-disabled peers, including institutions (hospitals, developmental centers, group homes, etc.), special education classrooms, and special education schools. Only about 2% of the clients participated in music therapy in general education classrooms; however, this survey was not limited to school-based settings.

Lathom (1980) heavily cited the results of another survey of music therapists working with children who have impairments. The 164 participants who worked in residential, public, and private schools reported nine goals that were most frequently addressed by students who had all types of impairments. The goals were to increase attention span, increase the ability to follow directions, encourage active participation, improve gross and fine motor skills, encourage cooperation with peers and adults, encourage eye contact with the speaker, develop hand-eye coordination, encourage appropriate use of language, and improve auditory discrimination. Music therapy can also provide students with opportunities to develop three other skills that may optimize the benefits received from school: improve imitation, increase on-task behavior, and learn “readiness information” (p.20) including school rules, expected group behavior, and songs familiar to peers.

Many of the music therapists reported that funding for their services came primarily from school systems (41.3%) or state schools (28.7%)(Lathom, 1980). Other funding sources were grants, foundations, state agencies, clients or families, hospitals, insurance companies, and community funds. More than forty children were served each week by 65% of the respondents; only 15.7% treated 25 or less per week. The most prevalent age ranges were 12-15 years (70%) and 9-12 years (68%). Approximately sixty percent served clients who were 15-19 or 6-9 years old. The populations most frequently reported were individuals with mental impairments, multiple impairments, speech/language impairments, emotional impairments, and orthopedic impairments. Responses to questions about delivery models, treatment space and equipment, and staffing were reported as well.

McCormick (1988) surveyed 54 music therapists employed in public schools about their job description and current hiring requirements and practices.

Respondents were from all regions of the country except for New England.

Three-quarters of the participants were employed full-time and served between 50 and 200 students per week. Most of the therapists met with students in groups of five to ten (67%), worked with students from preschool to high school (61-87%), and saw their clients twice weekly (52%). The populations most frequently served were students with mental impairments (87%), multiple impairments (78%), emotional impairments (78%), speech/language impairments (76%), and learning disabilities (57%).

A more recent survey of music therapists employed in school settings was conducted by D. Smith and Hairston (1999). Over one-third of the participants (35%) resided in Texas, New York, or Michigan. More music therapists were employed by schools (41%) than were self-employed (19%) and both the composite group and school-employed group were more likely to work full-time. Larger percentages of respondents had been employed as music therapists and in their current positions for more than eight years; this is particularly true of the participants who were employed by schools. The populations most frequently served were individuals with mental impairments, autism, multiple impairments, speech or language impairments, and physical impairments. Almost all of the participants (99%) served an average of 75 clients each week. Other items on the questionnaire addressed music therapy and music education staffing, music education professional membership, and whether a music therapy internship was present.

In the past, special education teachers and teachers of the visually impaired reported feeling unprepared to work with students who had severe, profound, and multiple impairments. More recently, general educators indicated that they felt the same way. The purpose of this study was to (a) determine which techniques may most effectively assist school-age clients with severe, profound, and multiple impairments to achieve certain goals, (b) assess whether music therapists currently feel that they were prepared to adequately serve children and adolescents who have severe, profound, and multiple impairments, and (c) describe the demographics of music therapists who work with the target population.

CHAPTER III

Method

Participants and Procedures

Participants in this study were music therapists who worked with 5- to 18-year-olds who have severe, profound, and multiple impairments. A list of 893 prospective respondents was obtained from the American Music Therapy Association (AMTA)(A. Elkins, personal communication, June 18, 2004). The list contained e-mail addresses of music therapists who indicated working with developmentally disabled, multiply impaired, and/or school-age populations. Upon receiving permission from AMTA, an explanatory e-mail (Appendix A) was sent to the therapists inviting them to complete the survey on the Internet if they qualified as a participant. A questionnaire was disregarded if answers indicated that it was completed by an individual other than a professional music therapist currently providing service to the target population or if the questionnaire was incomplete. A follow-up e-mail (Appendix B) was sent thanking those who completed the survey and encouraging those who had not to do so.

Instrument

The questionnaire (see Appendix C) was adapted by the researcher from those designed by Izen and Brown (1991), Gisler, et al. (1982), McCormick (1988), and D. Smith and Hairston (1999). Music-based activities and techniques were selected from relevant literature (Boxill, 1985; Coleman, 2002; Ellis, 1997; Farnan, 1987; Krout, 1987, 1994; Perry, 2003) and added to the instrument to gather information about current effective practices. The questionnaire was divided into two major parts; Part

One gathered information on therapist/client demographics through twenty-eight multiple-choice questions. The first section inquired about the respondents' gender, age, and the state in which they were employed (Gisler et al., 1982; McCormick, 1988). The number of years the participant was employed as a music therapist, held their current position, and served individuals with severe, profound, and multiple impairments was also asked (Gisler et al., 1982; Izen & Brown, 1991; D. Smith & Hairston, 1999).

The second section was focused on the therapists' education and training, including the highest degree earned (Izen & Brown, 1991). Items regarding the respondents' previous experience with the target population, perception of preparation to work with the target population, and specific areas of exceptional and inadequate preparation were based on questions asked by Gisler et al and Izen and Brown. The third section involved the therapists' employment: full-time status (McCormick, 1988; D. Smith & Hairston, 1999), populations served (Izen & Brown, 1991; McCormick, 1988; D. Smith & Hairston, 1999), setting(s), type(s) of employer (D. Smith & Hairston, 1999), and funding source(s). The final section of Part One obtained general information about the clients served by the participants. Chronological ages (Gisler et al., 1982; Izen & Brown, 1991; McCormick, 1988) and developmental ages of clients ((Gisler et al., 1982), frequency and length of sessions (McCormick, 1988), and the number of clients served in individual and group settings (McCormick, 1988) were investigated. All four of the previous surveys (Gisler et al., 1982; Izen & Brown, 1991; McCormick, 1988; D. Smith & Hairston, 1999) asked about the number of clients served each week and all except McCormick's study

inquired about the setting in which treatment occurred; these items were included in the present questionnaire, as well.

Part Two determined the therapists' perceptions of the best practices with school-age individuals who have severe, profound, and multiple impairments. The respondents rated how effective each of ten techniques was in achieving nine different goal areas. The nine broad goal areas, based on those included by Izen & Brown (1991) and Gisler et al. (1982) were (1) communication, (2) leisure/recreation, (3) vocational/academic, (4) activities of daily living/community living, (5) sensory skills, (6) motor skills, (7) affective behavior, (8) social skills, and (9) alertness/attending/general participation. The ten techniques consisted of (1) improvisation, (2) movement to music, (3) rhythmic movement/vestibular stimulation, (4) the use of interventions involving singing, (5) the implementation of therapist-composed music, (6) pitched instrument playing, (7) non-pitched instrument playing, (8) music as a contingent reinforcer, (9) music applications of adaptive technology, and (10) the use of non-musical/non-movement props. These interventions were taken from the following music therapy literature on school-age individuals with severe mental impairments: Boswell & Vidret (1993), Boxill (1985), Coddling (1988), Coleman (2002), Dorow (1975), Ellis (1997), Farnan (1987), Ghatti (2002), Goll (1994), Grant (1989), Krout (1987, 1994, 1995), Perry (2003), and Pfeifer (1982). Three studies from other disciplines contributed examples of non-music based techniques that may be utilized by therapists, including graduated guidance, vestibular stimulation, and non-graphic communication systems (Reese & Snell, 1991; Sandler & Voogt, 2001; Sigafos, et al., 1996).

Prior to inviting the potential respondents to complete the survey, a pilot study was conducted in an attempt to make the questionnaire as clear, concise, and complete as possible. Three currently practicing music therapists who have extensive experience in working with the target population were selected to receive the survey. They were asked to provide feedback regarding suggested revisions and the length of time required to complete the survey.

Based upon the therapists' comments, the directions of both Part One and Part Two were refined to reduce misunderstanding. The time estimate of 10-20 minutes was also added. All occurrences of the term "activities" were replaced with a similar term that lacks a negative connotation; i.e., "procedure," "intervention," or "technique." The term "semi-weekly" was changed to "twice per week" in a question regarding how often clients are served. In addition, several responses which the therapists had written in and were judged by the researcher as likely to be common answers were added to the choices. For example, "socio-emotional skills" was added as a possible response to questions 13 and 14 regarding goal areas in which therapists were or were not prepared during their training. Also, "therapist home" was added as a possible treatment setting and "other state facility" was added as a possible employer.

Several questions were removed that, while the answers may have proved interesting, seemed to be non-essential to the study since there were complaints from the therapists participating in the pilot study about the length of the instrument. The deleted questions addressed the respondent's job title; how many total clients were served by the respondent in individual and group settings; the length of time of an

individual session with a client who has severe, profound, or multiple impairments compared to that of a group session with the target population; and the percentage of time spent doing various tasks, such as direct service, consultation/collaboration, preparation, documentation, etc.

In Part Two, the goal areas of “Verbal Communication” and “Non-verbal Communication” were combined since the responses were similar and the former was indicated as not frequently addressed with individuals who have severe, profound, and multiple impairments. For the same reasons, the goal areas “Academic Skills” and “Vocational/Pre-academic Skills” were also combined. These changes reduced the number of goal areas from eleven to nine, which was then reflected in the instructions and explanatory e-mail. In addition, “voice-activated communication devices” was added to the descriptions of the communication goal area and the music applications of technology intervention since it was pointed out in the pilot study that these devices are very important in working with people who are not likely to learn verbal communication. Similarly, “other communication devices” was included in the non-musical/non-movement props intervention. All of the above alterations were made to promote clarity, reduce the amount of time needed to complete the survey, and maintain the intended focus of the instrument.

CHAPTER IV

Results

Of the 893 therapists who were invited to participate in the study, 111 (12.4%) did not receive the message due to the e-mail address not being current or to being out of the office during the entire period that the survey was open. The latter was indicated through automatic reply messages. An additional 32 (3.6%) notified the researcher that they did not fit the criteria for participation in the study. One hundred thirty-nine surveys were received, of which 29 (3.2% of total invitees) were excluded for being completed by someone indicating that s/he did not meet the criteria for participation or for being incomplete. Included in the study were 110 (12.3%) completed surveys.

Part One: Demographics

Research Question 1: What are the current demographics of music therapists working with children and adolescents who have severe, profound, and multiple impairments?

Therapist Demographics. The first section of Part One asked for basic demographic information about the participants. Typical of the field, the majority (92.7%) of the respondents were female. Respondents were from 28 states, the District of Columbia, and two foreign countries. The state with the most respondents was California (10%). All eight of the AMTA regions were represented, although only one respondent was from the South Central region. The most participants hailed from the Great Lakes region (31), followed by the Western region (22) and the Mid-Atlantic region (20). Most respondents (47.3%) belonged to the 25-to 34-year-old

age range; this was followed by 35-49 years (33.6%) and 50-65 years (14.5%). Only 4.5% of the respondents were under 25 and none were over 65 years of age.

Exactly half of the respondents have been practicing music therapists more than eight years. The other half had been employed as music therapists for 4-8 years (29.1%) or 1-3 years (20%). Only 1 respondent (0.9%) has been employed for less than one year. One-third of the respondents have been in their current position for more than eight years and another one-third had their position for 1-3 years. Most of the remaining participants (27.5%) have had their job for 4-8 years; 6.4% have been in their position for less than one year, and one respondent left the question blank. The responses to how long participants have worked with clients who have severe, profound, and multiple impairments were similar to how long they had been music therapists; 44 (40%) indicated more than eight years, 34 (30.9%) said 4-8 years, 30 (27.3%) responded 1-3 years, and 2 (1.8%) stated they had worked with the target population for less than one year.

Employment. Another section in Part One explored the music therapists' current employment situation. Many respondents (69.1%) stated that they worked full-time and the remaining 30.9% work part-time (less than thirty hours per week). One respondent marked part-time but said that it is considered full-time in her country. Since it was specified that participants must have been currently working with individuals who have severe/profound and/or multiple impairments to be included in the study, almost all respondents (85.5% and 93.6%, respectively) served these populations. Even more respondents (95.5%) served clients who had autism and other developmental disorders. Other populations with whom the respondents

worked were clients who have mild or moderate mental impairment (83.6%), speech/language impairment (81.8%), learning disabilities (62.7%), behavior disorders (62.7%), visual impairments (52.7%), emotional impairments (51.8%), physical or other health impairment (48.2%), hearing impairment (42.7%), at-risk (28.2%), mental health issues (20.9%), medical issues (39.1%), and non-impaired (18.2%). Several respondents (6.3%) also wrote in neurological impairments, including elderly/dementia/Alzheimer's disease as a population served. In addition, hospice and substance abuse were both indicated by two respondents each (1.8%) and one respondent each (0.9%) indicated working with individuals who have dual diagnoses or working closely with the clients' parents.

Almost half (48.2%) of the respondents stated that they provide at least some of their services in a private agency building or therapist or client home. Slightly less (40.9%) work in a regular school setting, 32.7% work in a special school, and 16.4% work in a residential facility. Fewer therapists are itinerant (6.4%), work in some type of hospital (5.4%), and private practice in other settings (3.6%). Two respondents (1.8%) each wrote in non-residential long-term facility, in- and out-patient rehabilitation, university clinic, non-profit therapy center, community music school, other community setting (i.e., community integration, YMCA), and therapeutic day school/day treatment facility associated with a school system. Finally, one respondent indicated a private/non-profit school as a work setting.

Nearly half (47.3%) of the respondents were self-employed. Over a quarter were employed by a school system or private agency (29.1% and 28.2%, respectively). Non-school state facilities employed 12.7% and other organizations

employ 20% of the respondents. These include universities (2.7%), hospitals, intermediate school district contract, and private schools (each of the latter was written in by 1.8%). One respondent (0.9%) each stated that s/he was employed by a state department of children and families, a health system, a county facility, a county board of mental retardation/developmental disabilities, Medicaid, a retail music store, a non-profit organization, a contract with a nursing home, and a community music school. The total exceeds one hundred percent since some therapists are employed by more than one location.

Almost three-quarters (74.3%) of the respondents said that their services were funded by the state in which they work and close to half (47.7%) reported that their services were funded by private sources (i.e., parents, agency, etc.). Eleven percent stated that their services were reimbursed by insurance companies. Other sources funded 21.1% of the participants' services, including government/public programs (10%), grants/foundations (9%), non-profit organizations (1.8%), referring facilities (1.8%), and faculty salaries (1.8%). In addition, 0.9% of the respondents reported that at least some of their funding came from a health system/hospital, a contract, a day program, and that clients pay from individual recreation budgets. One respondent skipped this question.

Client Demographics. The next section of Part One inquired about the clients which the respondents serve. To be included in this study, participants must have been currently working with 5- to 18-year-olds. The most frequently represented age groups were children who have severe, profound, and multiple impairments and were 5-8 years old (86.4%) and 9-12 years old (84.5%). Less frequently seen by the

respondents were older clients: 13-16 years of age (69.1%) and above 16 years (61.8%). Children under five were only served by 57.3% of the participants.

Developmentally, most of the participants (92.7%) serve clients who have severe, profound, and multiple impairments and were functioning at a level equivalent to 1-4 years of age. Many of the respondents (67.9% each) were also serving clients who were functioning at less than one year or 5-8 years. Fewer respondents worked with individuals who were functioning at 9-13 years (33%) and above 13 years (22.9%). One respondent did not answer the question since the concept of developmental age is inconsistent with the therapist's practice and paradigm of thinking.

Many participants (34.9%) serve more than sixty clients per week. Others serve 31-45 (19.3%), 46-60 (17.4%), or 16-30 (16.5%) each week. Fewer therapists (11.9%) work with 1-15 clients a week. One participant did not provide a response to the question. As a reflection of the low incidence of severe, profound, and multiple impairments and the diversity of populations served by the respondents, only 1-15 members of the target population were served on a weekly basis by 42.6% of the participants. Nearly a quarter of the respondents (24.1%) served 16-30 individuals with severe, profound, and multiple impairments each week. More than sixty members of the target population were served weekly by 14.8% of the participants, thirteen percent served 31-45, and 5.6% worked with 46-60 clients who have severe, profound, and multiple impairments. Two respondents failed to answer the question.

Since many respondents serve 1-15 members of the target population each week, it is not surprising that most participants (61.8%) work with 1-10 people who

have severe, profound, and multiple impairments on an individual basis. Some respondents (19.1%) do not meet with any individually, while a few therapists serve 11-20 or 21-30 every week (16.4% and 2.7%, respectively). No respondents reported serving more than thirty members of the target population one-to-one. Roughly one-third (33.9%) of the participants served 1-15 clients in group settings. Another one-third served either 16-30 or no clients with severe, profound, and multiple impairments in groups (17.4% each). The rest of the respondents serve larger numbers of clients in group settings; 19.3% worked with more than 45 weekly and 11.9% stated that they serve groups totaling 31-45 members of the target population.

Over two-thirds (67.3%) of the respondents served their clients once per week. Another twenty percent saw them twice each week. Few respondents indicated other schedules, including bi-weekly (4.5%), daily (3.6%), or monthly (0.9%). Although individuals who have severe, profound, and multiple impairments require frequent contact from direct service providers to receive the maximum benefits of their services, only 3 respondents (2.7%) wrote in that they serve members of the target population three to four times per week. One respondent (0.9%) wrote in that clients are served bi-monthly, probably implying a consultative role.

The two most frequent settings in which the respondents provided services were self-contained classrooms (40.9%) and private agency building or client/therapist home (37.3%). “Pull-out” from general education classes and inclusive settings in general education were reported far less frequently (8.2% and 2.7%, respectively). Another 2.7% wrote in that clients were seen in designated music therapy rooms. Two others (1.8%) indicated “pull-out” from self-contained

classrooms. The rest of the responses included in the “other” category were provided by one respondent each and totaled 6.4%. These settings consisted of an ICF-MR facility; group homes; a combination of both classrooms and music therapy rooms; a community music school; a non-school group setting; a combination of self-contained classrooms, pull-out from general education, and private settings; and classes for credit.

Over half (56.4%) of the respondents indicated that sessions with individuals who have severe, profound, and multiple impairments are scheduled for 30-44 minutes. Most of the remaining respondents (31.8%) reported that sessions last 45-60 minutes and some (10.9%) marked less than thirty minutes. No respondents stated that sessions for this population were over an hour. One respondent (0.9%) specified that sessions were 45 minutes during the school year and 35 minutes in the summer.

Therapist Education and Training. **Research Question 2: To what extent do music therapists feel prepared by their university training to work with clients who have severe, profound, and multiple impairments?** The last section of Part One to be discussed asked participants about their education and training. Most therapists reported having earned either a Master’s degree (40.9%) or a Bachelor’s degree (39.1%). Other respondents indicated completing some graduate work after the Bachelor’s degree (15.5%), music therapy equivalency (1.8%), a doctorate (1.8%), and a Specialist in Special Education (0.9%). Most respondents (88.2%) indicated experience with the target population during their university training or internship, 10.9% reported they did not, and only 1 (0.9%) didn’t remember.

Music therapists reported feeling very well prepared to work with school-age individuals who have severe, profound, and multiple impairments. A total of eighty-nine percent reported that the coursework and practical experiences were either adequate (78.9%) to prepare the therapist for an entry-level position or prepared the therapist exceptionally well (10.1%). Only 12 respondents felt that they were not prepared adequately (10.1%) or not at all prepared to work with the target population (0.9%).

Music therapists were even more positive when reporting how well their internship prepared them to work with the target population. Forty percent stated that their internship prepared them exceptionally well and almost as many (32.7%) indicated that the internship experience was adequate to prepare them for an entry-level position. Only three music therapists (2.7%) answered that the internship did not adequately prepare them for an entry-level position. The remaining respondents (24.5%) reported that they did not intern with the target population.

The participants were next asked to indicate up to three professional areas in which they felt best prepared by their university training and internship and up to three areas in which they felt least prepared to work with the target population. Approximately half of the music therapists felt best prepared in techniques and interventions (54.1%), general music therapy foundations (54.1%), characteristics of individuals who have severe, profound, and multiple impairments (52.3%), and functional music skills (48.6%). The areas in which the respondents felt they were least prepared consisted of administrative skills (43.1%), program development (40.4%), integration with non-impaired individuals (35.8%), and communication with

other disciplines (34.9%). The respondents reported being moderately prepared in the characteristics of people with other impairments, theories of human development, behavior management, and ethics. Write-in answers indicate that one respondent appreciated receiving exposure to multiple populations and another felt well prepared to assume the role model of internship supervisor. Two respondents felt their training was good and did not mark any areas in which they were not well prepared.

Additional areas that respondents would have liked to receive more training were assessment, working within a school-based schedule, verbal interventions, and sensory processes. Each category was indicated by one participant. Both questions had one participant leave it blank.

The participants were then asked to indicate up to three goal areas in which they were best prepared to work with the target population during their university and internship experiences and up to three goal areas in which they felt least prepared.

The respondents reported being best prepared in music, techniques, and interventions to address communication skills (72.5%) and motor skills (67.9%). The music therapists felt least prepared to address activities of daily living and vocational skills (69.8%) and sensory skills (59.4%). The respondents indicated that their training in music, techniques, and interventions addressing the following goals was fair: academic/pre-academic skills, socio-emotional skills, and leisure/recreation skills.

Other areas in which one respondent each reported being well prepared were goal identification and music skills; another respondent, who earned a Bachelor's degree and has been employed as a music therapist for four to eight years, stated that not much training was received in any of these areas. One respondent felt prepared in all

goal areas and did not mark any as being less trained; another participant indicated that more training was needed in sensory integration. One respondent skipped both questions and three others did not mark any goal areas as being less prepared.

Part Two: Broad Goal Areas and Techniques

Research Questions 3 and 4: What goal areas are most commonly addressed by music therapists with school-age clients who have severe, profound, and multiple impairments? To achieve certain types of goals, which techniques are perceived as most effective by music therapists working with school-age clients who have severe, profound, and multiple impairments? In Part Two, the respondents were asked to indicate approximately what percentage of their clients who have severe, profound, and multiple impairments work on each of nine goal areas. The broad goal areas consisted of (a) communication, (b) leisure and recreation, (c) vocational/academic, (d) activities of daily living/community living, (e) sensory, (f) motor, (g) affective, (h) social, and (i) alertness/attending/general participation skills. For each goal area that they addressed with their clients, the respondents were then asked to indicate how effective each of ten interventions were in achieving that type of goal. The techniques consisted of (a) improvisation, (b) movement to music, (c) rhythmic movement/vestibular stimulation, (d) the use of interventions involving singing, (e) the implementation of therapist-composed music, (f) pitched instrument playing, (g) non-pitched instrument playing, (h) music as a contingent reinforcer, (i) music applications of adaptive technology, and (j) the use of non-musical/non-movement props.

Communication Skills. The first goal area presented was that of asked was communication, encompassing skills that were related to any type of receptive or expressive communication including vocalization, speech, or communication devices. Communication skills were frequently addressed by professionals working with individuals who have severe, profound, and multiple impairments; 56.9% of the respondents stated that 76-100% of their clients who were members of the target population have music therapy goals in this area. The respondents who reported that 51-75% of their clients were working on communication skills constituted 15.6% of the total, 13.8% said that 1-25% of their clients addressed this goal area, and 11.9% stated that 26-50% of their clients addressed it. One respondent (0.9%) did not indicate how many clients were working on these skills; two respondents (1.8%) marked that they were not working with any clients on this type of goal, and therefore were not asked to rate how effective the various procedures were in achieving communication goals.

As shown in Table 1, the most effective techniques for assisting members of the target population in acquiring communication skills, as reported by the participants, were procedures involving singing and the use of therapist-composed songs. Moderate effectiveness was attributed to the contingent use of music as a reinforcer, rhythmic movement/vestibular stimulation, the use of non-musical/ non-movement props, movement to music, pitched instrument playing, non-pitched instrument playing, and improvisation. As with all of the remaining goal areas, half of the respondents indicated that the musical application of adaptive technology was not applicable or not attempted.

Table 1

Ratings of Techniques to Address Communication Goals

Technique	HE	SE	NE	NA
Improvisation	27% (29)	46% (50)	9% (10)	18% (19)
Movement to music	29% (31)	57% (62)	8% (9)	6% (6)
Rhythmic movement/ vestibular stimulation ^a	38% (40)	40% (43)	12% (13)	9% (10)
Singing	60% (65)	34% (37)	4% (4)	2% (2)
Use of therapist-composed songs	53% (57)	40% (43)	2% (2)	6% (6)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	22% (31)	56% (61)	19% (20)	3% (3)
Pitched instrument playing (i.e., piano, autoharp, etc.)	29% (31)	53% (57)	13% (14)	6% (6)
Music as a contingent reinforcer ^b	35% (38)	32% (35)	11% (12)	21% (23)
Music app. of adaptive technology ^c	18% (19)	26% (28)	7% (7)	50% (53)
Use of non-musical/ non-movement props ^d	32% (34)	42% (45)	13% (14)	13% (14)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Leisure/Recreation Skills. Leisure and recreation skills were defined as those addressing the use of music during leisure and recreation time; for example, selecting and playing preferred compact discs. Nearly half (47.3%) of the participants indicated that they do not work on these skills with their clients who have severe, profound, and multiple impairments, and did not rate the effectiveness of procedures to reach these goals. As the percentage of clients addressing leisure/recreation goals increased, fewer therapists claimed to have that many clients working on those skills; 27.3% reported 1-25% of their clients did, 16.4% stated 26-50% of their clients did, 4.5% said 51-75%, and the same number of participants (4.5%) indicated that 76 to 100% of their clients with severe, profound, and multiple impairments worked on leisure/recreation goals.

The use of singing was perceived as highly effective by 52% of the participants who were asked to rate the interventions and sometimes effective by 41%. Movement to music was considered highly effective in achieving leisure/recreation goals by 43% of the participants; the same number thought it was sometimes effective. The rest of the techniques, except the musical application of adaptive technology, received moderate ratings: contingent music, playing pitched instruments, rhythmic movement/vestibular stimulation, improvisation, non-pitched instrument playing, the use of therapist-composed songs, and the use of non-musical/non-movement props (see Table 2). More than half (54%) reported that they did not attempt to use music applications of adaptive technology to address leisure/recreation goals with the target population.

Vocational/Academic Skills. The category of vocational and academic goals focuses on school- or job-related tasks and includes pre-academic skills, such as matching colors or shapes. The respondents were more evenly divided on the number of clients addressing these types of goals than with the previous two goal areas. Up to 25% of the clients with severe, profound, and multiple impairments work on vocational/academic skills with 25.9% of the respondents. Twenty-three participants (21.3%) reported that 26-50% or 76-100% of their clients were attempting to develop these skills and 17.6% of the respondents stated that 51-75% of their clients were working on this goal area. Fifteen participants (13.9%) said they were not addressing this goal with any clients and two additional respondents skipped both this question and the one asking therapists to rate the effectiveness of techniques.

Two of the most effective interventions were again singing and the use of therapist-composed songs; 97% of the participants who answered this question considered both techniques to be either highly or sometimes effective. The use of non-musical/non-movement props was also popular, with a total of 86% in the highest two categories. Music applications of adaptive technology was still rated low with only 42% of respondents marking it as highly or sometimes effective. Improvisation also received the low composite rating of fifty percent. Table 3 shows that the procedures that fell in between these two extremes were pitched instrument playing, non-pitched instrument playing, movement to music, rhythmic movement/vestibular stimulation, and contingent music.

Activities of Daily Living/Community Living Skills. Activities of daily living (ADLs) and community living skills are those needed to care for oneself or to

Table 2

Ratings of Techniques to Address Leisure/Recreation Goals

Technique	HE	SE	NE	NA
Improvisation	30% (17)	41% (23)	11% (6)	18% (10)
Movement to music	43% (25)	43% (25)	5% (3)	9% (5)
Rhythmic movement/ vestibular stimulation ^a	30% (17)	42% (34)	11% (6)	18% (10)
Singing	52% (30)	41% (24)	5% (3)	2% (1)
Use of therapist-composed songs	24% (14)	57% (33)	3% (2)	16% (9)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	29% (17)	48% (28)	12% (7)	10% (6)
Pitched instrument playing (i.e., piano, autoharp, etc.)	36% (21)	52% (30)	7% (4)	5% (3)
Music as a contingent reinforcer ^b	33% (19)	23% (13)	16% (9)	28% (16)
Music app. of adaptive technology ^c	12% (7)	30% (17)	4% (2)	54% (30)
Use of non-musical/ non-movement props ^d	20% (11)	50% (28)	14% (8)	16% (9)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Table 3

Ratings of Techniques to Address Vocational/Academic Goals

Technique	HE	SE	NE	NA
Improvisation	22% (20)	28% (26)	25% (23)	25% (23)
Movement to music	25% (23)	54% (50)	11% (10)	10% (9)
Rhythmic movement/ vestibular stimulation ^a	23% (21)	49% (46)	11% (10)	17% (16)
Singing	51% (47)	46% (43)	2% (2)	1% (1)
Use of therapist-composed songs	71% (66)	26% (24)	0% (0)	3% (3)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	33% (30)	52% (48)	12% (11)	3% (3)
Pitched instrument playing (i.e., piano, autoharp, etc.)	25% (23)	58% (53)	10% (9)	8% (7)
Music as a contingent reinforcer ^b	30% (28)	39% (36)	15% (14)	15% (14)
Music app. of adaptive technology ^c	14% (13)	28% (26)	11% (10)	47% (43)
Use of non-musical/ non-movement props ^d	52% (48)	34% (32)	4% (4)	10% (9)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

function in the community; one example is selecting items from a menu. A large number of music therapists (41.8%) did not have goals in this area with the target population. Up to 25% of clients were trying to improve in this area with 21.8% of the respondents, 26-50% of clients were working on it with twenty percent of the respondents, 76-100% of clients were addressing ADLs or community skills with 11.8% of the respondents, and 51-75% of clients had goals in this area for 4.5% of respondents.

The use of therapist-composed songs was again viewed as very effective, since 97% of the participants who rated the interventions marked it as highly effective or sometimes effective. Slightly less common were singing (89% total) and the use of non-musical/non-movement props (81% total). Moderate scores were given to contingent music, movement to music, non-pitched instrument playing, pitched instrument playing, and rhythmic movement/vestibular stimulation (see Table 4). Improvisation and musical application of adaptive technology were again rated as less effective or not attempted (both received 46% total for the highest two categories).

Sensory Skills. Goals addressing sensory skills include auditory or visual perception or tracking. Many music therapists (42.7%) reported addressing this type of goal with their clients who have severe, profound, and multiple impairments. These skills were worked on by 51-75% of clients for 17.3% of respondents, 26-50% of clients by 16.4% of respondents, zero clients by 13.6% of respondents, and 1-25% of clients by 10% of respondents.

Table 4

*Ratings of Techniques to Address Activities of Daily Living/
Community Living Goals*

Technique	HE	SE	NE	NA
Improvisation	13% (8)	33% (21)	29% (18)	25% (16)
Movement to music	25% (16)	43% (27)	22% (14)	10% (6)
Rhythmic mvmt/vestibular stim. ^a	24% (15)	37% (23)	22% (14)	17% (11)
Singing	41% (26)	48% (31)	8% (5)	3% (2)
Use of therapist-composed songs	55% (35)	42% (27)	2% (1)	2% (1)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	16% (10)	48% (30)	25% (16)	11% (7)
Pitched instrument playing (i.e., piano, autoharp, etc.)	14% (9)	49% (31)	22% (14)	14% (9)
Music as a contingent reinforcer ^b	33% (21)	38% (24)	11% (7)	17% (11)
Music app. of adaptive technology ^c	14% (9)	32% (20)	14% (9)	40% (25)
Use of non-musical/ non-movement props ^d	36% (23)	45% (29)	8% (5)	11% (7)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Since all activities in which a person can be engaged provide some type of stimulation, a variety of procedures were frequently used by the therapists to develop sensory skills (see Table 5). Movement to music and rhythmic movement/vestibular stimulation were reported as the most effective; at least 70% of respondents specified that these interventions were highly effective. Pitched instrument playing, non-pitched instrument playing, the use of therapist-composed songs, and the use of singing were also considered fairly effective. Of moderate effectiveness were improvisation (84% stated the technique was highly or sometimes effective), the use of non-musical/non-movement props (78% total), and contingent music (65% total). Nearly half (46%) of respondents indicated that they did not use music applications of technology.

Motor Skills. This goal area includes any gross or fine motor, psychomotor, perceptual motor, locomotor, and object manipulation skills. This is an area of need for many individuals who have severe mental impairments, as indicated by the fact that only one participant (0.9%) reported not working with any clients to improve these skills. Many participants (51.8%) stated that 76-100% of their clients have motor goals and 20.9% said that 51-75% of their clients work on motor skills. Slightly over one-quarter of the participants indicated that 1-25% (13.6%) or 26-50% (12.7%) of their clients seek to increase their motor skills in music therapy.

The most effective interventions to attain motor goals were said to be movement to music, rhythmic movement/vestibular stimulation, non-pitched instrument playing, and pitched instrument playing, all of which had 93-99% of the respondents stating that they were highly effective or sometimes effective. As can be

Table 5

Ratings of Techniques to Address Sensory Goals

Technique	HE	SE	NE	NA
Improvisation	47% (43)	37% (34)	4% (4)	12% (11)
Movement to music	70% (66)	28% (26)	2% (2)	0% (0)
Rhythmic movement/ vestibular stimulation ^a	72% (68)	25% (24)	1% (1)	2% (2)
Singing	46% (44)	51% (48)	1% (1)	2% (2)
Use of therapist-composed songs	54% (51)	43% (41)	1% (1)	2% (2)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	57% (54)	39% (37)	3% (3)	0% (0)
Pitched instrument playing (i.e., piano, autoharp, etc.)	54% (50)	43% (40)	3% (3)	0% (0)
Music as a contingent reinforcer ^b	26% (24)	39% (36)	16% (15)	19% (18)
Music app. of adaptive technology ^c	17% (16)	28% (26)	10% (9)	46% (43)
Use of non-musical/ non-movement props ^d	40% (38)	38% (36)	11% (10)	11% (10)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, tagboard books, song file folders, etc.

seen in Table 6, the following techniques seem to be less effective: the use of therapist-composed songs, improvisation, the use of singing, the use of non-music/non-movement props, and contingent music. Once again, music technology was not attempted by almost half of the respondents.

Affective Skills. Affective behavior refers to goals related to emotional development, including identification of emotions and reduction or replacement of aggressive, self-abusive, and self-stimulatory behaviors. Slightly more respondents (24.5%) indicated that 26-50% of their clients work toward this type of goal than respondents who reported that 76-100% of their clients did (23.6%). No clients trying to improve this skill was reported by 19.1% of the participants. Nineteen respondents (17.3%) stated that 1-25% of their clients who have severe, profound, and multiple impairments worked on improving affective behavior and 15.5% said that 51-75% of their clients worked on these skills in music therapy.

Once again, procedures involving the use of therapist-composed songs (93% of respondents gave it a positive rating) and singing (92% positive rating) were most preferred to attain affective goals. In general, the therapists believed that the following interventions were also favorable: pitched instrument playing, movement to music, non-pitched instrument playing, improvisation, and rhythmic movement/ vestibular stimulation (see Table 7). The use of music as a contingent reinforcer (74% total) and of non-musical/ non-movement props (68% total) were viewed as less effective. The use of music applications of adaptive technology received its most negative rating of all of the goal areas; the two highest categories totaled 34% of respondents.

Table 6

Ratings of Techniques to Address Motor Goals

Technique	HE	SE	NE	NA
Improvisation	38% (41)	46% (49)	5% (5)	11% (12)
Movement to music	82% (89)	17% (18)	1% (1)	0% (0)
Rhythmic movement/ vestibular stimulation ^a	77% (82)	21% (22)	2% (2)	1% (1)
Singing	32% (34)	52% (56)	12% (13)	4% (4)
Use of therapist-composed songs	50% (54)	41% (44)	4% (4)	5% (5)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	77% (83)	18% (19)	6% (6)	0% (0)
Pitched instrument playing (i.e., piano, autoharp, etc.)	60% (62)	33% (34)	6% (6)	2% (2)
Music as a contingent reinforcer ^b	36% (38)	35% (37)	10% (11)	19% (20)
Music app. of adaptive technology ^c	16% (17)	25% (26)	11% (12)	48% (50)
Use of non-musical/ non-movement props ^d	34% (37)	39% (42)	13% (14)	14% (15)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Table 7

Ratings of Techniques to Address Affective Goals

Technique	HE	SE	NE	NA
Improvisation	40% (36)	43% (38)	9% (8)	8% (7)
Movement to music	39% (35)	47% (42)	11% (10)	2% (2)
Rhythmic movement/ vestibular stimulation ^a	39% (35)	43% (38)	13% (12)	4% (4)
Singing	47% (42)	46% (41)	8% (7)	0% (0)
Use of therapist-composed songs	56% (50)	37% (33)	6% (5)	2% (2)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	38% (34)	47% (42)	13% (12)	1% (1)
Pitched instrument playing (i.e., piano, autoharp, etc.)	36% (32)	52% (46)	9% (8)	2% (2)
Music as a contingent reinforcer ^b	37% (33)	37% (33)	12% (11)	14% (13)
Music app.of adaptive technology ^c	8% (7)	26% (23)	13% (11)	53% (47)
Use of non-musical/ non-movement props ^d	21% (18)	47% (40)	17% (15)	15% (13)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Social Skills. Social behavior involves intrapersonal and interpersonal skills, such as establishing/maintaining eye contact with others or responding to one's own name. This is a common area of need for individuals who have severe, profound, and multiple impairments. Sixty percent of participants reported that nearly all (76-100%) of their clients work on social skills. As the percentage of clients who addressed social skills decreased, so did the number of therapists who reported that amount; 15.5% stated 51-75% of their clients, 12.7% said 26-50%, 8.2% of respondents indicated 1-25%, and only 3.6% reported that none of their clients work on social skills in music therapy.

Singing and the implementation of therapist-composed songs were again perceived as the most effective techniques (97% of the respondents gave them a positive rating in the top two categories). Table 8 indicates that the participants also favorably viewed non-pitched instrument playing, pitched instrument playing, movement to music, rhythmic movement/vestibular stimulation, improvisation, and the use of non-musical/non-movement props. Music as a contingent reinforcer received its highest total rating of all the goal areas (75% of participants marked the top two categories). Just over half (51%) of the respondents stated that they did not attempt to use music technology to foster social skills.

Alertness/Attending/General Participation Skills. This goal area addressed interaction with the environment, including eye contact with objects, holding one's head up, and participating appropriately in activities. Most respondents indicated that the majority (76-100%) of their clients who have severe, profound, and multiple impairments worked on this type of skill. One-quarter to one-half of clients

Table 8

Ratings of Techniques to Address Social Goals

Technique	HE	SE	NE	NA
Improvisation	43% (45)	38% (39)	8% (8)	12% (12)
Movement to music	43% (46)	45% (48)	7% (7)	5% (5)
Rhythmic movement/ vestibular stimulation ^a	36% (37)	47% (49)	9% (9)	9% (9)
Singing	74% (78)	24% (25)	3% (3)	0% (0)
Use of therapist-composed songs	73% (77)	25% (26)	0% (0)	3% (3)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	45% (47)	50% (53)	3% (3)	2% (2)
Pitched instrument playing (i.e., piano, autoharp, etc.)	37% (39)	52% (55)	8% (8)	3% (3)
Music as a contingent reinforcer ^b	37% (38)	38% (40)	10% (10)	15% (16)
Music app. of adaptive technology ^c	15% (16)	27% (28)	7% (7)	51% (54)
Use of non-musical/ non-movement props ^d	34% (36)	47% (50)	7% (7)	12% (13)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

addressing this goal was reported by 14.8% of respondents, thirteen percent of participants estimated that 51-75% of their clients had this type of goal, and 10.2% of respondents stated that 1-25% of their clients did. Only 1.9% responded that they did not work on these goals with members of the target population. Another 1.9% (two participants) skipped the question, but rated the effectiveness of techniques.

As with sensory skills, many interventions can motivate different individuals to attend to or participate in music therapy (see Table 9). Movement to music, non-pitched instrument playing, pitched instrument playing, the use of therapist-composed songs, and singing all received a total positive rating (highly effective and sometimes effective) of 94-99. The use of rhythmic movement/vestibular stimulation, improvisation, the use of non-musical/non-movement props, and contingent music were reported as generally effective (positive ratings between 75 and 89, with 36 to 53% of the respondents marking “highly effective”). The music application of adaptive technology was again the lowest rated procedure with a total score of 45%.

Additional Comments. One-quarter of the participants (25.5%) gave additional comments regarding the survey, their work with members of the target population, or general observations about music therapy. The largest category of statements (10) were those of a technical or helpful nature, such as wishing the researcher good luck on the study, requesting access to results, clarifying the use of a particular term, and reporting a problem with the survey or e-mail. Other comments were directed toward beneficial practices and techniques; client or program progress; areas of training and research that should receive greater emphasis; and additional information about the respondent’s employment, funding sources, or philosophical orientation.

Table 9

*Ratings of Techniques to Address Alertness/Attending/
General Participation Goals*

Technique	HE	SE	NE	NA
Improvisation	42% (44)	42% (45)	8% (8)	8% (9)
Movement to music	60% (64)	39% (42)	1% (1)	0% (0)
Rhythmic mvmt/vestibular stim. ^a	53% (57)	36% (39)	4% (4)	7% (7)
Singing	64% (69)	31% (34)	3% (3)	2% (2)
Use of therapist-composed songs	67% (71)	31% (33)	0% (0)	2% (2)
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	66% (71)	33% (36)	1% (1)	0% (0)
Pitched instrument playing (i.e., piano, autoharp, etc.)	58% (61)	36% (38)	6% (6)	1% (1)
Music as a contingent reinforcer ^b	42% (45)	33% (35)	7% (8)	18% (19)
Music app. of adaptive technology ^c	21% (22)	24% (25)	7% (7)	49% (52)
Use of non-musical/ non-movement props ^d	36% (39)	45% (49)	9% (10)	9% (10)

Note. Row totals do not always equal 100% due to rounding and occasional skipping of one line by participants. Percentage is of the number of respondents rating techniques for that particular goal area. Number of respondents assigning the technique that rating in parentheses. HE=highly effective; SE=sometimes effective; NE=never effective; NA=not applicable. ^aRepetitive movement to a steady pulse. ^bPreferred music activity provided based on a specific behavior. ^cIncludes Soundbeam, computer software, voice-activated communication devices, etc. ^dIncludes other communication devices, puppets, tagboard books, song file folders, etc.

Participant Subgroups

The completed questionnaires were analyzed to determine whether various demographic variables had an effect on therapists' practices. Surveys submitted by respondents who reported more than eight years of experience with individuals who have severe, profound, and multiple impairments; participants who had earned a Master's degree or Doctorate; therapists who served thirty or fewer clients per week; therapists who served 46 or more clients each week; and participants currently working in the Great Lakes, Western, and Mid-Atlantic regions were examined. The following subgroups were also analyzed: male respondents; participants who were aged 35-65 years; therapists who reported feeling inadequately prepared by the internship or who did not intern with the target population; participants who treated fewer members of the target population in groups; therapists who worked part-time; individuals who worked in a private agency or client/therapist home; respondents who were not exclusively self-employed or employed by a private agency; respondents who reported private or "other" funding; therapists who worked with clients reported as functioning at thirteen years or higher; and individuals who treated clients in self-contained classrooms. Other subgroups were not discussed due to either a lack of substantial difference from the composite group (therapists who serve 31 or more clients per week or younger clients) or small size (participants with no prior experience with individuals who have severe, profound, and multiple impairments or respondents from the New England, Southeastern, South Central, Southwestern, and Midwestern regions).

While examining the subgroups, it became apparent to the researcher that many characteristics were shared by two major groups of music therapists. The aspects in which the groups most differed from each other, as well as from the total responses provided by all participants, are shown in Table 10. Individuals who served thirty or fewer clients (Group 1) tended to work part-time (less than thirty hours per week), be self-employed, and both work and treat clients in private agency buildings and/or client or therapist homes. Sixty-one percent of Group 1 received funding from private sources which approximated, but did not surpass the number reporting state funding. In contrast, nearly twice as many members of Group 2 received state funding (76%) than private (39%). Group 2 served forty-six or more clients and most often were employed full-time, by a regular or special school, and treated clients in self-contained classrooms.

More members of Group 1 had some graduate work than Group 2 (or total respondents) but fewer had completed a Master's degree. In addition, Group 1 cited program development as the area in which they were least prepared by their university training or internship and techniques and interventions as the area of best preparation, while Group 2 felt much less prepared in techniques and interventions. Group 1 was more positive than the composite group regarding sensory skill training. Group 2 reported feeling most prepared in general music therapy foundations and least in administrative skills, which is consistent with the composite responses. Group 2 was more likely to rate the music application of technology as either highly effective or sometimes effective, in contrast to Group 1, two-thirds of whom consistently rated it as not applicable/don't attempt. Group 2 was also more likely

Table 10

Differences Between Group 1 and Group 2

Characteristic	Group 1 (N=31)	Group 2 (N=57)
Number of total clients	Up to 30	46 or more
Number of clients with S/P ^a	1-15	More than 60
Treatment setting	Individual	Group
Populations ^b	More mild/moderate mental impairments; less BD ^c	More with visual or hearing impairments
Client chronological ages	Less than average below 5 years, 9-12, 13-16, above 16	More than average below 5 years
Client functioning level	Less than average at under 1 year and 5-8 years	More than average at under 1 year
Education	More Bachelor's/graduate	More Master's degrees
Area of less preparation	Program development	Techniques/interventions
Employment	Part-time	Full-time
Employment setting	Self-employed; private	Regular/special school(s)
Session environment	Private agency/home	Self-contained classroom
Music technology	Less likely to try	More likely to rate HE/SE
Activities of daily living	Less likely to address	More likely to address

Note. Differences reported indicate the categories selected by most participants in the subgroup and substantial variation from the composite responses. ^aS/P=severe, profound, and multiple impairments.

^bBoth subgroups, as well as all of the respondents in general, reported "other developmental disorders, including autism" as the most prevalent population served. ^cBD=clients who have behavior disorders.

than Group 1 to address activities of daily living or community living goals. The responses of Group 2 more closely resemble the composite results, since it is nearly twice the size of Group 1.

Research Questions 5 and 6: Is there a relationship between the number of years of experience and music therapists' practices with children and adolescents who have severe, profound, and multiple impairments? How does the amount of experience relate to therapists' perception to work with the target population? The forty-four participants who had the most experience with individuals who have severe, profound, and multiple impairments (more than eight years) were also older (59% were 35-49 and 27% were 50-65) and had slightly more education (54% had completed Master's degrees compared to 40%) than the composite group. Almost all of the respondents had been employed as music therapists for more than eight years and most had been in their current position for more than eight years. Most of the other characteristics were the same as reported by Group 2, including the willingness to use musical applications of adaptive technology for several goal areas. This more experienced subgroup also indicated that they believed the use of improvisation, non-pitched instruments, and contingent music were more effective in addressing alertness/ attending/participation than leisure/recreation, vocational/academic, activities of daily living (ADLs), or affective goals. Another tendency reported by these more experienced participants, assuming that therapists generally apply the interventions which they find most effective, was to use movement to music and rhythmic movement/vestibular stimulation to develop motor skills but not to attain ADL or leisure/recreation goals. Finally, slightly more

respondents who had worked with the target population for more than eight years rated the use of therapist-composed songs as “highly effective” in reaching sensory goals than did the composite group. No differences were reported by the experienced therapists in regard to perceived preparation.

Research Questions 7 and 8: Does the level of degree earned impact music therapists’ practices with school-age clients who have severe, profound, and multiple impairments? Does the level of degree earned affect the therapists’ perception of preparation to work with members of the target population? Since the previous subgroup (therapists who served the target population for over eight years) indicated a higher level of education, it is not surprising that the subgroup which was exclusively highly educated (Master’s degree or Doctorate) has many characteristics in common with the former. The forty-seven respondents with this higher level of education were also slightly older, had been employed as music therapists longer, had been in their current position longer, and had more years of experience with the target population than did the composite group. In regard to university preparation, these participants reported feeling slightly better prepared in general music therapy foundations and to address socio-emotional skills. This highly educated subgroup also resembled Group 2, including a greater willingness to use music applications of adaptive technology in nearly all goal areas. With the exception of a small preference to use therapist-composed songs to address communication goals, these participants rated several techniques as less effective than did the composite group. Specifically, these procedures were the use of movement to music, singing, and non-pitched instruments to address leisure/recreation goals; the

use of improvisation to address ADL goals; the use of non-pitched instruments to address sensory goals; and the use of contingent music to address motor goals. Slightly more clients served by this highly educated subgroup were reported as working on alertness/attending/ participation and ADL goals. The subgroups consisting of therapists who were employed by schools, other state facilities, and “other” settings (those who are not exclusively employed by a private agency or self-employed) and therapists who treat their clients in self-contained classrooms were also very similar to Group 2 and to the previous subgroups (more experience with the target population and more advanced education). All of these related subgroups had far fewer participants from the Western region of the country than did the composite group.

Several subgroups were also related to Group 1: therapists who were employed part-time; worked in a private agency building or client/therapist home; received more funding from private and “other” sources; and treated fewer clients who had severe, profound, and multiple impairments in group settings. The most frequent trends were more respondents from the Western region, fewer clients who have hearing impairments, more respondents who worked and treated clients in a private agency building or client/therapist home, more participants employed by private agency or self-employed, and therapists were less likely to attempt musical applications of technology. Therapists who were employed part-time were also less likely to use music contingently and respondents who received private and “other” funding (i.e., grants/foundations, local or federal government programs) were more likely than the composite group to use pitched instruments and improvisation.

Research Question 9: What, if any, other demographic variables (i.e., geographic region, funding sources, ages of clients served, etc.) affect the therapists' perception of preparation or the interventions which therapists select? The responses associated with the following regions of the American Music Therapy Association were not analyzed independently due to the small number of participants (1-9): New England, Southeastern, South Central, Southwestern, and Midwestern regions. The three regions in which the most participants worked were Great Lakes, Western, and Mid-Atlantic. Respondents from the latter region shared many characteristics with the above sub-groups (higher education, more experience with the target population, etc.): they were slightly older, had earned more Master's degrees, had been employed as music therapists longer, held their current position longer, and had served individuals with severe, profound, and multiple impairments longer than the composite group. Music therapists in the Mid-Atlantic states were also generally employed full-time (by private agencies) in special schools and thus served more diverse populations and functioning levels, as well as older clients (more 9-16-year-olds). They served fewer clients (31-45) but more of their clients were members of the target population. However, services were more often funded by grants and foundations and less by state programs. This subgroup from the Mid-Atlantic region was also slightly more positive about their training. In general, these therapists found improvisation, pitched instruments, and technology more effective and were less likely to use props, movement to music, contingent music, and rhythmic movement/vestibular stimulation than the composite group.

In contrast, participants from the Western region resembled Group 1: most held Bachelor's degrees; tended to be self-employed; worked part-time in a private agency building or client/therapist home; received funding from private sources; and served less diverse populations, chronological ages, and developmental levels. Fewer clients were served, primarily in individual sessions, and participated in longer sessions (45-60 minutes). Also like Group 1, therapists from the Western region were less likely to attempt to apply technology in their sessions. However, they also preferred the use of pitched instruments; implemented therapist-composed songs less often; and reserved the use of contingent music, movement to music, and rhythmic movement/vestibular stimulation for sensory, motor, affective, and social goals.

Since the Great Lakes states lie geographically between the other two regions, it seems appropriate that responses were also split between Group 1 (representative of the Western region) and Group 2 (representative of the Mid-Atlantic region). Like Group 2, therapists in the Great Lakes region usually worked with more than sixty clients, who were of the full range of ages. Like Group 1, most of these respondents had received less education (Bachelor's degrees only). In contrast to both groups, music therapists from the Great Lakes states were more likely to work in a residential facility, had spent less time in their current position (1-3 years), and served clients who had a higher functioning level (5-8 years). These participants were also more likely than the composite group to use props and rated nearly all of the techniques as more effective in addressing alertness/attending/general participation goals.

Three subgroups were not closely related to either Group 1 or Group 2: male respondents, participants who reported either feeling inadequately prepared by their internship or not interning with the target population, and therapists who serve clients with higher functioning levels. All of the men served 31 or fewer clients and 1-10 clients who have severe, profound, and multiple impairments. The men also seemed to prefer the use of pitched to non-pitched instruments, be more likely to use improvisation, and less likely to use contingent music. However, these results should be interpreted with caution due to the low number of male participants (8).

Most of the respondents who reported not interning with the target population or not being prepared by their internship had been employed as a music therapist more than eight years, meaning that they had been educated earlier than many of the other participants. However, most of them had been in their current position and served members of the target population for a shorter amount of time (4-8 years). This less-prepared subgroup also reported less experience with individuals who have severe, profound, and multiple impairments during practicum experiences. They reported being best prepared in general music therapy foundations and integration with non-impaired peers. These participants who felt less prepared by their internship or who did not intern with the target population felt least prepared in techniques and interventions; characteristics of individuals who have severe, profound, and multiple impairments; behavior management strategies; administrative skills; and to address communication and leisure/recreation goals. They rated music applications of adaptive technology, contingent music, and therapist-composed songs lower than did the composite group.

The last subgroup worked with clients who functioned at nine years or higher. They also tended to serve chronologically older clients (particularly 9-13 years of age) and therefore were slightly more likely to address leisure/recreation goals since that area is age-appropriate. Therapists who served higher functioning clients felt best prepared in techniques and interventions, especially to foster development of socio-emotional skills, but felt that more preparation in sensory skill training was needed. However, the members of this subgroup were less likely to address sensory goals, as well as alertness/attending/ participation and communication skills. Most of these respondents worked in special schools or residential facilities.

Research Question 10: Are the techniques that therapists most commonly report using reflected in the extant literature? In general, the interventions that the respondents reported as the most effective to achieve each type of goal were mentioned in the literature reviewed in this study. Several sources described methods of including pitched and/or non-pitched instruments to address most broad goal areas, which reflected the therapists' opinions that incorporating instruments can be very effective in developing a variety of skills. In addition, the techniques that were reported as least effective by the participants (the use of contingent music, non-musical/non-movement props, improvisation, and music applications of adaptive technology) were discussed less often in the reviewed literature. In contrast, the implementation of therapist-composed music and rhythmic movement/vestibular stimulation, which were highly rated by the respondents, was found infrequently in music therapy literature.

CHAPTER V

Discussion

The purpose of this study was to (a) determine which techniques may most effectively assist school-age clients with severe, profound, and multiple impairments to achieve certain goals, (b) assess whether music therapists currently feel that they were prepared to adequately serve children and adolescents who have severe, profound, and multiple impairments, and (c) describe the demographics of music therapists who work with the target population. A questionnaire was designed to gather relevant information from practitioners regarding their current perceptions and practices, assuming that the respondents generally implement the interventions which they perceive to be most effective. The questionnaire was also designed in some categories to follow-up on previous surveys of music therapists in school settings to determine whether the same factors are true of professionals who specifically serve the target population.

Demographics of Music Therapists

Research Question 1: What are the current demographics of music therapists working with children and adolescents who have severe, profound, and multiple impairments? It was expected that the majority of participants were female, held a Bachelor's degree, had been employed as a music therapist for more than eight years, and worked full-time for a school system. The hypotheses involving gender, years of experience, and employment status were confirmed. Two more respondents held Master's degrees than those who held Bachelor's degrees alone. More practitioners were self-employed in private agency buildings and

client/therapist homes than was predicted, which contradicts the findings of D. Smith & Hairston (1999). This could indicate that a gradual change in work environments may be occurring. However, it can also be explained by the difference between the participant pools in the two studies; D. Smith & Hairston surveyed music therapists employed in school-based settings and practitioners were employed by the school, while the current study sought music therapists working with the target population in any setting, so a greater variety of employers was likely.

The two studies did agree that most music therapists have been employed as such for more than eight years. They were close in regard to the states in which the most respondents lived; Texas and New York were among the top three in both studies. In the present study, though, a higher percentage of participants hailed from California, while D. Smith & Hairston reported that Michigan was most often represented after the other two. This may be reflective of a greater number of school-based positions in the Great Lakes region, including Michigan, and more agency-based or independent music therapists in the Western region, especially California. Previously, McCormick (1988) had reported that most participants who were employed in public schools resided in Minnesota, Texas, and Michigan.

It was also hypothesized that music therapists served over sixty clients per week in homogenous group settings (i.e., self-contained classrooms) and saw each group twice weekly. The respondents did tend to work with over sixty children every week in self-contained classrooms, supporting the findings of D. Smith & Hairston (1999)(average of 75 clients per week), Lathom (1980) (more than forty clients each week), McCormick (1988)(50-200 clients per week), and Jones & Cardinal (1998)(a

low percentage of music therapists serve clients in the absence of non-impaired peers). However, the participants almost always met with their clients only once per week, whereas over half of the respondents to McCormick's study saw their students twice each week.

The most frequently served populations were individuals who had mental impairments, autism and other developmental disorders, multiple impairments, and speech/language impairments, as was found by Lathom (1980), D. Smith & Hairston (1999), and McCormick (1988). The cited works also named orthopedic impairments, which was mentioned far less frequently in the current study. The most prevalent age ranges reported by Lathom (12-15 and 9-12 years) were lower than those of the current study (5-8 and 9-12 years).

Music Therapists' Perceptions of University Preparation

Research Question 2: To what extent do music therapists feel prepared by their university training to work with clients who have severe, profound, and multiple impairments? In contrast to the earlier surveys of other professionals and para-professionals (Erin et al., 1990; Gisler et al., 1982; Izen & Brown, 1991; M. Smith, 2000), the participants in the current study stated that they were adequately prepared by their coursework and exceptionally or adequately prepared by their internship to work with the target population. The music therapists were more positive about their internship experiences than were the special education direct service providers questioned by Izen and Brown, who viewed their practical experiences with more moderation. Since none of the cited surveys were of music therapists and most of the studies were over ten years old, conclusions that music

therapists are currently better prepared to serve the target population than are other professionals or that professional training has improved cannot be made; it is encouraging, though, that current music therapists viewed their training experiences so positively.

The respondents to the current survey indicated that they were best prepared in techniques and interventions; general music therapy foundations; characteristics of individuals with severe, profound, and multiple impairments; and functional music skills. This composite group felt least prepared to handle administrative duties, program development, the integration of clients with peers who do not have impairments, and communication with other professionals.

Research Questions 5 and 6: Is there a relationship between the number of years of experience and music therapists' practices with children and adolescents who have severe, profound, and multiple impairments? How does the amount of experience relate to therapists' perception to work with the target population? The results of the survey indicated that respondents who had served clients with severe, profound, and multiple impairments for over eight years felt that they had been better prepared to work with those individuals. These participants were even more likely than the composite group to feel exceptionally well-prepared by their internship to serve the target population; slightly more had interned with the population, as well. Respondents who were age 35 and above did not substantially differ from the composite group in their perceptions of either preparation or effective interventions. These findings were in contrast to results reported by Erin et al. (1990) who found that older practitioners felt less prepared to work with individuals who

have severe, profound, and multiple impairments. This is likely due to the fact that, unlike most teachers of the blind, music therapists were already serving the target population prior to their inclusion in school settings. Also, since the passing of P.L. 94-142 in 1975, efforts have been made to better prepare members of the helping professions to work with a broader variety of clients.

Contrary to the researcher's expectations and the findings by Hastings et al. (1996), respondents who indicated that they had no experiences with members of the target population during practica or internship, felt as well prepared as the composite group. It should be noted, however, that this constituted only 10% of the music therapists who completed the survey. Gisler et al. (1982) reported that one-quarter of the special education teachers who were serving the target population had no prior training or experience with individuals who had severe or profound impairments. Again, the reason for the discrepancy could be that music therapists have been employed in residential facilities for a relatively long time, so systems were in place earlier which allowed student music therapists exposure to the target population. Children with severe, profound, and multiple impairments have been included into special education settings in regular schools for fewer years; therefore professionals in this type of setting, such as special education teachers, would not have had training opportunities with this population prior to circa 1975.

Research Questions 7 and 8: Does the level of degree earned impact music therapists' practices with school-age clients who have severe, profound, and multiple impairments? Does the level of degree earned affect the therapists' perception of preparation to work with members of the target population? It

was hypothesized that participants who had earned more education would feel better prepared to work with school-age children who have severe, profound, and multiple impairments, although the difference between this subgroup and the total group of respondents was not as large as expected. Specifically, they reported feeling slightly more prepared in general music therapy foundations and to develop socio-emotional skills. The other prediction regarding this subgroup's responses was not supported; music therapists with more education do not seem to use a broader range of interventions to achieve any type of goal. These participants assigned similar overall ratings to techniques as did the composite group, with the exception that the former was more likely to use music applications of adaptive technology.

Research Question 9: What, if any, other demographic variables (i.e., geographic region, funding sources, ages of clients served, etc.) affect the therapists' perception of preparation or the interventions which therapists select? Erin et al. (1990) also stated that itinerant teachers tended to feel less confident in their ability to serve children with severe, profound, and multiple impairments than did professionals working in residential facilities and schools. This finding was supported by the responses to the present study, as therapists who were employed by a private agency or were self-employed (and often worked in multiple settings or were physically isolated from other professionals treating the client) reported feeling less able to effectively serve clients. Practitioners who work full-time in one setting, such as a residential facility or school, have easier access to communication with other members of the treatment team and may share more

information and feel a greater level of support than those who are not always in the same setting.

Other subgroups indicated that prior to employment, they had not learned enough about program development, techniques and interventions, general music therapy foundations, methods to develop activities of daily living and community living skills, and integration with peers who do not have impairments. Not surprisingly, the participants who stated that they had not interned with clients who had severe, profound, and multiple impairments or that they were not adequately prepared by their internship, felt less prepared in several specific areas: techniques and interventions, characteristics of the target population, behavior management, and administrative skills. They did feel confident in their education regarding music therapy foundations and integration with non-impaired peers.

Although the respondents from the Mid-Atlantic states were even more positive about their professional training, it should be pointed out that the region in which therapists currently work is not necessarily the same area in which they attended school. Other subgroups reported being more prepared in techniques and interventions and procedures to foster the development of socio-emotional skills. The subgroups who said they were better prepared to train sensory skills also tended either to address the goal area less frequently, meaning they may require familiarity with fewer applicable procedures than those who develop sensory skills more often, or to have been employed as music therapists for a shorter period of time, which likely indicates that they were educated more recently and that education about appropriate techniques has probably improved.

The respondents indicated that their coursework and internship best provided them with the music, techniques, and interventions to teach communication, motor, and socio-emotional skills. They felt weakest in their entry-level abilities to address goals related to activities of daily living (ADLs)/vocational skills and sensory skills. The emphasis of educators on the first set of goals is appropriate, since over half of the participants stated that nearly all of their clients are working to improve motoric, communicative, and social functioning. Alertness/attending/participation and sensory goals were also among those most frequently addressed by the participants. This supports Lathom's (1980) set of music therapy goals as reported by practitioners, since all nine fit into the broad categories of communication, motor, social, sensory, and alertness/attending/participation. The prediction made by the present researcher was also generally supported. Almost half of the music therapists do not address ADLs or leisure/recreation skills at all, and it is likely that fewer would have said that their clients are attempting to improve vocational skills if it had not been categorized with academic and pre-academic skills. Therefore, the relative neglect of these goal areas in music therapy literature and professional training may be necessary in order to concentrate on more practical aspects.

Most clients are working to increase their sensory skills, but many of the therapists expressed concern that they had not received more training in the area, especially regarding sensory integration. As mentioned above, universities and practical experience sites may be teaching more about developing sensory skills, but there is still a lack of literature discussing specific methods.

Current Music Therapy Practices

Research Questions 3, 4, and 10: What goal areas are most commonly addressed by music therapists with school-age clients who have severe, profound, and multiple impairments? To achieve certain types of goals, which techniques are perceived as most effective by music therapists working with students who have severe, profound, and multiple impairments? Are the techniques that therapists most commonly report using reflected in the extant literature? It was hypothesized that the most common procedures would consist of movement to music, singing, and playing non-pitched instruments. Singing was reported to be effective in all of the goal areas except for motor. Contrary to expectations, movement to music and non-pitched instruments were considered somewhat less effective and the implementation of therapist-composed music was most frequently rated “highly effective” by participants.

It was further hypothesized that the music therapy literature cited in this study would be inconsistently represented by the responses. There were a few instances in which several authors supported the participants’ selections of specific interventions to address certain goal areas. In addition, less music therapy research was found that suggested specific uses of contingent music, non-musical/non-movement props, improvisation and music applications of adaptive technology, which were also indicated as the least effective procedures. However, many of the techniques that were perceived as most effective by the respondents, including rhythmic movement/vestibular stimulation to address sensory and motor goals and therapist-composed music to develop nearly all types of skills, were not covered by the

reviewed literature. Also, no music therapy sources were found that discussed particular methods to achieve activities of daily living/ community living or leisure/recreation goals.

The greatest level of agreement among respondents was regarding the benefits of movement to music and rhythmic movement/vestibular stimulation in achieving sensory and motor goals. Four authors had recommended the use of movement activities to promote motor development, one of whom also mentioned the technique to improve sensory skills. Fewer participants rated music-movement procedures as highly effective in achieving leisure/recreation and alertness/attending/participation goals, but the technique was still considered to be one of the most effective in reaching those goals. While three authors had described the use of movement to improve alertness, attending, and participation, no literature was found that discussed its use for leisure or recreation. Rhythmic movement/vestibular stimulation was also rated as fairly effective in encouraging alertness, attending, and participation, but only one study applied the technique and it found no significant differences from baseline observations. Only one other source was found that described the use of rhythmic movement or vestibular stimulation to develop specific skills. Goll (1994) cited the contingent and non-contingent application of vibration, which could be included in vestibular stimulation, as effective in teaching a variety of skills (without specifying which types) and reducing self-injurious and stereotypical behavior. Some respondents stated in the comments section that they found vibro-tactile stimulation very beneficial for this population, but did not indicate particular goal areas.

Three-quarters of the respondents felt that singing was highly effective in fostering social skills, as had been described by Farnan (1987) and Coleman (2002). Singing was also viewed as one of the most effective interventions to attain all types of skills but motor. Activities involving singing were suggested in three to five sources (Boxill, 1985; Coleman, 2002; Ghetti, 2002; Grant, 1989; Krout, 1987; Pfeifer, 1982) to address each of the goal areas, except for activities of daily living/community living skills, leisure/recreation (both of which were not linked to any specific techniques in the literature included in this study), sensory, and affective goals (the latter was described solely by Boxill among the reviewed literature). Four sources (Boxill, 1985; Coleman, 2002; Farnan, 1987; Pfeifer, 1982) also cited singing in combination with other procedures to develop motor skills; however, that was the goal area in which the lowest percentage of respondents gave singing a “highly effective” rating.

The participants rated the implementation of therapist-composed music as one of the most effective techniques to address all of the given goal areas (except leisure/recreation), and at least 67% said it was highly effective in achieving social, vocational/academic, and alertness/attending/participation goals. However, only Farnan (1987) described its use with the target population, and that was specifically in relation to motor and social skills.

Pitched and non-pitched instruments were considered most effective when addressing motor, alertness/attending/participation, and sensory goals, although slightly fewer participants rated the use of pitched instruments as “highly effective.” Up to seven authors (Boxill, 1985; Coleman, 2002; Farnan, 1987; Ghetti, 2002;

Grant, 1989; Krout, 1987; Pfeifer, 1982) discussed procedures for applying instruments to achieve every type of goal, except for leisure/recreation and activities of daily living/community living skills (again, which no music-based literature addressed).

The remaining four techniques were not as popular; less than approximately half of the respondents rated each of them as “highly effective” in assisting clients who have severe, profound, and multiple impairments to develop skills in all of the goal areas. Contingent music as a reinforcer received its highest ratings in regard to alertness/attending/participation, affective, motor, leisure/recreation, and communication goals. One therapist may have expressed the opinions of others when commenting that she never uses music as a contingency due to philosophical differences. The use of non-musical and non-movement props was selected to develop vocational/academic and sensory skills more often than other types of skills; improvisation was chosen most frequently to improve sensory and social skills. The researcher had expected that improvisation would have been perceived as highly effective by more of the respondents, particularly when addressing communication and affective skills, since some approaches emphasize the use of improvisation. However, no question inquired into the philosophical orientation of the therapists to determine whether that affected the participants’ use of the technique; i.e., perhaps individuals who report following a behavioral approach might use improvisation less frequently. Music application of adaptive technology was never indicated as a preferred intervention; in fact, approximately half of the participants indicated that music technology was not applicable or not attempted. This finding may be

disconcerting to supporters of both technological developments and the transdisciplinary approach, since inventions such as voice-activated communication devices are not being utilized to their full potential. Music therapists' tendency to infrequently use the above techniques to address particular goals is reflected by the small amount of relevant music therapy literature.

Additional Comments

Four respondents mentioned difficulty with rating the interventions in Part Two, since each client is different, responses from the same client may vary greatly from one day to the next, and it may be hard to single out specific techniques as “highly effective” or “never effective” because several are often combined in the same activity. Four other respondents specified beneficial practices and techniques: the use of improvisation, providing a rich sensory experience, working closely with colleagues in a transdisciplinary approach, and the use of tactile vibrations and live music were reported to be essential in assisting individuals who have severe, profound, and multiple impairments to reach a variety of goals. Two additional participants reinforced the importance of collaboration, consultation, and co-treating clients. One participant stated that as transdisciplinary approaches have become more common, music therapists (and other specialty therapies) have less direct contact with clients, serving instead as a consultant. The other respondent suggested that a question on this topic should have been included in the survey since the therapist believed that collaborating and co-treating “really is the key to effective practice with this population.”

Another category of comments contained observations on client or program progress. One respondent implied that a transdisciplinary approach has not yet been adopted, since the statement was made that treatment once per week is not enough. This was supported by Goll (1994) who stated that “[m]usic therapy once a week can at best be declared a cosmetic attribute for the facility but not an educational or therapeutic intervention for clients who have severe/profound retardation” (p. 88). To receive the maximum benefits from any program, individuals who have mental impairments require reinforcement of acquired and developing skills “on a regular basis (i.e., several daily sessions or transdisciplinary approach)” (p.88) due to decreased abilities to generalize, synthesize, retain and relearn, and learn spontaneously. The therapist said that the amount of contact time was low due to the number of students in the school and the limits imposed by Individualized Education Plans (IEPs). As a profession, then, concerted efforts should be made to ensure that an adequate number of music therapists are employed at each facility and that sufficient amounts of time are allotted to music therapy on IEPs.

Another participant stated that members of this population greatly benefit from music therapy, which “often surprises and encourages parents, caregivers, and treatment teams.” Another respondent indicated similar positive results, which led to music therapy becoming a regular part of the Developmentally Disabled program, instead of requiring a referral. Consequently, the administration of this particular special education cooperative has been very supportive of music therapy!

Three respondents suggested areas of music therapy training that should receive more emphasis: improvisation, sensory integration, and working with clients

to be pleasant and helpful toward caregivers to receive better care. One of the therapists believed that music therapists currently tend to know more than some occupational therapists and that “[m]any OTs [occupational therapists] are impressed by the knowledge of MTs [music therapists].” A desire was expressed for more training related to physical therapy.

Some of the comments provided additional information on the respondent’s employment situation or funding of services. One therapist mentioned that he owned a music therapy agency employing three other therapists. Another stated that 0.8 of her position was providing music therapy and 0.2 was teaching an inclusive first grade music education program (non-impaired first graders learning with peers who have multiple impairments). Finally, one participant specified the state Department of Economic Security/Division of Developmental Disabilities as the source of funding.

The last two statements involved a possible area of future research and a therapist’s philosophical orientation. In the former, the respondent suggested a survey about which types of augmentative communication devices are most commonly used by music therapists and how they are used in sessions. Another participant stated that she did very little work from a behavioral perspective and therefore did not use music contingently. She believed that “the most effective parts of music treatment for these types of children are the development and appropriate use of the musical relationship, and the use of sound and movement to enhance neurological development.”

Recommendations

The return rate in this study was quite low, 110 completed surveys of 893 prospective respondents. This may have been due, in part, to inviting an artificially high number of professionals to participate. For example, music therapists identified as serving with people who have developmental disabilities may work only with adults in a residential facility or solely with children classified as Pre-Primary Impaired. Others were included because they work with school-age children, but notified the researcher that they are not currently serving any members of the target population. Therefore, the real return rate could be much higher than it appears. Also, since the survey was available for a limited amount of time in the summer, many individuals, particularly those who were employed by schools may not have had access to their email account and were unaware of the study.

Thus, the results should be interpreted with caution, particularly in regard to subgroups that do not consist of large percentages of participants, since the distribution of responses may not be representative of the overall body of music therapists who serve the target population. However, the results of the current study did approximate the results of previous surveys of music therapists employed in school-based settings regarding the therapists' gender, years of experience, employment status, treatment setting, number of clients served per week, populations served, and the broad goal areas addressed with school-age clients (Jones & Cardinal, 1998; Lathom, 1980; McCormick, 1988; D. Smith & Hairston, 1999). In addition, the returns were representative of the membership of the American Music Therapy

Association (AMTA) in that most respondents resided in AMTA's three largest regions: Great Lakes, Western, and Mid-Atlantic states.

It is recommended that any future surveys of professionals serving school-age children and adolescents who have severe, profound, and multiple impairments be conducted during the school year. Such questionnaires should also inquire into the nature of the roles of music therapists, as the trend seems to be toward more consultation and collaboration and less direct service. If this is the case, any effect on services received by clients and interventions selected by professionals should also be explored.

While this study did not explore the prevalence and nature of respondents' roles as consultants and collaborators, some participants included comments on either the importance of these practices or the need for more contact time. Therefore, both individually and collectively, practitioners should examine whether clients spend enough time participating in music therapy interventions to receive the maximum benefits. If not, in-services designed to increase the allotment of Individualized Education Plan (IEP)-mandated time to music therapy, to create additional music therapy positions at facilities in which it is already present, and/or to encourage the adoption of the transdisciplinary approach may be advantageous. If the role of music therapist shifts toward consultant, professionals in other related fields may be more frequently called upon to implement music therapy interventions. The present study, along with previous and future research, may help the members of other disciplines to be aware of effective techniques and to assist with the application of specific procedures to facilitate interdisciplinary partnerships.

Future researchers might also choose to form a consolidated list of music therapists who indicate that they serve both developmentally disabled or multiply impaired and school-age populations by comparing the lists of names in each category. Obviously, this should eliminate people who do not work with the desired age groups. This step was considered, but not performed, during the present study so that qualified therapists were not excluded because of their failure to mark all applicable populations on the American Music Therapy Association membership form or because their clientele had changed since they last updated their information.

Based on the large percentages of respondents who stated that rhythmic movement/vestibular stimulation and therapist-composed music was highly effective and the scarcity of literature that specifies the use of these techniques to develop particular skills, it is recommended that practitioners who are familiar with effective procedures document and share them with the discipline. In addition, research is needed to determine what factors are preventing music therapists from incorporating adaptive technology, especially the sophisticated communication devices that increasing numbers of clients are learning to use. Literature that assists professionals to understand the potential benefits, become familiar with precise methods to implement, and gain access to technological advancements may be beneficial. This may be especially appropriate for therapists who serve thirty or fewer clients per week, work part-time, treat clients in private agency facilities and client/therapist homes, and/or reside in the Western region, since these characteristics were associated with less experience with technology.

Music therapists and other direct service providers identified sensory skills as one of the most commonly addressed areas with by children who have severe or profound impairments; the latter group of respondents also specified leisure and recreation skills as very common (Izen & Brown, 1991). Very few resources related to music-based interventions for these types of goals exist, and the respondents felt inadequately prepared to improve sensory skills, so greater attention to these areas is required. Given the disparity between the frequency with which the two groups address leisure/recreation goals, an exploration of age-appropriate possible contributions of music therapy may be warranted. Activities of daily living and community living skills are also not often mentioned in music therapy literature; however, none of the relevant studies indicated this area as one of high priority.

It is hoped that the above findings and recommendations will motivate and guide future research surrounding music therapy with school-age children and adolescents who have severe, profound, and multiple impairments. Educators of student music therapists might also choose to continue or modify their current methods to place more emphasis upon areas such as sensory skill development, music applications of adaptive technology, and ways in which music therapy can contribute to the achievement of leisure and recreation goals.

APPENDIX A

Explanatory E-Mail

Western Michigan University, School of Music

Principal Investigator: Brian Wilson, M.M., MT-BC

Student Investigator: Erin Dalby, B.M.E., Music Therapy Equivalency

Current and Best Practices of Music Therapists Working with School-age Children
and Adolescents who have Severe, Profound, and Multiple Impairments

Dear Music Therapist,

You are invited to participate in a research project designed to determine which music therapy techniques are viewed by current practitioners as the most effective in achieving certain types of goals with school-age children and adolescents who have severe, profound, and multiple impairments. If you are not currently employed as a music therapist working with this population, please disregard this e-mail and survey. The study is being conducted by Erin Dalby and supervised by Brian Wilson from Western Michigan University, School of Music. This research is being conducted in partial fulfillment of the thesis requirements for Erin Dalby.

An on-line survey has been designed by the student investigator based on similar surveys of other professions. You will be asked to provide general information about yourself, your education, and your clients, such as age ranges and settings in which you treat clients. These questions are presented in a multiple choice format to minimize the amount of time required to answer them. In Part 2, you will be asked to indicate how effective each of 10 techniques is in achieving 9 different types of goals.

This survey should take 10-20 minutes to complete and can be found at <http://www.surveymonkey.com/s.asp?u=81875516850> through Saturday, July 3, 2004.

Responses will be analyzed individually and together to determine which interventions are most effective to reach which goals. You will be contributing valuable information available about music therapy with children and adolescents who have severe, profound, and multiple impairments. The results could be shared with both practicing and new music therapists to increase understanding about beneficial techniques. All responses are completely anonymous as your name will not be attached to your responses to the questionnaire. You may refuse to participate, withdraw from the survey at any time, or refuse to answer any question without prejudice or penalty. Submitting the survey indicates your consent for the researcher to use the answers you supply.

This research project was approved by the Human Subjects Institutional Review Board (HSIRB) on June 15, 2004. Do not participate after June 15, 2005. If you have any questions, you may contact the researcher, Erin Dalby at emblett@hotmail.com or (269) 501-9976. You may also contact my faculty advisor, Brian Wilson at (269) 387-4724, the chair of the Human Subjects Institutional Review Board at (269) 387-8293, or the vice president for research at (269) 387-8298 if any questions or problems arise during the study. Thank you for your participation!

Sincerely,

Erin Dalby

APPENDIX B

Follow-up E-mail

Western Michigan University, School of Music

Principal Investigator: Brian Wilson, M.M., MT-BC

Student Investigator: Erin Dalby, B.M.E., Music Therapy Equivalency

Current and Best Practices of Music Therapists Working with School-age Children
and Adolescents who have Severe, Profound, and Multiple Impairments

Dear Music Therapist,

Recently, you were invited to participate in a research project designed to determine which techniques are viewed by practitioners as the most effective in achieving certain types of goals. The study is being conducted by Erin Dalby and supervised by Brian Wilson from Western Michigan University, School of Music. This research is being conducted in partial fulfillment of the thesis requirements for Erin Dalby.

As the questionnaire is completely anonymous, the researchers do not know who has responded. If you have already completed the survey, thank you very much for your time! If you have not and you are CURRENTLY employed as a MUSIC THERAPIST with 5- to 18- year-olds who have SEVERE, PROFOUND, AND MULTIPLE IMPAIRMENTS, please consider taking 10-20 minutes to answer the questions about yourself, your clients, and how effective you believe certain techniques are in achieving various goal areas. You may refuse to participate, withdraw from the survey at any time, or refuse to answer any question without prejudice or penalty. SurveyMonkey.com guarantees the confidentiality of all of your

information. Submitting the survey indicates your consent for the researcher to use the answers you supply.

This research project was approved by the Human Subjects Institutional Review Board (HSIRB) on June 15, 2004. Do not participate after June 15, 2005. You can find the survey at <http://www.surveymonkey.com/s.asp?u=81875516850> through Saturday, July 3, 2004. If you have any questions, you may contact the researcher, Erin Dalby at emblett@hotmail.com or (269) 501-9976. You may also contact my faculty advisor, Brian Wilson at (269) 387-4724, the chair of the Human Subjects Institutional Review Board at (269) 387-8293, or the vice president for research at (269) 387-8298 if any questions or problems arise during the course of the study. .

Thank you again for your time!

Sincerely,

Erin Dalby

APPENDIX C

Survey of Music Therapists Currently Working With School-Age Clients Who Have Severe, Profound, and Multiple Impairments

This is a survey designed by the researcher to examine the current practices of music therapists who are currently working with children and adolescents (age 5-18 years) who have severe, profound, and multiple impairments.* For the purposes of this study, an individual shall be considered to have severe, profound, and/or multiple impairments if 1) that person has been so diagnosed by an appropriate professional, 2) the person's IQ is below 40, or 3) the person displays a combination of mental and physical impairments or several physical impairments.

This survey should take approximately 10-20 minutes to complete. All responses are completely anonymous as your name will not be attached to the questionnaire. You may refuse to participate, withdraw from the survey at any time, or refuse to answer any question without prejudice or penalty. Submitting the survey indicates your consent for the researcher to use the answers you supply. If you have any questions, you may contact the researcher, Erin Dalby at emblett@hotmail.com or (269) 501-9976. You may also contact my faculty advisor, Brian Wilson at (269) 387-4724, the chair of the Human Subjects Institutional Review Board at (269) 387-8293, or the vice president for research at (269) 387-8298 if any questions or problems arise during the course of the study.

* If you are not currently working as a music therapist with 5- to 18-year-olds who have severe, profound, and multiple impairments, please disregard this survey.

Part 1 – Therapist/Client Demographics

Please answer the following questions about yourself and your clients. Some items refer to all individuals with whom you work and some items are only about school-age children and adolescents who have severe, profound, and/or multiple impairments.

1. Are you: ☐ Female ☐ Male?
2. In which state do you work? _____
3. To what age range do you belong?
 - ☐ Under 25 ☐ 25-34 ☐ 35-49 ☐ 50-65 ☐ Over 65
4. How many years have you been employed as a music therapist? (Note: if you are not currently employed as a music therapist working with 5-18-year-olds, please do not complete this survey.)
 - ☐ Less than 1 year ☐ 1-3 years ☐ 4-8 years ☐ More than 8 years
 - ☐ Currently not employed as a music therapist working with 5-18-year-olds
5. How long have you served in your current position?
 - ☐ Less than 1 year ☐ 1-3 years ☐ 4-8 years ☐ More than 8 years
 - ☐ Currently unemployed
6. How many years have you been working with clients who have severe, profound, and/or multiple impairments?
 - ☐ Less than 1 year ☐ 1-3 years ☐ 4-8 years ☐ More than 8 years
7. What is the highest degree you have earned?
 - ☐ Bachelor's ☐ Equivalency
 - ☐ Bachelor's or equivalency **plus** some graduate work

☐ Master's ☐ Doctorate

8. Did you have any practical experiences with individuals who have severe, profound, or multiple impairments during your university training (i.e., observing or providing music therapy during a practicum)?

☐ Yes ☐ No

9. How well did the coursework and practical experiences during your university training prepare you to work with this population?

☐ Exceptionally well ☐ Adequate for entry-level position

☐ Not adequate for entry-level position ☐ Not at all

10. How well did your internship prepare you to work with this population?

☐ Exceptionally well

☐ Adequate for entry-level position

☐ Not adequate for entry-level position

☐ Did not intern with this population

11. Please indicate up to 3 professional areas in which your university training (including internship) best prepared you to work with this population.

☐ Techniques/interventions ☐ Administrative skills

☐ Communication with other disciplines ☐ Ethics

☐ Functional music skills ☐ General music therapy foundations

☐ Integration with non-disabled individuals ☐ Program development

☐ Characteristics of individuals with severe/profound and multiple impairments

☐ Characteristics of other impairments

- ☐ Theories of human development ☐ Behavior management
- ☐ Other _____

12. Please indicate up to 3 professional areas in which your university training (including internship) least prepared you to work with this population.

- ☐ Techniques/interventions ☐ Administrative skills
- ☐ Communication with other disciplines ☐ Ethics
- ☐ Functional music skills ☐ General music therapy foundations
- ☐ Integration with non-disabled individuals ☐ Program development
- ☐ Characteristics of individuals with severe/profound and multiple impairments
- ☐ Characteristics of individuals with other impairments
- ☐ Theories of human development ☐ Behavior management
- ☐ Other _____

13. Please indicate up to 3 goal areas in which your university training (including internship) best prepared you to work with this population.

- ☐ Music, techniques, and interventions to address academic/pre-academic skills
- ☐ Music, techniques, and interventions to address ADL/vocational skills
- ☐ Music, techniques, and interventions to address communication skills
- ☐ Music, techniques, and interventions to address motor skills
- ☐ Music, techniques, and interventions to address socio-emotional skills
- ☐ Music, techniques, and interventions to address leisure/recreation skills
- ☐ Music, techniques, and interventions to address sensory skills

☐ Other _____

14. Please indicate up to 3 goal areas in which your university training (including internship) least prepared you to work with this population.

☐ Music, techniques, and interventions to address academic/pre-academic skills

☐ Music, techniques, and interventions to address ADL/vocational skills

☐ Music, techniques, and interventions to address communication skills

☐ Music, techniques, and interventions to address motor skills

☐ Music, techniques, and interventions to address socio-emotional skills

☐ Music, techniques, and interventions to address leisure/recreation skills

☐ Music, techniques, and interventions to address sensory skills

☐ Other _____

15. Are you currently working:

☐ full-time (30 or more hours per week) ☐ part-time?

16. Which populations (primary diagnosis) do you serve? (Mark all that apply.)

☐ Severely/profoundly mentally impaired ☐ Multiply impaired

☐ Mildly/moderately mentally impaired ☐ Learning disabled

☐ Other developmental disorders (including autism)

☐ Physically or Otherwise Health Impaired (without mental impairment)

☐ Visually impaired ☐ Hearing impaired ☐ Emotionally impaired

☐ Non-disabled ☐ Mental health ☐ At-risk

☐ Behavior disorders ☐ Medical issues

☐ Speech/language impaired

☐ Other _____

17. In which setting do you work? (Mark all that apply.)

- ☐ Regular school ☐ Special school ☐ Itinerant
- ☐ Residential facility ☐ Private agency building/therapist or client home
- ☐ Other _____

18. Who is your employer? (Mark all that apply.)

- ☐ School system ☐ Other state facility ☐ Self-employed
- ☐ Private agency ☐ Other _____

19. How are your services funded? (Mark all that apply.)

- ☐ State (i.e., public school, ICF/MR)
- ☐ Insurance companies
- ☐ Private (i.e., parents, agency)
- ☐ Other (please specify) _____

20. In regard to your clients who have severe, profound, or multiple impairments, what are your clients' chronological ages? (Mark all that apply.)

- ☐ Under 5 years ☐ 5-8 years ☐ 9-12 years ☐ 13-16 years ☐ above 16

21. In regard to your clients with severe, profound, or multiple impairments, what are your clients' developmental ages. (Mark all that apply.)

- ☐ Under 1 year ☐ 1-4 years ☐ 5-8 years ☐ 9-13 years ☐ above 13

22. How many total clients do you serve each week?

- ☐ 1-15 ☐ 16-30 ☐ 31-45 ☐ 46-60 ☐ over 60

23. How many clients with severe, profound, and multiple impairments do you serve each week?

☐ 1-15 ☐ 16-30 ☐ 31-45 ☐ 46-60 ☐ over 60

24. How many in 1:1 sessions?

☐ 0 ☐ 1-10 ☐ 11-20 ☐ 21-30 ☐ over 30

25. How many in group settings?

☐ 0 ☐ 1-15 ☐ 16-30 ☐ 31-45 ☐ over 45

26. How often do you serve **most** of your clients with severe, profound, and multiple impairments:

☐ Daily ☐ Twice per week ☐ Weekly ☐ Bi-weekly ☐ Monthly

Other _____

27. In which setting do you treat **most** of your clients with severe/profound or multiple impairments?

☐ Self-contained classroom ☐ "Pull-out" from general education
☐ Inclusion in general education ☐ Private agency building/home

☐ Other (please specify) _____

28. Approximately how long is a typical session with clients from this population?

☐ Less than 30 minutes ☐ 30-44 minutes ☐ 45-60 minutes

☐ Over 1 hour ☐ Other _____

Part 2 – Current Practices

For each goal area, please choose the one box that best approximates the percentage of clients with severe, profound, and multiple impairments who work on the goal.

You will also be asked to rate how effective each intervention is. The set of 10 techniques is identical for each of the 9 goal areas. Please answer only for clients who have severe, profound, and multiple impairments (S/P clients) and mark one box on each line. If you do not address a particular goal area with any clients, please mark 0% and move on to the next question.

COMMUNICATION SKILLS (goals that address any type of receptive or expressive communication; i.e., vocalization, speech, voice-activated communication devices, communication systems that use pictures only, etc.)

29. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 31)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

30. Select the box that indicates how effective each technique is in achieving communication goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation				
(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music				
activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Soundbeam, software, voice-activated communication devices, etc.)				
Use of non-musical/non-movement props	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(other communication devices, puppets, tagboard books, song folders, etc.)				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LEISURE/RECREATION (goals addressing the use of music during leisure and recreation time; i.e., selecting and playing CDs)

31. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 33)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

32. Select the box that indicates how effective each technique is in achieving leisure/recreation goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rhythmic movement/vestibular stimulation

(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music				
activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Soundbeam, software, voice-activated communication devices, etc.)				
Use of non-musical/non-movement props	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(other communication devices, puppets, tagboard books, song folders, etc.)				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VOCATIONAL AND ACADEMIC GOALS (goals focused on school- or job-related tasks, including pre-academic skills, such as matching colors or shapes)

33. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 35)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

34. Select the box that indicates how effective each technique is in achieving vocational/academic goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation				
(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music				
activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Soundbeam, software, voice-activated communication devices, etc.)				
Use of non-musical/non-movement props	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(other communication devices, puppets, tagboard books, song folders, etc.)				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ACTIVITIES OF DAILY LIVING AND COMMUNITY LIVING SKILLS

(goals focused on skills needed to care for oneself or to function in the community;

i.e., selecting menu items)

35. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 37)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

36. Select the box that indicates how effective each technique is in achieving
ADL/community living goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation (repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology (Soundbeam, software, voice-activated communication devices, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of non-musical/non-movement props (other communication devices, puppets, tagboard books, song folders, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SENSORY SKILLS (i.e., goals addressing auditory or visual perception or tracking)

37. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 39)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

38. Select the box that indicates how effective each technique is in achieving sensory goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation (repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology (Soundbeam, software, voice-activated communication devices, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of non-musical/non-movement props (other communication devices, puppets, tagboard books, song folders, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other _____

☐ ☐ ☐ ☐

MOTOR SKILLS (including goals addressing psychomotor, perceptual motor, locomotor, and object manipulation skills)

39. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 41)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

40. Select the box that indicates how effective each technique is in achieving motor goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation				
(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music				
activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Soundbeam, software, voice-activated communication devices, etc.)

Use of non-musical/non-movement props ☐ ☐ ☐ ☐

(other communication devices, puppets, tagboard books, song folders, etc.)

Other _____ ☐ ☐ ☐ ☐

AFFECTIVE BEHAVIOR SKILLS (goals relating to emotional development, including identification of emotions and reduction/replacement of aggressive, self-abusive, and self-stimulatory behaviors)

41. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 43)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

42. Select the box that indicates how effective each technique is in achieving affective goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation				
(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology (Soundbeam, software, voice-activated communication devices, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of non-musical/non-movement props (other communication devices, puppets, tagboard books, song folders, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SOCIAL SKILLS (goals addressing intrapersonal and interpersonal relationships;
i.e., eye contact with people, responding to own name, etc.)

43. % of S/P clients working on this goal: ☐ 0% (if checked, go to question 45)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

44. Select the box that indicates how effective each technique is in achieving
social goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation (repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing (i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology (Soundbeam, software, voice-activated communication devices, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of non-musical/non-movement props (other communication devices, puppets, tagboard books, song folders, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ALERTNESS / ATTENDING / GENERAL PARTICIPATION (goals addressing interaction with environment, including eye contact with objects, holding one's head up, and participating appropriately in activities)

45. % of S/P clients working on this goal: ☐ 0% (if checked, go to comments)

☐ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

46. Select the box that indicates how effective each technique is in achieving alertness/attending/participation goals.

HE=highly effective

SE=sometimes effective

NE=generally not effective

NA=not applicable/don't attempt

	HE	SE	NE	NA
Improvisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Movement to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhythmic movement/vestibular stimulation				
(repetitive movement to steady pulse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of therapist-composed songs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-pitched instrument playing				
(i.e., cymbals, wood blocks, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pitched instrument playing (i.e., piano, autoharp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music as a contingent reinforcer (preferred music				
activity provided based on a specific behavior)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music applications of adaptive technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Soundbeam, software, voice-activated communication devices, etc.)				
Use of non-musical/non-movement props	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(other communication devices, puppets, tagboard books, song folders, etc.)				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Any additional comments about the survey or serving school-age children and adolescents who have severe, profound, and multiple impairments:

APPENDIX D

Human Subjects Institutional Review Board Approval Letter

WESTERN MICHIGAN UNIVERSITY



Human Subjects Institutional Review Board

Date: June 15, 2004

To: Brian Wilson, Principal Investigator
Erin Dalby, Student Investigator for thesis

From: Mary Lagerwey, Ph.D., Chair

Mary Lagerwey

Re: HSIRB Project Number: 04-06-08

This letter will serve as confirmation that your research project entitled "Current and Best Practices of Music Therapists Working with School-Age Children and Adolescents Who Have Severe, Profound, and Multiple Impairments" has been approved under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: June 15, 2005

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